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# *Staff Paper*

## **2003 Michigan Upper Peninsula Dairy Business Analysis Summary**

Eric Wittenberg  
And  
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**Staff Paper 2004-21**

**November, 2004**



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# 2003 Michigan Upper Peninsula Dairy Farm Business Analysis Summary

By

Eric Wittenberg and Christopher Wolf<sup>1</sup>

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## Executive Summary

This report summarizes the financial and production records of 19 dairy farms across the Upper Peninsula (UP) of Michigan. To be included, the farms must have produced at least 50 percent of gross cash farm income from milk and dairy animal sales. The farms in this report were located throughout Michigan. The records came from Michigan State University's TelFarm/MicroTel project, the Farm Credit Service system, or by AgriSolutions in Michigan. The values were pooled into averages for reporting purposes. Farm records checked for accuracy. While considerable variation in the data exists, average values are reported in the summary tables and discussion that follows.

In 2003, the average UP dairy farm in the business analysis had 135 cows producing an average of 18,804 pounds of milk per cow (Table 1). Milk price, based on gross income, averaged \$12.69/cwt. The total average acres owned were 642 and the average cropped acres were 808.

**Table 1. Ave. 2003 Michigan UP Dairy Farm Characteristics**

Average number of cows	135
Milk sold per cow (pounds)	18,804
Average price of milk sold (\$/cwt)	12.69
Total acres owned	642
Total crop acres	808
Number of farms	19

Net farm income is the return to operator unpaid management, labor and capital invested. Net farm income in 2003 averaged \$45,742 (Table 2). This average somewhat obscures a very large range of net farm income values. The median was \$23,700 and the standard deviation was \$68,699 for all 19 dairy farms.

**Table 2. Average 2003 Michigan Dairy Grazing Farm Income Statement**

	2003
	(\$)
Gross cash farm income	411,907
Total cash expense	319,825
Net cash farm income	92,082
Inventory change*	2,988
Depreciation and capital adjustments*	-49,328
Net farm income	45,742

\*Changes calculated as ending value minus beginning value.

Gross cash farm income averaged \$411,907 in 2003. The largest component of these revenues was milk sales, which averaged \$298,640. The second largest revenue was government payments at \$37,111. Average total cash expenses were \$319,825 and average net cash farm income was \$92,082. Inventory changes were a \$2,988 while depreciation and capital adjustments averaged a negative \$49,328. The net farm income value is the return to operator unpaid management, labor and capital invested averaged \$45,742 in 2003, (Table 2).

To put the profit values in perspective, we calculate profitability ratios. Rate of return on assets (ROA) is the farm operating profit (equal to net farm income plus interest expense less value of operator labor and management) divided by average total farm asset value (valued at current market value). Rate of return on assets is a measure of how much profit the farm business assets generated. The average 2003 dairy farm ROA (Market) was 2.9 percent, which was an improvement over 2002, 2001, and 2000, (Table 3). Return on equity tells a similar story. Operating profit margin is the operating profit (as defined in ROA above) divided by gross revenues. Operating profit margin measures the dollars of profit generated per dollar of revenue. In 2003, Michigan's UP dairy farms generated 12.8 cents of profit per dollar of revenue. Asset turnover is the gross farm revenues divided by average asset value. Asset turnover measures the efficiency with which farm assets generate revenue. This value declined slightly in 2003 to an average of 22.7 percent.

**Table 3. Average Michigan UP Dairy Farm Profitability Indicators, 2000-2003**

	2000	2001	2002	2003
	(percent)			
Rate of return on assets*	-0.8	2.8	-1.9	2.9
Rate of return on equity	-8.0	0.1	-7.0	2.5
Operating profit margin	-2.0	6.4	-4.7	12.8
Asset turnover rate*	41.0	44.2	41.4	22.7

\* Assets valued at market value (rather than cost).

#### *Per Unit Income and Expenses*

Table 4 displays average income and expenses items per hundredweight (cwt.) of milk and per cow across 19 UP dairy farms. Both income and expenses were adjusted to an accrual basis where detailed financial information was provided. Average, accrual adjusted income and expenses per cropped acre are also included.

Income items related to the dairy herd are included in the first section. Government payments include all farm government payments—not just those related to the dairy herd. It was not possible to separate crop payments from dairy payments. Given the low milk prices in 2003, a large portion of government payments were likely in the form of the Milk Income Loss Contract (MILC). *This table should not be interpreted as an estimate of the true cost of producing milk.* All farm sales are not included in the income items—only those that are related to the milking herd. Also, unpaid factors, including labor, management and capital, are not accounted for in the expense

items. In addition, the allocation of resources amongst farm enterprises is not accurately reflected leaving the milking herd as the residual claimant on all expenses (especially labor costs).

The largest expense was purchased feed at \$3.89/cwt. and hired labor was the second largest at \$2.16/cwt. Depreciation, livestock supplies, repairs and milk marketing and trucking combined were also significant expenses for 2003.

The bottom of Tables 4 presents crop related expenses divided by the total cropped acres. To accurately calculate a crop cost of production requires labor and management (among other) expenses that were not separated out in the financial records.

**Table 4. Average income and expenses across all farms\*, 2003**

<b>Income Items:</b>	<b>Per cwt.</b>	<b>Per Cow</b>
Milk	\$12.69	\$2,377.84
Cull Cows and Calves	\$0.83	\$149.13
Dairy Steers	\$1.09	\$186.78
Dairy Heifers	\$0.06	\$11.39
Government Payments	\$1.58	\$290.86
Patronage Dividends, cash	\$0.02	\$5.32
Crop Sales	\$0.18	\$35.70
Other Cash Income	\$0.89	\$147.83
<b>Expense Items:</b>	<b>Per cwt.</b>	<b>Per Cow</b>
Purchased Feeds	\$3.89	\$741.66
Breeding Fees	\$0.11	\$21.79
Veterinary	\$0.31	\$60.60
BST	\$0.06	\$12.61
Livestock Supplies	\$0.80	\$144.09
Milk & Livestock Mkt. & Trucking	\$0.69	\$129.78
Interest	\$0.54	\$100.26
Fuel and Oil	\$0.59	\$106.47
Repairs	\$1.04	\$185.50
Custom Hire	\$0.18	\$37.47
Hired Labor	\$2.16	\$405.83
Leases	\$0.11	\$20.44
Real Estate Taxes	\$0.32	\$56.04
Farm Insurance	\$0.27	\$48.83
Utilities	\$0.41	\$74.78
Dues, Professional Fees	\$0.15	\$29.03
Miscellaneous	\$0.23	\$43.12
Machinery Depreciation	\$1.41	\$254.92
Building Depreciation	\$0.63	\$113.07
<b>Expense Items per Cropped Acre:</b>	<b>Per Acre</b>	
Seed	\$11.37	
Fertilizer	\$17.05	
Crop Chemicals	\$9.44	
Crop Insurance	\$0.05	
Crop Miscellaneous	\$2.41	
Land Rent	\$12.69	

\* All income and expense items averaged across all 19 UP dairy farms whether they had this income or expense item or not. Other cash income includes custom work, insurance claims, and miscellaneous income.



Table 5

Crop Production and Marketing Summary  
**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	High 25%
Dairy		
Number of farms	19	6
Average number of Cows	135	186
Milk production per Cow, lbs.	18804	19714
Average milk price per cwt.,	\$12.69	\$12.59
Acreage Summary		
Total acres owned	642	1,090
Total crop acres	808	1,290
Crop acres owned	495	910
Crop acres cash rented	313	380
Crop acres share rented	-	-
Total pasture acres	-	-
Average Price Received (Cash Sales Only)		
Hay, Alfalfa per ton	42.53	-

Table 6

## Farm Income Statement

**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	High 25%
Number of farms	19	6
Cash Farm Income		
Corn	193	-
Hay, Alfalfa	976	-
Hay, Mixed	1,491	-
Straw	218	-
Dairy, Milk	298,640	414,305
Dairy, Dairy Calves	2,254	4,106
Dairy Heifers (for sale)	789	1,565
Dairy Steers	3,439	-
Cull breeding livestock	16,753	25,228
Misc. livestock income	22,078	40,581
Direct & CC govt payments	580	-
Other government payments	37,111	56,670
Custom work income	6,551	21,446
Patronage dividends, cash	349	-
Insurance income	7,253	19,076
Other farm income	13,231	29,296
Gross Cash Farm Income	411,907	612,274

Table 6, continued

## Farm Income Statement

**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of	
	All Farms	High 25%
Number of farms	19	6
Cash Farm Expense		
Seed	7,690	11,834
Fertilizer	13,258	19,127
Crop chemicals	5,223	9,922
Crop custom hire	4,915	10,578
Crop miscellaneous	432	850
Purchased feed	93,202	132,215
Breeding fees	2,581	2,810
Veterinary	7,162	7,327
BST	1,456	3,300
Livestock supplies	17,199	28,153
Livestock hauling and trucking	9,344	11,463
Marketing	5,045	5,524
Bedding	1,761	4,486
Livestock miscellaneous	52	176
Interest	15,194	22,939
Fuel & oil	14,586	21,759
Repairs	23,574	36,897
Custom hire	4,426	8,616
Hired labor	50,006	77,407
Land rent	8,153	10,388
Machinery & bldg leases	2,657	-
Real estate taxes	7,868	13,216
Farm insurance	6,092	9,265
Utilities	8,619	10,927
Hauling and trucking	413	-
Dues & professional fees	3,963	4,654
Miscellaneous	4,953	3,714
Total cash expense	319,825	467,547
Net cash farm income	92,082	144,727
Inventory Changes		
Crops and feed	4,941	30,511
Market livestock	-4,757	-9,100
Accounts receivable	2,426	6,354
Prepaid expenses and supplies	568	-2,123
Accounts payable	-190	3,274
Total inventory change	2,988	28,916
Net operating profit	95,070	173,642
Depreciation and Other Capital Adjustments		
Breeding livestock	6,764	19,695
Machinery and equipment	-37,021	-70,762
Buildings and improvements	-19,162	-23,412
Other farm capital	91	-1,136
Total depr. and other capital adj	-49,328	-75,615
Net farm income	45,742	98,027

Table 7

Inventory Changes  
**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	High 25%
Number of farms	19	6
Net cash farm income	92,082	144,727
Crops and Feed		
Ending inventory	82,911	157,154
Beginning inventory	77,970	126,643
Inventory change	4,941	30,511
Market Livestock		
Ending inventory	16,126	27,160
Beginning inventory	20,882	36,260
Inventory change	-4,757	-9,100
Accts Receivable & Other Current Assets		
Ending inventory	27,750	33,382
Beginning inventory	25,324	27,028
Inventory change	2,426	6,354
Prepaid Expenses and Supplies		
Ending inventory	8,608	9,400
Beginning inventory	8,040	11,523
Inventory change	568	-2,123
Accounts Payable & Accrued Expenses		
Beginning inventory	7,869	10,475
Ending inventory	8,058	7,201
Inventory change	-190	3,274
Total inventory change	2,988	28,916
Net operating profit	95,070	173,642

Table 8

Depreciation and Other Capital Adjustments  
**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	High 25%
Number of farms	19	6
Net operating profit	95,070	173,642
Breeding Livestock		
Ending inventory	293,210	454,640
Capital sales	-	-
Beginning inventory	279,269	417,125
Capital purchases	7,177	17,820
Depreciation, capital adjust.	6,764	19,695
Machinery and Equipment		
Ending inventory	102,547	176,349
Capital sales	382	-
Beginning inventory	116,789	210,044
Capital purchases	23,161	37,067
Depreciation, capital adjust.	-37,021	-70,762
Buildings and Improvements		
Ending inventory	141,578	203,626
Capital sales	176	-
Beginning inventory	131,250	197,902
Capital purchases	29,666	29,136
Depreciation, capital adjust.	-19,162	-23,412
Other Capital Assets		
Ending inventory	27,704	50,164
Capital sales	285	-
Beginning inventory	26,624	48,733
Capital purchases	1,274	2,566
Depreciation, capital adjust.	91	-1,136
Total depreciation, capital adj.	-49,328	-75,615
Net farm income	45,742	98,027

Table 9

Profitability Measures  
**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	High 25%
Number of farms	19	6
Profitability (assets valued at cost)		
Net farm income	45,742	98,027
Labor and management earnings	19,934	58,563
Rate of return on assets	1.2 %	5.2 %
Rate of return on equity	-1.2 %	6.4 %
Operating profit margin	3.0 %	12.3 %
Asset turnover rate	40.6 %	42.1 %
Interest on farm net worth	25,808	39,464
Farm interest expense	15,196	22,939
Value of operator lbr and mgmt.	50,962	55,851
Return on farm assets	9,976	65,116
Average farm assets	808,793	1,253,218
Return on farm equity	-5,220	42,176
Average farm equity	430,131	657,736
Value of farm production	328,042	527,519
	Avg. Of All Farms	High 25%
Number of farms	19	6
Profitability (assets valued at market)		
Net farm income	77,639	208,018
Labor and management earnings	13,725	111,079
Rate of return on assets	2.9 %	7.9 %
Rate of return on equity	2.5 %	9.4 %
Operating profit margin	12.8 %	33.2 %
Asset turnover rate	22.7 %	23.9 %
Interest on farm net worth	63,914	96,939
Farm interest expense	15,196	22,939
Value of operator lbr and mgmt.	50,962	55,851
Return on farm assets	41,872	175,106
Average farm assets	1,443,895	2,211,128
Return on farm equity	26,676	152,167
Average farm equity	1,065,233	1,615,646
Value of farm production	328,042	527,519

Table 10

## Liquidity Measures

**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	High 25%
Number of farms	19	6
Liquidity (cash)		
Net cash farm income	92,082	144,727
Net nonfarm income	8,356	3,938
Family living and taxes	38,741	30,509
Real estate principal payments	5,602	7,118
Cash available for interm. debt	56,095	111,038
Average intermediate debt	126,993	201,024
Years to turnover interm. debt	2.3	1.8
Expense as a % of income	78 %	76 %
Interest as a % of income	4 %	4 %
Liquidity (accrual)		
Total accrual farm income	414,517	640,039
Total accrual operating expense	319,447	466,397
Net accrual operating income	95,070	173,642
Net nonfarm income	8,356	3,938
Family living and taxes	38,741	30,509
Real estate principal payments	5,602	7,118
Available for intermediate debt	59,083	139,953
Average intermediate debt	126,993	201,024
Years to turnover interm. debt	2.1	1.4
Expense as a % of income	77 %	73 %
Interest as a % of income	4 %	4 %

Table 11

Balance Sheet at Cost Values  
**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of		High 25%	
	All Farms			
Number of farms	19		6	
	Beginning	Ending	Beginning	Ending
<b>Assets</b>				
<b>Current Farm Assets</b>				
Cash and checking balance	7,693	11,255	15,270	15,808
Prepaid expenses & supplies	8,040	8,608	11,523	9,400
Growing crops	2,912	2,912	0	0
Accounts receivable	22,280	24,514	27,028	32,632
Hedging accounts	0	0	0	0
Crops held for sale or feed	77,970	82,911	126,643	157,154
Crops under government loan	0	0	0	0
Market livestock held for sale	20,882	16,126	36,260	27,160
Other current assets	132	324	0	750
<b>Total current farm assets</b>	<b>139,910</b>	<b>146,649</b>	<b>216,724</b>	<b>242,904</b>
<b>Intermediate Farm Assets</b>				
Breeding livestock	279,269	293,210	417,125	454,640
Machinery and equipment	116,789	102,547	210,044	176,349
Titled vehicles	0	0	0	0
Other intermediate assets	2,120	1,951	1,598	894
<b>Total intermediate farm assets</b>	<b>398,178</b>	<b>397,708</b>	<b>628,767</b>	<b>631,882</b>
<b>Long Term Farm Assets</b>				
Farm land	104,272	107,785	144,113	144,113
Buildings and improvements	131,250	141,578	197,902	203,626
Other long-term assets	24,504	25,753	47,135	49,270
<b>Total long-term farm assets</b>	<b>260,025</b>	<b>275,116</b>	<b>389,151</b>	<b>397,009</b>
<b>Total Farm Assets</b>	<b>798,113</b>	<b>819,473</b>	<b>1,234,641</b>	<b>1,271,796</b>
<b>Total Nonfarm Assets</b>	<b>39,203</b>	<b>45,863</b>	<b>83,609</b>	<b>83,609</b>
<b>Total Assets</b>	<b>837,316</b>	<b>865,335</b>	<b>1,318,251</b>	<b>1,355,405</b>
<b>Liabilities</b>				
<b>Current Farm Liabilities</b>				
Accrued interest	0	1	0	0
Accounts payable	7,869	8,057	10,475	7,201
Current notes	69,263	67,234	105,684	106,267
Government crop loans	0	0	0	0
Principal due on term debt	22,041	37,946	31,621	58,811
<b>Total current farm liabilities</b>	<b>99,173</b>	<b>113,238</b>	<b>147,779</b>	<b>172,279</b>
<b>Total intermediate farm liabs</b>	<b>107,350</b>	<b>100,667</b>	<b>163,621</b>	<b>166,125</b>
<b>Total long term farm liabilities</b>	<b>168,205</b>	<b>168,691</b>	<b>300,783</b>	<b>240,377</b>
<b>Total farm liabilities</b>	<b>374,727</b>	<b>382,597</b>	<b>612,183</b>	<b>578,781</b>
<b>Total nonfarm liabilities</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total liabilities</b>	<b>374,727</b>	<b>382,597</b>	<b>612,183</b>	<b>578,781</b>
<b>Net worth (farm and nonfarm)</b>	<b>462,589</b>	<b>482,739</b>	<b>706,067</b>	<b>776,624</b>
<b>Net worth change</b>		<b>20,150</b>		<b>70,557</b>
<b>Ratio Analysis</b>				
Current farm liabilities / assets	71 %	77 %	68 %	71 %
Curr. & interm farm liab. / assets	38 %	39 %	37 %	39 %
Long term farm liab. / assets	65 %	61 %	77 %	61 %
Total debt to asset ratio	45 %	44 %	46 %	43 %



Table 12

Balance Sheet at Market Values  
**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

Number of farms	Avg. Of		High 25%	
	All Farms 19		High 25% 6	
	Beginning	Ending	Beginning	Ending
<b>Assets</b>				
<b>Current Farm Assets</b>				
Cash and checking balance	7,693	11,255	15,270	15,808
Prepaid expenses & supplies	8,040	8,608	11,523	9,400
Growing crops	2,912	2,912	0	0
Accounts receivable	22,280	24,514	27,028	32,632
Hedging accounts	0	0	0	0
Crops held for sale or feed	77,970	82,911	126,643	157,154
Crops under government loan	0	0	0	0
Market livestock held for sale	20,882	16,126	36,260	27,160
Other current assets	132	324	0	750
<b>Total current farm assets</b>	<b>139,910</b>	<b>146,649</b>	<b>216,724</b>	<b>242,904</b>
<b>Intermediate Farm Assets</b>				
Breeding livestock	279,269	293,210	417,125	454,640
Machinery and equipment	246,082	247,781	341,600	358,130
Titled vehicles	0	0	0	0
Other intermediate assets	17,414	17,245	1,598	894
<b>Total intermediate farm assets</b>	<b>542,766</b>	<b>558,236</b>	<b>760,323</b>	<b>813,664</b>
<b>Long Term Farm Assets</b>				
Farm land	480,097	496,650	805,660	842,660
Buildings and improvements	230,255	244,000	308,000	337,400
Other long-term assets	24,239	24,989	46,849	48,073
<b>Total long-term farm assets</b>	<b>734,591</b>	<b>765,639</b>	<b>1,160,509</b>	<b>1,228,133</b>
<b>Total Farm Assets</b>	<b>1,417,267</b>	<b>1,470,523</b>	<b>2,137,556</b>	<b>2,284,701</b>
<b>Total Nonfarm Assets</b>	<b>76,282</b>	<b>78,680</b>	<b>130,518</b>	<b>116,426</b>
<b>Total Assets</b>	<b>1,493,549</b>	<b>1,549,203</b>	<b>2,268,073</b>	<b>2,401,127</b>
<b>Liabilities</b>				
<b>Current Farm Liabilities</b>				
Accrued interest	0	1	0	0
Accounts payable	7,869	8,057	10,475	7,201
Current notes	69,263	67,234	105,684	106,267
Government crop loans	0	0	0	0
Principal due on term debt	22,041	37,946	31,621	58,811
<b>Total current farm liabilities</b>	<b>99,173</b>	<b>113,238</b>	<b>147,779</b>	<b>172,279</b>
<b>Total intermediate farm liabs</b>	<b>107,350</b>	<b>100,667</b>	<b>163,621</b>	<b>166,125</b>
<b>Total long term farm liabilities</b>	<b>168,205</b>	<b>168,691</b>	<b>300,783</b>	<b>240,377</b>
<b>Total farm liabilities</b>	<b>374,727</b>	<b>382,597</b>	<b>612,183</b>	<b>578,781</b>
<b>Total nonfarm liabilities</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total liabs excluding deferreds</b>	<b>374,727</b>	<b>382,597</b>	<b>612,183</b>	<b>578,781</b>
<b>Total deferred liabilities</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total liabilities</b>	<b>374,727</b>	<b>382,597</b>	<b>612,183</b>	<b>578,781</b>
<b>Retained earnings</b>	<b>462,589</b>	<b>482,739</b>	<b>706,067</b>	<b>776,624</b>
<b>Market valuation equity</b>	<b>656,233</b>	<b>683,868</b>	<b>949,823</b>	<b>1,045,722</b>
<b>Net worth (farm and nonfarm)</b>	<b>1,118,821</b>	<b>1,166,606</b>	<b>1,655,890</b>	<b>1,822,346</b>
<b>Net worth excluding deferreds</b>	<b>1,118,821</b>	<b>1,166,606</b>	<b>1,655,890</b>	<b>1,822,346</b>
<b>Net worth change</b>		<b>47,785</b>		<b>166,456</b>
<b>Ratio Analysis</b>				
Current farm liabilities / assets	71 %	77 %	68 %	71 %
Curr. & interm farm liab. / assets	30 %	30 %	32 %	32 %
Long term farm liab. / assets	23 %	22 %	26 %	20 %
Total debt to asset ratio	25 %	25 %	27 %	24 %
Debt to assets excl deferreds	25 %	25 %	27 %	24 %

Table 13

## Statement Of Cash Flows

**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	High 25%
Number of farms	19	6
Beginning cash (farm & nonfarm)	7,693	15,270
Cash From Operating Activities		
Gross cash farm income	411,907	612,274
Net nonfarm income	8,356	3,938
Total cash farm expense	-319,825	-467,547
Apparent family living expense	-36,767	-28,573
Income and social security tax	-1,974	-1,936
Cash from operations	61,697	118,155
Cash From Investing Activities		
Sale of breeding livestock	-	-
Sale of machinery & equipment	382	-
Sale of titled vehicles	-	-
Sale of farm land	-	-
Sale of farm buildings	176	-
Sale of other farm assets	285	-
Sale of nonfarm assets	-	-
Purchase of breeding livestock	-7,177	-17,820
Purchase of machinery & equip.	-23,161	-37,067
Purchase of titled vehicles	-	-
Purchase of farm land	-3,646	-
Purchase of farm buildings	-29,666	-29,136
Purchase of other farm assets	-1,274	-2,566
Purchase of nonfarm assets	-6,526	-899
Cash from investing activities	-70,607	-87,488
Cash From Financing Activities		
Money borrowed	99,639	93,133
Cash gifts and inheritances	4,792	-
Principal payments	-91,960	-123,262
Dividends paid	-	-
Gifts given	-	-
Cash from financing activities	12,471	-30,129
Net change in cash balance	3,561	539
Ending cash (farm & nonfarm)	11,255	15,808

Table 14

Financial Standards Measures  
**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	High 25%
Number of farms	19	6
Liquidity		
Current ratio	1.30	1.41
Working capital	33,410	70,626
Solvency (market)		
Farm debt to asset ratio	26 %	25 %
Farm equity to asset ratio	74 %	75 %
Farm debt to equity ratio	35 %	34 %
Profitability (cost)		
Rate of return on farm assets	1.2 %	5.2 %
Rate of return on farm equity	-1.2 %	6.4 %
Operating profit margin	3.0 %	12.3 %
Net farm income	45,742	98,027
Repayment Capacity		
Term debt coverage ratio	166 %	187 %
Capital replacement margin	30,069	72,477
Efficiency		
Asset turnover rate (cost)	40.6 %	42.1 %
Operating expense ratio	73.4 %	69.3 %
Depreciation expense ratio	11.9 %	11.8 %
Interest expense ratio	3.7 %	3.6 %
Net farm income ratio	11.0 %	15.3 %

Table 15

Operator and Labor Information  
**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	High 25%
Number of farms	19	6
Operator Information		
Average number of operators	1.6	1.4
Average age of operators	50.5	45.2
Average number of years farming	24.8	20.0
Results Per Operator		
Working capital	21,036	50,447
Total assets (market)	975,424	1,715,090
Total liabilities	240,894	413,415
Net worth (market)	734,530	1,301,676
Net worth excl deferred liabs	734,530	1,301,676
Gross farm income	260,992	457,171
Total farm expense	232,191	387,151
Net farm income	28,801	70,020
Net nonfarm income	5,261	2,813
Family living & tax withdrawals	24,392	21,792
Total acres owned	404.3	778.4
Total crop acres	508.9	921.7
Crop acres owned	311.7	650.3
Crop acres cash rented	197.3	271.4
Crop acres share rented	-	-
Total pasture acres	-	-
Labor Analysis		
Number of farms	19	6
Total unpaid labor hours	4,583	4,200
Total hired labor hours	4,526	7,170
Total labor hours per farm	9,109	11,370
Unpaid hours per operator	2,886	3,000
Value of farm production / hour	36.01	46.40
Net farm income / unpaid hour	9.98	23.34
Partnerships		
Number of farms	7	2
Number of operators	2.0	-
Owner withdrawals per farm	-	-
Withdrawals per operator	-	-

Table 16

## Financial Summary

**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	High 25%
Number of farms	19	6
Income Statement		
Gross cash farm income	411,907	612,274
Total cash farm expense	319,825	467,547
Net cash farm income	92,082	144,727
Inventory change	2,988	28,916
Depreciation and capital adjust	-49,328	-75,615
Net farm income	45,742	98,027
Profitability (cost)		
Labor and management earnings	19,934	58,563
Rate of return on assets	1.2 %	5.2 %
Rate of return on equity	-1.2 %	6.4 %
Operating profit margin	3.0 %	12.3 %
Asset turnover rate	40.6 %	42.1 %
Profitability (market)		
Labor and management earnings	13,725	111,079
Rate of return on assets	2.9 %	7.9 %
Rate of return on equity	2.5 %	9.4 %
Operating profit margin	12.8 %	33.2 %
Asset turnover rate	22.7 %	23.9 %
Liquidity		
Ending current ratio	1.30	1.41
Ending working capital	33,410	70,626
End working capital to gross inc	8.1 %	11.5 %
Term debt coverage ratio	165.9 %	187.2 %
Expense as a percent of income	77.1 %	72.9 %
Interest as a percent of income	3.7 %	3.6 %
Solvency (cost)		
Number of farms	17	5
Ending farm assets	819,473	1,271,796
Ending farm liabilities	382,597	578,781
Ending total assets	865,335	1,355,405
Ending total liabilities	382,597	578,781
Ending net worth	482,739	776,624
Net worth change	20,150	70,557
Ending farm debt to asset ratio	47 %	46 %
Beg total debt to asset ratio	45 %	46 %
End total debt to asset ratio	44 %	43 %
Solvency (market)		
Number of farms	17	5
Ending farm assets	1,470,523	2,284,701
Ending farm liabilities	382,597	578,781
Ending total assets	1,549,203	2,401,127
Ending total liabilities	382,597	578,781
Ending net worth	1,166,606	1,822,346
Net worth change	47,785	166,456
Ending farm debt to asset ratio	26 %	25 %
Beg total debt to asset ratio	25 %	27 %
End total debt to asset ratio	25 %	24 %
Nonfarm Information		
Net nonfarm income	8,356	3,938
Crop Acres		
Total acres owned	642	1,090
Total crop acres	808	1,290
Total crop acres owned	495	910
Total crop acres cash rented	313	380
Total crop acres share rented	-	-