

MILK PRODUCTION COSTS in 2000 on Selected WISCONSIN DAIRY FARMS

By Gary Frank¹

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Introduction

In 2000, the U.S. Average Milk Price (\$12.33) was less than the study farms' total economic cost of milk production (\$13.20); creating a loss of \$0.87 per hundredweight equivalent of milk produced. This follows two years in which the total economic cost was less than the U.S. Average Milk Price. However, in 1999 the U.S. Average Milk Price was only \$0.10 more than the costs and 1998 was the first year in our analysis where the milk price exceeded total economic costs. In 1998, the U.S. Average Milk Price exceeded total economic cost by \$0.53 per hundredweight equivalent.

In this study of 2000 records, 605 dairy farms averaged a basic cost of \$7.75 per hundredweight equivalent (CWT EQ) on income of \$12.33 (U.S. average per hundredweight milk price in 2000). In July 1999, there were 620 dairy farms included in our cost of production study. The current database of 1999 records (assessable at cdp.wisc.edu) includes 780 dairy farms. With the addition of 160 more farms the economic cost of production was \$14.32 per hundredweight equivalent; In the initial study the total the cost was \$14.27²

Data Source

Lakeshore Farm Management Association, Fox Valley Management Association and Wisconsin County Agents³ originally collected this data. Personnel affiliated with these associations helped individual farm managers reconcile their financial data. Individual farm managers used a number of different manual and computerized record keeping systems to enter the initial financial records, including the Agricultural Accounting and Information Management System (AAIMS©). .

Results

Table 1 shows the average cost of production and net farm income in 2000 using three different report basis. They are whole farm, per cow and per hundredweight (CWT) equivalent. They show an economic loss averaging \$23,222 per dairy farm in 2000. This means that either the farm manager's labor and management or the equity capital did not receive a market rate in 2000. The cost assigned to the farm manager's unpaid labor and management was \$27,798 and the equity capital was \$27,623. These are non-cash costs, however the cash for family living and those costs is not included in farm expenses.

¹ Center for Dairy Profitability, College of Agricultural and Life Sciences, and Cooperative Extension, University of Wisconsin-Madison. The author is grateful to Jenny Vanderlin and Victor Pereira for their constructive comments and data retrieval.

² The Center for Dairy Profitability uses an active/real time database for collecting and analyzing data. Thus the number of records will most likely increase throughout the course of the year.

³ The author wishes to thank members of the Lakeshore Farm Management Association, Fox Valley Farm Management Association and various county agents for their cooperation.

Table 1 - Cost of Production in 2000

Income		Whole Farm	per Cow	per CWT EQ
	Total Income	329,740	3,032	12.33
Expenses				
Basic Cost				
	Breeding Fees	3,603.14	33.13	0.13
	Car and Truck Expenses	1,921.82	17.67	0.07
	Chemicals	4,455.06	40.96	0.17
	Conservation Expenses	0.00	0.00	0.00
	Custom Heifer Raising	3,644.42	33.51	0.14
	Custom Hire (Machine Work)	10,948.74	100.67	0.41
	Feed Purchase	56,379.02	518.40	2.11
	Fertilizer and Lime	6,999.78	64.36	0.26
	Freight and Trucking	3,644.73	33.51	0.14
	Gasoline, Fuel, and Oil	7,551.62	69.44	0.28
	Farm Insurance	4,108.68	37.78	0.15
	Marketing & Hedging	3,660.47	33.66	0.14
	Rent/Lease Equipment	2,933.61	26.97	0.11
	Rent/Lease Other	13,559.15	124.68	0.51
	Repairs and Maintenance	17,576.10	161.61	0.66
	Seeds and Plants Purchased	6,142.44	56.48	0.23
	Supplies Purchased	10,712.60	98.50	0.40
	Taxes - Other	4,614.57	42.43	0.17
	Utilities	6,558.41	60.30	0.25
	Veterinary Fees and Medicine	9,970.71	91.68	0.37
	Other Crop Expenses	2,182.49	20.07	0.08
	Other Livestock Expenses	7,996.32	73.53	0.30
	Other Farm Expenses	2,865.51	26.35	0.11
	- Change in Prepaid Expenses	2,533.95	23.30	0.09
	Change in Accounts Payable	913.69	8.40	0.03
	Cost of Items for Resale	1,061.57	9.76	0.04
	Depreciation on Purchased Breeding Livestock	10,655.86	97.98	0.40
	Total Basic Cost	207,194	1,905.15	7.75
Interest Cost				
	Mortgage Interest	9,181.86	84.43	0.34
	Other Interest	13,358.01	122.83	0.50
	Total Interest Cost	22,540	207.25	0.84
Labor Cost				
	Employee Benefits - Dependents	4,090.95	37.62	0.15
	Employee Benefits - Non-Dependents	4,413.74	40.58	0.17
	Labor Hired - Dependents	8,061.66	74.13	0.30
	Labor Hired - Non-Dependents	20,810.34	191.35	0.78
	Value of Unpaid Labor & Management	27,797.65	255.60	1.04
	Total Labor Cost	65,174	599.28	2.44
Depreciation & Equity Cost				
	Machinery, Equipment, Building Depreciation	30,430.15	279.81	1.14
	Interest on Equity Capital	27,622.77	253.99	1.03
	Depreciation & Equity Cost	58,053	533.80	2.17
	Total Expenses	352,962	3,245.48	13.20
	Total Income - Total Expenses	-23,222	-213.53	-0.87

Table 1 also shows the average costs per CWT EQ for selected expense categories that closely match the expense categories on Schedule F (Federal tax form). It also shows opportunity cost for unpaid labor and management, and interest on equity capital.

Table 1 shows the average per cow costs for all farms in the study. The purchased feed per cow declined for the second year. This is likely due to lower per unit feed costs (feed cost per cow were \$518, \$581, \$663, \$657 and \$662 in 2000, 1999, 1998, 1997 and 1996, respectively). Custom hire costs however have increased substantially from 1996 to 1999 but leveled off in 2000. In 1996, total custom hire costs per cow were only \$53 and by 1999 they were \$133 per cow versus \$134 per cow in 2000. Supplies were \$99 per cow in 2000 versus \$104 in 1998.

Interest costs per cow in 2000 were up again after a decline in 1999. They were \$207, \$197, \$226, \$218, \$212 and \$205 in 2000, 1999, 1998, 1997, 1996, and 1995, respectively. Paid labor costs per cow dropped marginally in 2000: \$344, (2000) \$366 (1999), \$353 (1998), \$323 (1997), \$300 (1996) and \$237 (1995)

Looking at Table 1 are your costs competitive? You can use “per Cow” or the “per CWT EQ” column on Table 1 to help you identify categories of your expenses that are above average.⁴ For instance, suppose your fuel and oil costs are \$0.55 per CWT EQ, is this okay? How do you know? Use the “per CWT EQ” column on Table 1 select the herd size similar to your herd size from Table 5 to help you make that judgment. If your farm’s cost is NOT at or below the average you should find out why this is happening and what you can do about changing the level of that cost.

Table 2 – Net Farm Income in 2000

	Whole Farm	per Cow	per CWT <u>EQ</u>
Net Farm Income From Operations (NFIFO)	32,199	296.07	1.20
Gain (Loss) on Sale of All Farm Capital Assets	2,218	20.40	0.08
Net Farm Income (NFI)	34,417	316.46	1.29

Table 2 shows the average Net Farm Income in 2000. You may wonder how a farm can be unprofitable and have a positive net farm income. The answer lies in the definition of net farm income. Net Farm Income is total farm income minus all expenses except Value of Unpaid Labor and Management and Interest on Equity Capital. Net Farm Income is sometime referred to as the farm manager’s wage, but this is not totally true. Net Farm Income is the return to the farm manager’s (and the family’s) unpaid labor and management and equity capital.

Net Farm Income is sometimes used as a proxy for the dollars the farm manager has available to pay family living expenses and income and social security taxes. This is fine as a proxy, but is not accurate. Some of the incomes and expenses used to calculate net farm income are non-cash, and some wages and benefits are paid to family members.

⁴ Frank, Gary G. “Calculating Your Milk Production Costs and Using the Results to Manage Your Expenses”, August 1996. Available on the Center for Dairy Profitability website: <http://cdp.wisc.edu>

Table 3 - Milk Production Costs per Farm in 2000

Range in Herd Size	<=50 Cows	51 to 75	76 to 100	101 to 150	151 to 250	> 250 Cows
Number of Farms	135	196	93	71	39	47
Average Cows per Farm	41.5	62.9	88.3	121.2	188.4	466.9
Milk Sold per Cow (lbs)	18,425	19,773	20,544	20,373	19,989	21,796
Crop Acres per Cow	4.5	4.2	4.3	3.7	2.6	2.1
Total Crop Acres Farmed	187	264	380	448	490	980
Cost of Resale Lst Sold	0	3,020	40	495	358	14
Auto Expenses	1,586	1,856	2,268	2,040	2,378	2,847
Chemicals	2,057	3,241	5,487	4,332	7,370	14,689
Custom Heifer Raising	0	58	1,233	2,907	14,783	28,169
Custom Hire	2,883	4,320	10,066	11,373	23,472	58,981
Feed Purchased	17,862	27,106	42,102	60,703	104,474	307,764
Fert & Lime	3,853	5,641	7,477	11,405	9,952	15,332
Milk Hauling	1,153	1,877	2,646	3,574	4,374	21,666
Gas & Oil	3,447	4,956	7,060	8,416	11,719	30,557
Insurance	2,314	3,099	4,084	5,280	6,306	12,183
Milk Marketing & Hedging	1,354	2,182	2,931	4,193	6,588	16,877
Equip Leased	679	869	1,226	3,952	5,727	18,871
Rent-Farm & Pasture	4,032	7,489	13,285	18,329	28,167	55,707
Repairs	7,518	11,224	17,321	22,498	30,663	64,370
Seed & Plants Purchased	3,165	4,661	6,382	7,736	9,996	18,079
Supplies	5,305	7,276	9,531	11,857	18,149	42,297
Taxes	3,003	3,486	4,703	6,328	5,601	12,702
Utilities	3,267	4,494	6,121	7,973	10,850	23,345
Vet & Medicine	3,611	5,201	8,118	10,545	18,921	49,565
Breeding Fees	1,688	2,480	3,352	4,108	6,749	12,875
Other Expenses	2,831	4,585	9,223	14,184	25,630	79,349
Accts Payable Adjustment	198	165	852	1,470	367	5,958
Prepd Expenses Adjustment	(102)	1,498	1,942	2,211	4,238	16,716
Depr on Purchased Livestock	1,742	3,570	6,270	6,215	25,569	72,758
Basic Costs	73,447	114,353	173,720	232,125	382,401	981,672
Mortgage Interest	3,427	4,605	6,818	11,104	15,531	48,266
Other Interest	4,857	7,663	11,127	11,638	25,449	65,621
Labor Hired (Dependents)	4,235	7,599	7,842	9,918	14,371	19,370
Labor Hired (Non-dep)	1,190	5,049	12,480	20,567	37,764	159,369
SST & Emp Bens (Dep)	3,501	4,997	4,565	4,421	3,786	3,436
SST & Emp Bens (Non-dep)	452	1,315	2,612	4,104	8,463	31,946
Dpr - Mach, equip, build	13,775	21,043	29,631	33,576	49,847	116,977
Total Allocated Costs	104,884	166,625	248,795	327,453	537,611	1,426,658
Total Farm Incomes	120,880	192,945	287,933	375,163	582,151	1,488,380
Net Farm Income (NFI)*	15,996	26,320	39,138	47,710	44,540	61,721

*Net Farm Income from Operations

Table 3 should not be used to compare costs among farms; however, Tables 4 and 5 can be used to compare costs among farms in the different size categories.

Table 3 shows the per farm cost of production averages in six herd size categories. To assist in your understanding of the entire table, the “Range in Herd Size – 76 to 100” column is used as an example.

There were 93 herds in the data set that had more than 75 cows and less than 101 cows. Those herds averaged 88 cows and sold on average of 20,544 pounds of milk per cow. They had an average of 4.3 crop acres per cow and farmed 380 acres of cropland.

The average amount of purchased feed was \$42,102 per farm. In addition, they paid \$5,487 for crop chemicals, \$7,477 for fertilizer, \$17,321 for repairs, and \$8,118 for vet & medicine. All were lower than in 1999. There was a decrease in prepaid expenses of \$1942 and an increase in accounts payable of \$852. This continues a trend started last year of using up some of the stock piled prepaid expenses, while accounts payable are building.

Total Basic Costs were \$173,720 per farm in 2000 versus \$170,236 per farm in 1999 and \$167,205 in 1998.

In addition to Basic Costs, this group of study farms had \$20,322 in paid labor costs (\$7,842 to dependents and 12,480 to non-dependents). Social Security Taxes plus Benefits equaled \$7,177 (\$4,565 to dependents and 2,612 to non-dependents). There was also \$17,945 (6,818 plus 11,127) of interest expense and \$35,901 of depreciation. Some of that depreciation (\$6,270) was on taken on purchased livestock.

The Total Allocated Costs are \$248,795 per farm versus \$257,238 per farm in 1999 and \$249,080 in 1998. The Total Income is \$287,933 per farm versus \$313,176 in 1999 and \$324,164 in 1998. The Net Farm Income from Operations (NFIFO) in 2000 was \$39,138 versus \$55,938 in 1999 and \$74,900 in 1998. Note: this is not the total return to the owner-operator-manager's (and family's) labor, management and equity capital. To obtain that number you need to add the amount paid to dependents to the NFIFO.

Table 4 shows the per cow averages in six herd size categories for 2000. The 47 farms in the ">250 cows" category have almost twice as many total cows than do the 196 farms in the "51 to 75" category. Also, the 47 farms in the ">250 cows" category have almost four times as many total cows as the 135 farms in the "<=50 cows" category.

Table 4 shows that the larger farms (based on cow numbers) have fewer crop acres per cow and lower property taxes per cow. However, larger farms have higher purchased feed costs per cow (\$659 versus \$429 for the smallest size category). Also, larger farms have much higher "Other Expenses," \$170 versus \$68. This could be related to BST use although an unsuccessful attempt was made with the 2000 data to collect BST costs directly. Other data suggests that larger farms use BST on a higher percentage of their herd.

The Basic Costs per cow in the largest herd size category exceeded the Basic Costs in the smallest category by \$335 (\$2,103 versus \$1,768). The trends appears to be narrowing as this difference was \$452 in 1999. This difference is largely due to the difference in purchased feed cost and livestock depreciation. As you move from the smallest herd-size category to the largest, livestock depreciation per cow more than triples (\$42 to \$156). The interest paid per cow increases slightly in the larger herd sizes.

The paid labor costs per cow for labor increases from \$301 in the "51 to 75" category to \$459 in the ">250 cows" category. (In 1999 those values were \$293 and \$505 and 1998 values of \$251 and \$490.)

The Total Allocated Costs per cow are \$408 (3,056 minus 2,648) higher in largest farm size category than in the "51 to 75" size category. Again this gap appears to be narrowing as this difference was \$543 in 1999. However, those larger farms generate approximately \$120 more income per cow and they have lower per cow unpaid labor (family living) draws.

Table 4 - Milk Production Costs per Cow in 2000

	Range in Herd Size					
	≤50 Cows	51 to 75	76 to 100	101 to 150	151 to 250	> 250 Cows
Number of Farms	135	196	93	71	39	47
Total Number of Cows	5,603	12,328	8,212	8,605	7,348	21,944
Average Cows per Farm	41.5	62.9	88.3	121.2	188.4	466.9
Milk Sold per Cow (lbs)	18,425	19,773	20,544	20,373	19,989	21,796
Price Received per 100 lbs	\$ 11.57	\$ 11.63	\$ 11.65	\$ 11.69	\$ 12.22	\$ 12.73
Crop Acres per Cow	4.5	4.2	4.3	3.7	2.6	2.1
Cost of Resale Lst Sold	0.00	47.99	0.45	4.08	1.90	0.03
Auto Expenses	38.17	29.49	25.69	16.83	12.63	6.10
Chemicals	49.52	51.50	62.16	35.74	39.12	31.46
Custom Heifer Raising	0.00	0.93	13.99	23.92	78.42	60.61
Custom Hire	69.40	68.64	114.03	93.83	124.60	126.32
Feed Purchased	429.96	430.73	476.92	500.81	554.58	659.16
Fert & Lime	92.73	89.64	84.70	94.09	52.83	32.84
Milk Hauling	27.74	29.83	29.98	29.49	23.22	46.40
Gas & Oil	82.97	78.75	79.97	69.43	62.21	65.45
Insurance	55.69	49.24	46.26	43.56	33.47	26.09
Milk Marketing & Hedging	32.59	34.67	33.21	34.60	34.97	36.15
Equip Leased	16.35	13.81	13.88	32.61	30.40	40.42
Rent-Farm & Pasture	97.06	119.01	150.48	151.22	149.52	119.31
Repairs	180.95	178.36	196.21	185.61	162.77	137.87
Seed & Plants Purchased	76.19	74.07	72.29	63.82	53.06	38.72
Supplies	127.70	115.61	107.96	97.82	96.34	90.59
Taxes	72.29	55.39	53.27	52.20	29.73	27.21
Utilities	78.64	71.42	69.33	65.78	57.59	50.00
Vet & Medicine	86.93	82.65	91.96	87.00	100.44	106.16
Breeding Fees	40.63	39.41	37.97	33.89	35.83	27.58
Other Expenses	68.14	72.87	104.48	117.08	136.04	169.67
Accts Payable Adjustment	4.77	2.62	9.65	12.13	1.95	12.76
Prepd Expenses Adjustment	(2.46)	23.80	22.00	18.24	22.50	35.80
Depr on Purchased Livestock	41.92	56.72	71.02	51.28	135.73	155.83
Basic Costs	1,767.90	1,817.14	1,967.87	1,915.04	2,029.89	2,102.52
Mortgage Interest	82.49	73.18	77.24	91.61	82.44	103.38
Other Interest	116.91	121.78	126.05	96.01	135.09	140.55
Labor Hired (Dependents)	101.93	120.76	88.83	81.82	76.29	41.49
Labor Hired (Non-dep)	28.65	80.23	141.37	169.68	200.46	341.33
SST & Emp Bens (Dep)	84.26	79.40	51.71	36.48	20.10	7.36
SST & Emp Bens (Non-dep)	10.89	20.90	29.59	33.86	44.92	68.42
Dpr - Mach, equip, build	331.56	334.38	335.65	277.01	264.60	250.54
Total Allocated Costs	2,524.60	2,647.77	2,818.30	2,701.51	2,853.80	3,055.58
Total Farm Incomes	2,909.63	3,066.01	3,261.64	3,095.12	3,090.23	3,187.78
Net Farm Income from Operations	385.03	418.24	443.34	393.61	236.43	132.19

*Net Farm Income from Operations

The “51 to 75 cow” herd size category has the highest return per cow to the owner-operator-manager’s (and family’s) labor and equity capital at \$618 (\$418 plus \$121 plus \$79). In the largest herd size category it equals \$181. However, when the number of cows is multiplied by these values, the owner-operator-managers of the larger herds average \$84,509 for family living and a return to equity capital versus \$42,835 for the farms in the “51 to 75 cow” category.

The average milk price received by the dairy farms in the study increased as the number of cows in the herd increased. The “51 to 75 cow” herd size category’s average 2000 milk price was \$11.63 per hundredweight of milk sold, including premiums.

Cost of Production per Unit Calculation Method Used

There are three commonly used methods to calculate the cost of production per unit. They are “Cost per Unit of Primary Product Sold,” “Cost per Unit of Equivalent Production,” and “Residual Cost per Unit of Primary Product Sold.” All three of these methods will yield the same answer if the production process has just a single product. However, if the production process has joint products the results can be quite different. Dairy farms producing milk have numerous joint products: cull cows, calves, CCC milk assessment refund, cooperative dividends, property tax credit on income taxes, crop-related government payments, etc. *Therefore, knowing the cost of production per unit calculation method used in a study is essential.*

Each method of calculating the cost of production per unit has some advantages and disadvantages.⁵ This study uses the “Cost per Unit of Equivalent Production” method to calculate the cost of producing milk. *It was chosen because in using this method, the cost of milk production can be compared directly to the price of milk.* This method also permits the calculation of cost per hundredweight equivalent on individual expense items.

Table 5 shows the cost of milk per CWT EQ for six herd size ranges. Custom Heifer Raising is not a cost item on smaller farms, but for the “151 to 250” farm group it amounts to \$0.31 per CWT EQ. The use of “custom heifer raising” seems to be decreasing on the “greater 250 cow farms.” The value was \$0.31 in 1999 and is only \$0.23 in 2000. Vet. & Medicine costs are approximately 25 percent higher per CWT EQ in herds over 250 cows versus herds of 51 to 100 cows. Other Expenses increase by \$0.37 or more than 100 percent per CWT EQ from the smallest to the largest herd size groups. It is presumed this is the cost of BST.

The “51 to 75 cow” farms have the lowest Basic Costs per CWT EQ (\$7.31). The range in per CWT EQ costs among farm size groups is \$0.82. Livestock depreciation is only \$0.18 per CWT EQ in the smallest herd size group but \$0.60 per CWT EQ in the herd over 250 cows.

The “51 to 75 cow” and “76 to 100 cow” farms tied for the highest NFIFO per CWT EQ (\$1.68). The “51 to 75 cow” farm had a return to the owner-operator-manager (and their family’s) labor & management and equity capital of \$2.49 per CWT EQ. In 1998, this group was second best with a NFIFO of \$3.51 per CWT EQ. In 1999 and 1997, the “51 to 75 cow” farms had the highest NFIFO per CWT EQ.

⁵ Frank, Gary G. “Cost of Production versus Cost of Production”, Published on the Center for Dairy Profitability website at: cdp.wisc.edu, July 1998.

Table 5 - Milk Production Cost per CWT EQ in 2000

Range in Herd Size	<=50 Cows	51 to 75	76 to 100	101 to 150	151 to 250	> 250 Cows
Number of Farms	135	196	93	71	39	47
Total Number of Cows	5,603	12,328	8,212	8,605	7,348	21,944
Average Cows per Farm	41.5	62.9	88.3	121.2	188.4	466.9
Milk Sold per Cow (lbs)	18,425	19,773	20,544	20,373	19,989	21,796
Crop Acres per Cow	4.5	4.2	4.3	3.7	2.6	2.1
Cost of Resale Lst Sold	0.00	0.19	0.00	0.02	0.01	0.00
Auto Expenses	0.16	0.12	0.10	0.07	0.05	0.02
Chemicals	0.21	0.21	0.23	0.14	0.16	0.12
Custom Heifer Raising	0.00	0.00	0.05	0.10	0.31	0.23
Custom Hire	0.29	0.28	0.43	0.37	0.50	0.49
Feed Purchased	1.82	1.73	1.80	2.00	2.21	2.55
Fert & Lime	0.39	0.36	0.32	0.37	0.21	0.13
Milk Hauling	0.12	0.12	0.11	0.12	0.09	0.18
Gas & Oil	0.35	0.32	0.30	0.28	0.25	0.25
Insurance	0.24	0.20	0.17	0.17	0.13	0.10
Milk Marketing & Hedging	0.14	0.14	0.13	0.14	0.14	0.14
Equip Leased	0.07	0.06	0.05	0.13	0.12	0.16
Rent-Farm & Pasture	0.41	0.48	0.57	0.60	0.60	0.46
Repairs	0.77	0.72	0.74	0.74	0.65	0.53
Seed & Plants Purchased	0.32	0.30	0.27	0.25	0.21	0.15
Supplies	0.54	0.46	0.41	0.39	0.38	0.35
Taxes	0.31	0.22	0.20	0.21	0.12	0.11
Utilities	0.33	0.29	0.26	0.26	0.23	0.19
Vet & Medicine	0.37	0.33	0.35	0.35	0.40	0.41
Breeding Fees	0.17	0.16	0.14	0.14	0.14	0.11
Other Expenses	0.29	0.30	0.39	0.46	0.55	0.66
Accts Payable Adjustment	0.02	0.01	0.04	0.05	0.01	0.05
Prepd Expenses Adjustment	(0.01)	0.10	0.08	0.07	0.09	0.14
Depr on Purchased Livestock	0.18	0.23	0.27	0.20	0.54	0.60
Basic Costs	7.49	7.31	7.44	7.63	8.10	8.13
Mortgage Interest	0.35	0.29	0.29	0.36	0.33	0.40
Other Interest	0.50	0.49	0.48	0.38	0.54	0.54
Labor Hired (Dependents)	0.43	0.49	0.20	0.33	0.30	0.16
Labor Hired (Non-dep)	0.12	0.32	0.11	0.68	0.80	1.32
SST & Emp Bens (Dep)	0.36	0.32	0.34	0.15	0.08	0.03
SST & Emp Bens (Non-dep)	0.05	0.08	0.53	0.13	0.18	0.26
Dpr - Mach, equip, build	1.41	1.34	1.27	1.10	1.06	0.97
Total Allocated Costs	10.70	10.65	10.65	10.76	11.39	11.82
Total Farm Incomes	12.33	12.33	12.33	12.33	12.33	12.33
NIFFO*	1.63	1.68	1.68	1.57	0.94	0.51

*Net Farm Income from Operations

Basic Cost of Production per Hundredweight Equivalent

"Basic Costs" are Total Allocated Expenses minus interest paid, wages and benefits paid, and depreciation expenses. "Total Allocated Expenses" are Total Expenses minus value of unpaid labor and management minus a return to equity. Basic Cost is a useful measure when comparing one farm to another, because it is not influenced by the milk's composition, price premiums, farm's debt structure, the amount of paid versus unpaid labor or the capital consumption claimed (depreciation).

An average Basic Cost of \$7.75 per CWT EQ was calculated by summing the total basic costs on all farms and dividing by the total number of CWT EQ produced. Sixty-five percent of the farms had a basic cost of \$8.00 per CWT EQ or less, - an increase from the 63 percent who had Basic Costs of \$8.00 or less in 1999 - and 49 percent in 1998. In Table 6 selected ranges of basic costs are presented. It shows the number and percent of farms in each range.

The \$7.75 average basic cost means that the average farmer in this study had \$4.58 of income available per CWT EQ to use for other costs (US average milk price in 1999 = \$12.33 minus basic expenses of \$7.75 per CWT EQ). Other costs are items such as hired labor, scheduled principal and interest payments, a down payment when purchasing assets, and/or a family living draw.

Table 6
Number of Herds in Basic Cost Production Ranges

Expenses per CWT EQ	Number of Farms	Percent of Farms *
Less than 6.00	87	14
6.01 - 7.00	144	24
7.01 - 8.00	163	27
8.01 - 9.00	108	18
9.01 - 10.00	36	6
Greater than 10.00	67	11

* Percent column may not add to 100 due to rounding.

Summary

The average herd size in our study group of farms was 108.8 cows. The milk sold per cow averaged 20,546 pounds. The rapid increase in cow numbers is due to expansion by the larger farms in the sample. These farms are also increasing production per cow more rapidly than the farms with smaller herds.

Total cost of production per hundredweight equivalent of milk was \$0.87 (\$12.33-13.20) more than the US average milk price in 2000. Since our study of milk production costs began in 1992, in only two years (1998 and 1999) did the milk price exceed total economic costs.

Purchased feed costs still remain the largest cost item having declined in 2000 and 1999 after several years of being almost constant. Purchased feed costs per cow were \$518, \$581, \$663, \$657 and \$662 in 2000, 1999, 1998, 1997 and 1996, respectively. Purchased feed costs per CWT EQ were \$2.11, \$2.30, \$2.77, \$2.76 and \$2.94, in 2000, 1999, 1998, 1997 and 1996, respectively.

Total income per cow averaged \$3,032, of which \$2,394 was milk income, \$79 calves sold and \$141 cull cow sales. Therefore, 86 percent of total income was from the sale of products directly related to the dairy enterprise (milk, cull cows, and calves). In 1999, 91 percent of the total income was from dairy. The drop in percentage

of total income from the dairy enterprise is due to an increase in government payments in 2000. Total allocated expenses per cow in 2000 averaged \$2735 versus \$3,688 in 1999 and \$3,129 in 1998. The return to the farmer's (and family's) unpaid labor, management, and equity capital (Net Farm Income from Operations (NFIFO)) was \$296 per cow in 2000. This compares to \$657 in 1999 and \$716 in 1998. NFIFO per cow in 2000 is only 41 percent of what it was in 1998.

The wages paid to dependent family members was \$79, \$113, \$118, and \$125 per cow in 1996, 1997 and 1998, 1999 respectively and only \$112 per cow in 2000. Note: the collection system used by the Center for Dairy Profitability and the Farm Management Associations has been separating wages and benefits paid to dependent family members since 1996.

In 2000, total allocated expenses per CWT EQ averaged \$11.13 and basic costs averaged \$7.75. The ROROA for the study farms was 3.51%, which is a drop from 7.56% in 1999, and 1998's ROROA of 9.20%. Moreover, it is even lower than the average rate of the years 1995 through 1997 (5.5%). For more details on the financial status of these 605 farms refer to "2000 Financial Benchmarks on Selected Wisconsin Dairy Farms" (Forthcoming). This paper will benchmark the 16 Farm Financial Standard Task Force measures and others.