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**2005 Michigan Upper Peninsula Dairy  
Business Analysis Summary**

Eric Wittenberg  
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Staff Paper 2006-29

November, 2006



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# 2009 Michigan Upper Peninsula Dairy Farm Business Analysis Summary

Staff Paper No. 2006-29, November 2006

By

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

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## Executive Summary

This report summarizes the financial and production records of 30 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 records came from Michigan State University's TelFarm project and Farm Credit Service system in Michigan. 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 2005, the average UP dairy farm in the business analysis had 140 cows producing an average of 18,672 pounds of milk per cow (Table 1). Milk price received averaged \$15.94/cwt. The total average acres owned were 621 and the average cropped acres were 689.

**Table 1. Average Michigan UP Dairy Farm Characteristics, 2001-2005**

	2001	2002	2003	2004	2005
Average number of cows	127	132	135	138	140
Milk sold per cow (pounds)	17,313	17,827	18,804	18,501	18,672
Average price of milk sold (\$/cwt)	15.09	12.62	12.69	16.96	15.94
Total acres owned	607	586	642	624	621
Total crop acres	710	678	808	789	689
Number of farms	26	22	19	23	30

Net farm income is the return to operator unpaid management, labor and capital invested. Net farm income in 2005 averaged \$65,162 (Table 2). The median was \$62,695 and the standard deviation was \$56,092 across the 30 dairy farms.

**Table 2. Average Michigan UP Dairy Farm Income Statement, 2001-2005**

	2001	2002	2003	2004	2005
			(\$)		
Gross cash farm income	406,122	379,892	411,907	539,446	552,192
- Total cash expense	<u>310,704</u>	<u>309,284</u>	<u>319,825</u>	<u>413,969</u>	<u>410,527</u>
= Net cash farm income	95,417	70,608	92,082	125,478	141,665
+ Inventory change*	2,031	5,560	2,988	21,143	-7,345
+ Depreciation and capital adjustments*	<u>-44,102</u>	<u>-48,450</u>	<u>-49,328</u>	<u>-61,178</u>	<u>-69,158</u>
= Net farm income	53,346	27,808	45,742	85,442	65,162

\*Changes calculated as ending value minus beginning value.

Gross cash farm income averaged \$552,192 in 2005. The largest component of these revenues was milk sales, which averaged \$421,878. The second largest revenue was direct & CC government payments at \$40,197. Average total cash expenses were \$410,527 and average net cash farm income was \$141,665. Inventory changes were a negative \$7,345 while depreciation and capital adjustments averaged a negative \$69,158. The net farm income value is the return to operator unpaid management, labor and capital invested averaged \$65,162 in 2005 (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 2005 dairy farm ROA (Market) was 5.9 percent, a positive return but not as high as 2004 (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 2005, Michigan's UP dairy farms generated 21.7 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 decreased slightly in 2005 to an average of 27.3 percent.

**Table 3. Average Michigan UP Dairy Farm Profitability Indicators, 2001-2005**

	2001	2002	2003	2004	2005
	(percent)				
Rate of return on assets*	2.8	-1.9	2.9	11.4	5.9
Rate of return on equity	0.1	-7.0	2.5	14.3	6.6
Operating profit margin	6.4	-4.7	12.8	38.7	21.7
Asset turnover rate*	44.2	41.4	22.7	29.5	27.3

\* 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 30 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. *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 \$4.72/cwt. and hired labor was the second largest at \$2.05/cwt. Depreciation, livestock supplies, repairs and milk marketing and trucking combined were also significant expenses for 2005.

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 Upper Peninsula farms\*, 2005**

<b>Income Items:</b>	<b>Per cwt.</b>	<b>Per Cow</b>
Milk	\$15.94	\$2,965.28
Cull Cows and Calves	\$0.99	\$183.41
Dairy Steers	\$0.89	\$165.75
Dairy Heifers	\$0.36	\$57.86
Government Payments	\$1.65	\$310.71
Patronage Dividends, cash	\$0.02	\$3.89
Crop Sales	\$0.28	\$54.45
Other Cash Income	\$1.05	\$176.65
<b>Expense Items:</b>	<b>Per cwt.</b>	<b>Per Cow</b>
Purchased Feeds	\$4.72	\$865.50
Breeding Fees	\$ 0.12	\$24.03
Veterinary	\$0.35	\$70.34
BST	\$0.07	\$17.14
Livestock Supplies	\$0.71	\$127.10
DHIA	N/A	N/A
Milk & Livestock Mkt. & Trucking	\$0.84	\$148.93
Interest	\$0.78	\$132.79
Fuel and Oil	\$0.92	\$169.92
Repairs	\$1.08	\$190.70
Custom Hire	\$0.39	\$69.04
Hired Labor	\$2.05	\$390.18
Leases	\$0.07	\$13.84
Real Estate Taxes	\$0.36	\$64.53
Farm Insurance	\$0.34	\$61.86
Utilities	\$0.52	\$91.94
Dues, Professional Fees	\$0.18	\$34.23
Miscellaneous	\$0.18	\$33.97
Machinery Depreciation	\$2.07	\$381.65
Building Depreciation	\$0.99	\$187.07
<b>Expense Items per Cropped Acre:</b>	<b>Per Acre</b>	
Seed	\$17.62	
Fertilizer	\$26.50	
Crop Chemicals	\$11.47	
Crop Insurance	\$0.21	
Crop Miscellaneous	\$1.07	
Land Rent	\$15.72	

All income and expense items averaged across all 30 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  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Dairy			
Number of farms	30	7	8
Average number of Cows	140	161	135
Milk production per Cow, lbs.,	18,672	19,945	17,794
Average milk price per cwt.,	\$15.94	\$15.31	\$16.14
Acreage Summary			
Total acres owned	621	523	1,133
Total crop acres	689	684	940
Crop acres owned	402	298	683
Crop acres cash rented	286	386	256
Crop acres share rented	-	-	-
Total pasture acres	-	-	-
Average Price Received (Cash Sales Only)			
Hay, Alfalfa per ton	89.51	-	-
Corn per bushel	1.93		
Soybeans per bushel	5.27		
Wheat, Winter per bushel	3.07		
Straw per ton	19.26		
Hay, Mixed per ton	62.03		
Oats per bushel	1.61		
Corn Silage per ton	22.16		

Table 6

## Farm Income Statement

**2005 MI UP Dairy Business Summary Analysis**

(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Cash Farm Income			
Barley	129	551	-
Cordwood	610	-	-
Corn	939	-	3,520
Hay, Alfalfa	3,572	4,295	8,478
Hay, Mixed	1,286	-	-
Straw	97	29	150
Beef Cow-Calf, Beef Calves	881	-	-
Dairy, Milk	421,878	538,224	370,184
Dairy, Dairy Calves	1,375	1,429	617
Dairy Heifers (for sale)	5,370	500	17,722
Dairy Replacement Heifers	1,033	463	3,469
Dairy Steer Finishing	7,295	9,824	4,874
Hogs, Farrow-Fin, Raised Hogs	27	-	100
Cull breeding livestock	23,587	28,792	23,016
Misc. livestock income	11,590	18,637	25,259
Direct & CC govt payments	40,197	23,747	85,862
Other government payments	5,625	15,198	-
Custom work income	5,728	-	21,225
Patronage dividends, cash	829	1,789	-
Insurance income	8,897	25,136	6,919
Other farm income	11,249	6,618	26,458
Gross Cash Farm Income	552,192	675,233	597,852



Table 6

Farm Income Statement (Continued)  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Cash Farm Expense			
Seed	11,630	11,993	17,420
Fertilizer	19,283	26,874	26,288
Crop chemicals	7,497	7,991	11,732
Crop insurance	276	588	-
Crop repair, machinery	739	-	-
Crop custom hire	4,281	6,449	4,266
Crop miscellaneous	557	922	-
Feeder livestock purchase	179	-	673
Purchased feed	125,690	159,958	107,861
Breeding fees	3,278	5,603	1,708
Veterinary	10,715	15,072	6,552
BST	2,592	5,871	899
Supplies	17,307	17,119	23,860
Livestock utilities	330	430	-
Hauling and trucking	8,743	10,534	8,809
Marketing	7,997	8,586	5,262
Bedding	1,465	1,942	2,316
Interest	18,193	21,495	13,837
Fuel & oil	24,212	28,346	32,551
Repairs	24,679	29,909	26,849
Repair, machinery	295	1,263	-
Custom hire	6,505	17,107	2,376
Hired labor	61,348	96,439	54,560
Land rent	9,160	14,547	5,386
Machinery leases	2,024	137	900
Real estate taxes	8,079	8,491	14,727
Personal property taxes	551	2,361	-
Farm insurance	8,342	10,381	12,128
Utilities	11,656	16,216	10,934
Dues & professional fees	4,186	5,101	4,070
Miscellaneous	8,738	16,929	10,147
Total cash expense	410,527	548,653	406,106
Net cash farm income	141,665	126,580	191,746
Inventory Changes			
Crops and feed	-3,288	-22,297	1,743
Market livestock	1,917	1,404	7,325
Accounts receivable	-654	-7,789	5,679
Prepaid expenses and supplies	164	-1,268	-1,147
Accounts payable	-5,484	-7,332	-13,416
Total inventory change	-7,345	-37,282	184
Net operating profit	134,320	89,299	191,931
Depreciation and Other Capital Adjustments			
Breeding livestock	4,871	-10,445	7,531
Machinery and equipment	-47,780	-31,671	-68,055
Buildings and improvements	-26,730	-26,715	-36,507
Other farm capital	481	1,876	-557
Total depr. and other capital adj	-69,158	-66,954	-97,588
Net farm income	65,162	22,344	94,343

Table 7

Inventory Changes  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Net cash farm income	141,665	126,580	191,746
Crops and Feed			
Ending inventory	82,836	80,619	128,595
Beginning inventory	86,124	102,915	126,852
Inventory change	-3,288	-22,297	1,743
Market Livestock			
Ending inventory	17,199	19,721	38,344
Beginning inventory	15,283	18,317	31,019
Inventory change	1,917	1,404	7,325
Accts Receivable & Other Current Assets			
Ending inventory	26,220	22,369	31,199
Beginning inventory	26,873	30,158	25,520
Inventory change	-654	-7,789	5,679
Prepaid Expenses and Supplies			
Ending inventory	6,462	8,722	4,466
Beginning inventory	6,298	9,990	5,613
Inventory change	164	-1,268	-1,147
Accounts Payable & Accrued Expenses			
Beginning inventory	5,169	2,558	9,067
Ending inventory	10,653	9,890	22,482
Inventory change	-5,484	-7,332	-13,416
Total inventory change	-7,345	-37,282	184
Net operating profit	134,320	89,299	191,931

Table 8

Depreciation and Other Capital Adjustments  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Net operating profit	134,320	89,299	191,931
Breeding Livestock			
Ending inventory	316,740	353,771	335,831
Capital sales	4,800	20,027	-
Beginning inventory	307,727	362,229	319,600
Capital purchases	8,942	22,014	8,700
Depreciation, capital adjust.	4,871	-10,445	7,531
Machinery and Equipment			
Ending inventory	106,111	154,139	109,014
Capital sales	998	1,000	946
Beginning inventory	102,183	109,277	114,232
Capital purchases	52,706	77,534	63,782
Depreciation, capital adjust.	-47,780	-31,671	-68,055
Buildings and Improvements			
Ending inventory	172,708	268,336	137,736
Capital sales	-	-	-
Beginning inventory	149,243	203,979	124,559
Capital purchases	50,195	91,072	49,684
Depreciation, capital adjust.	-26,730	-26,715	-36,507
Other Capital Assets			
Ending inventory	47,579	113,301	33,434
Capital sales	2,538	2,096	3
Beginning inventory	45,649	108,773	33,264
Capital purchases	3,988	4,747	730
Depreciation, capital adjust.	481	1,876	-557
Total depreciation, capital adj.	-69,158	-66,954	-97,588
Net farm income	65,162	22,344	94,343

Table 9

Profitability Measures  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Profitability (assets valued at cost)			
Net farm income	65,162	22,344	94,343
Labor and management earnings	36,946	-13,556	56,909
Rate of return on assets	3.7 %	0.5 %	4.8 %
Rate of return on equity	3.3 %	-2.7 %	6.1 %
Operating profit margin	7.8 %	1.1 %	10.2 %
Asset turnover rate	47.9 %	44.5 %	47.5 %
Interest on farm net worth	28,216	35,901	37,434
Farm interest expense	18,032	21,495	13,837
Value of operator lbr and mgmt.	49,635	38,695	56,015
Return on farm assets	33,559	5,144	52,165
Average farm assets	896,292	1,069,415	1,077,073
Return on farm equity	15,527	-16,351	38,328
Average farm equity	469,188	598,346	623,894
Value of farm production	429,168	476,149	511,597
	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Profitability (assets valued at market)			
Net farm income	124,821	10,786	289,738
Labor and management earnings	56,126	-45,624	172,069
Rate of return on assets	5.9 %	-0.5 %	10.3 %
Rate of return on equity	6.6 %	-3.0 %	11.9 %
Operating profit margin	21.7 %	-1.3 %	48.4 %
Asset turnover rate	27.3 %	33.7 %	21.2 %
Interest on farm net worth	68,695	56,410	117,669
Farm interest expense	18,032	21,495	13,837
Value of operator lbr and mgmt.	49,635	38,695	56,015
Return on farm assets	93,218	-6,414	247,560
Average farm assets	1,571,245	1,411,241	2,414,327
Return on farm equity	75,186	-27,909	233,723
Average farm equity	1,144,141	940,172	1,961,148
Value of farm production	429,168	476,149	511,597

Table 10

Liquidity Measures  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Liquidity (cash)			
Net cash farm income	141,665	126,580	191,746
Net nonfarm income	26,259	16,346	40,875
Family living and taxes	62,011	38,350	76,102
Principal due on long term debt	12,797	10,554	12,880
Cash available for interm. debt	93,116	94,022	143,639
Average intermediate debt	154,289	118,710	204,669
Years to turnover interm. debt	1.7	1.3	1.4
Expense as a % of income	74 %	81 %	68 %
Interest as a % of income	3 %	3 %	2 %
Working capital to gross income	7 %	9 %	14 %
Liquidity (accrual)			
Total accrual farm income	550,167	646,552	612,599
Total accrual operating expense	415,847	557,253	420,669
Net accrual operating income	134,320	89,299	191,931
Net nonfarm income	26,259	16,346	40,875
Family living and taxes	62,011	38,350	76,102
Principal due on long term debt	12,797	10,554	12,880
Available for intermediate debt	85,771	56,741	143,823
Average intermediate debt	154,289	118,710	204,669
Years to turnover interm. debt	1.8	2.1	1.4
Expense as a % of income	76 %	86 %	69 %
Interest as a % of income	3 %	3 %	2 %
Working capital to gross income	7 %	9 %	14 %

Table 11

Balance Sheet at Cost Values  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms		Low 25%		High 25%	
Number of farms	30		7		8	
	Beginning	Ending	Beginning	Ending	Beginning	Ending
<b>Assets</b>						
<b>Current Farm Assets</b>						
Cash and checking balance	9,081	16,105	8,514	18,052	17,143	23,980
Prepaid expenses & supplies	6,298	6,462	9,990	8,722	5,613	4,466
Growing crops	150	280	0	0	0	0
Accounts receivable	25,867	23,100	29,941	22,174	24,341	23,129
Hedging accounts	0	0	0	0	0	0
Crops held for sale or feed	86,124	82,836	102,915	80,619	126,852	128,595
Crops under government loan	0	0	0	0	0	0
Market livestock held for sale	15,283	17,199	18,317	19,721	31,019	38,344
Other current assets	857	2,840	216	195	1,179	8,070
Total current farm assets	143,659	148,822	169,893	149,482	206,146	226,583
<b>Intermediate Farm Assets</b>						
Breeding livestock	307,727	316,740	362,229	353,771	319,600	335,831
Machinery and equipment	102,183	106,111	109,277	154,139	114,232	109,014
Titled vehicles	0	0	0	0	0	0
Other intermediate assets	24,645	25,224	93,650	94,967	1,937	2,106
Total intermediate farm assets	434,556	448,075	565,156	602,877	435,769	446,951
<b>Long Term Farm Assets</b>						
Farm land	116,441	135,722	71,672	73,979	222,018	291,729
Buildings and improvements	149,243	172,708	203,979	268,336	124,559	137,736
Other long-term assets	21,003	22,356	15,123	18,334	31,327	31,328
Total long-term farm assets	286,688	330,786	290,773	360,648	377,904	460,793
Total Farm Assets	864,902	927,682	1,025,822	1,113,007	1,019,819	1,134,327
Total Nonfarm Assets	41,884	45,729	30,616	41,342	79,472	77,866
Total Assets	906,786	973,411	1,056,438	1,154,349	1,099,291	1,212,193
<b>Liabilities</b>						
<b>Current Farm Liabilities</b>						
Accrued interest	486	324	0	0	0	0
Accounts payable	4,684	10,328	2,558	9,890	9,067	22,482
Current notes	60,537	64,321	70,849	40,259	66,996	69,267
Government crop loans	0	0	0	0	0	0
Principal due on term debt	39,462	37,736	27,416	38,867	58,690	51,274
Total current farm liabilities	105,168	112,710	100,823	89,016	134,752	143,024
Total intermediate farm liabs	122,237	135,093	85,635	111,968	157,851	169,610
Total long term farm liabilities	181,075	197,926	242,148	312,548	125,798	175,324
Total farm liabilities	408,480	445,729	428,606	513,532	418,402	487,957
Total nonfarm liabilities	0	0	0	0	0	0
Total liabilities	408,480	445,729	428,606	513,532	418,402	487,957
Net worth (farm and nonfarm)	498,306	527,682	627,832	640,818	680,889	724,236
Net worth change		29,377		12,985		43,347
<b>Ratio Analysis</b>						
Current farm liabilities / assets	73 %	76 %	59 %	60 %	65 %	63 %
Curr. & interm farm liab. / assets	39 %	42 %	25 %	27 %	46 %	46 %
Long term farm liab. / assets	63 %	60 %	83 %	87 %	33 %	38 %
Total debt to asset ratio	45 %	46 %	41 %	44 %	38 %	40 %

Table 12

Balance Sheet at Market Values  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms		Low 25%		High 25%	
Number of farms	30		7		8	
	Beginning	Ending	Beginning	Ending	Beginning	Ending
<b>Assets</b>						
<b>Current Farm Assets</b>						
Cash and checking balance	9,081	16,105	8,514	18,052	17,143	23,980
Prepaid expenses & supplies	6,298	6,462	9,990	8,722	5,613	4,466
Growing crops	150	280	0	0	0	0
Accounts receivable	25,867	23,100	29,941	22,174	24,341	23,129
Hedging accounts	0	0	0	0	0	0
Crops held for sale or feed	86,124	82,836	102,915	80,619	126,852	128,595
Crops under government loan	0	0	0	0	0	0
Market livestock held for sale	15,283	17,199	18,317	19,721	31,019	38,344
Other current assets	857	2,840	216	195	1,179	8,070
Total current farm assets	143,659	148,822	169,893	149,482	206,146	226,583
<b>Intermediate Farm Assets</b>						
Breeding livestock	307,873	316,753	362,229	353,771	319,600	335,831
Machinery and equipment	255,016	272,094	210,301	250,964	356,216	375,573
Titled vehicles	0	0	0	0	0	0
Other intermediate assets	33,312	33,890	93,650	94,967	1,937	2,106
Total intermediate farm assets	596,201	622,738	666,180	699,702	677,753	713,510
<b>Long Term Farm Assets</b>						
Farm land	524,599	589,696	342,702	350,645	1,020,425	1,257,591
Buildings and improvements	224,914	249,436	180,143	232,786	324,000	340,519
Other long-term assets	20,653	21,773	14,509	16,440	31,051	31,076
Total long-term farm assets	770,166	860,905	537,354	599,871	1,375,476	1,629,185
Total Farm Assets	1,510,026	1,632,465	1,373,428	1,449,055	2,259,375	2,569,278
Total Nonfarm Assets	72,067	79,739	70,669	75,684	125,880	142,887
Total Assets	1,582,093	1,712,204	1,444,096	1,524,739	2,385,255	2,712,165
<b>Liabilities</b>						
<b>Current Farm Liabilities</b>						
Accrued interest	486	324	0	0	0	0
Accounts payable	4,684	10,328	2,558	9,890	9,067	22,482
Current notes	60,537	64,321	70,849	40,259	66,996	69,267
Government crop loans	0	0	0	0	0	0
Principal due on term debt	39,462	37,736	27,416	38,867	58,690	51,274
Total current farm liabilities	105,168	112,710	100,823	89,016	134,752	143,024
Total intermediate farm liabs	122,237	135,093	85,635	111,968	157,851	169,610
Total long term farm liabilities	181,075	197,926	242,148	312,548	125,798	175,324
Total farm liabilities	408,480	445,729	428,606	513,532	418,402	487,957
Total nonfarm liabilities	0	0	0	0	0	0
Total liabs excluding deferreds	408,480	445,729	428,606	513,532	418,402	487,957
Total deferred liabilities	0	0	0	0	0	0
Total liabilities	408,480	445,729	428,606	513,532	418,402	487,957
Retained earnings	498,306	527,682	627,832	640,818	680,889	724,236
Market valuation equity	675,307	738,793	387,658	370,390	1,285,964	1,499,972
Net worth (farm and nonfarm)	1,173,613	1,266,475	1,015,490	1,011,207	1,966,853	2,224,208
Net worth excluding deferreds	1,173,613	1,266,475	1,015,490	1,011,207	1,966,853	2,224,208
Net worth change		92,862		-4,283		257,355
<b>Ratio Analysis</b>						
Current farm liabilities / assets	73 %	76 %	59 %	60 %	65 %	63 %
Curr. & interm farm liab. / assets	31 %	32 %	22 %	24 %	33 %	33 %
Long term farm liab. / assets	24 %	23 %	45 %	52 %	9 %	11 %
Total debt to asset ratio	26 %	26 %	30 %	34 %	18 %	18 %
Debt to assets excl deferreds	26 %	26 %	30 %	34 %	18 %	18 %

Table 13

Statement Of Cash Flows  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Beginning cash (farm & nonfarm)	9,081	8,514	17,143
Cash From Operating Activities			
Gross cash farm income	552,192	675,233	597,852
Net nonfarm income	26,259	16,346	40,875
Total cash farm expense	-410,527	-548,653	-406,106
Apparent family living expense	-58,729	-35,745	-72,052
Income and social security tax	-3,281	-2,605	-4,051
Cash from operations	105,913	104,576	156,519
Cash From Investing Activities			
Sale of breeding livestock	4,800	20,027	-
Sale of machinery & equipment	998	1,000	946
Sale of titled vehicles	-	-	-
Sale of farm land	2,530	-	9,488
Sale of farm buildings	-	-	-
Sale of other farm assets	2,538	2,096	3
Sale of nonfarm assets	895	-	3,357
Purchase of breeding livestock	-8,942	-22,014	-8,700
Purchase of machinery & equip.	-52,706	-77,534	-63,782
Purchase of titled vehicles	-	-	-
Purchase of farm land	-23,033	-	-86,376
Purchase of farm buildings	-50,195	-91,072	-49,684
Purchase of other farm assets	-3,988	-4,747	-730
Purchase of nonfarm assets	-3,924	-188	-10,343
Cash from investing activities	-131,027	-172,432	-205,822
Cash From Financing Activities			
Money borrowed	105,673	171,303	93,367
Cash gifts and inheritances	2,345	3,571	-
Principal payments	-73,908	-93,709	-37,228
Dividends paid	-	-	-
Gifts given	-1,971	-3,771	-
Cash from financing activities	32,138	77,394	56,140
Net change in cash balance	7,024	9,538	6,837
Ending cash (farm & nonfarm)	16,105	18,052	23,980



Table 14

Financial Standards Measures  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Liquidity			
Current ratio	1.32	1.68	1.58
Working capital	36,112	60,466	83,560
Solvency (market)			
Farm debt to asset ratio	27 %	35 %	19 %
Farm equity to asset ratio	73 %	65 %	81 %
Farm debt to equity ratio	38 %	55 %	23 %
Profitability (cost)			
Rate of return on farm assets	3.7 %	0.5 %	4.8 %
Rate of return on farm equity	3.3 %	-2.7 %	6.1 %
Operating profit margin	7.8 %	1.1 %	10.2 %
Net farm income	65,162	22,344	94,343
Repayment Capacity			
Term debt coverage ratio	206 %	151 %	259 %
Capital replacement margin	58,793	40,463	98,013
Efficiency			
Asset turnover rate (cost)	47.9 %	44.5 %	47.5 %
Operating expense ratio	72.3 %	82.9 %	66.4 %
Depreciation expense ratio	12.6 %	10.4 %	15.9 %
Interest expense ratio	3.3 %	3.3 %	2.3 %
Net farm income ratio	11.8 %	3.5 %	15.4 %

Table 15

Operator and Labor Information  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Operator Information			
Average number of operators	1.6	1.7	1.4
Average age of operators	50.5	50.3	49.4
Average number of years farming	23.5	21.3	25.8
Results Per Operator			
Working capital	23,050	35,272	60,771
Total assets (market)	1,092,896	889,431	1,972,484
Total liabilities	284,508	299,560	354,878
Net worth (market)	808,388	589,871	1,617,606
Net worth excl deferred liabs	808,388	589,871	1,617,606
Gross farm income	351,170	377,155	445,527
Total farm expense	309,578	364,121	376,914
Net farm income	41,593	13,034	68,613
Net nonfarm income	16,761	9,535	29,727
Family living & tax withdrawals	39,581	22,371	55,347
Total acres owned	396.3	305.3	823.7
Total crop acres	439.7	398.9	683.4
Crop acres owned	256.8	173.8	497.0
Crop acres cash rented	182.9	225.1	186.4
Crop acres share rented	-	-	-
Total pasture acres	-	-	-
Labor Analysis			
Number of farms	30	7	8
Total unpaid labor hours	4,320	3,394	4,125
Total hired labor hours	4,684	6,998	5,094
Total labor hours per farm	9,004	10,393	9,219
Unpaid hours per operator	2,758	1,980	3,000
Value of farm production / hour	47.66	45.82	55.50
Net farm income / unpaid hour	15.08	6.58	22.87
Average hourly hired labor wage	13.22	13.76	10.71
Partnerships & LLCs			
Number of farms	10	2	2
Number of operators	2.0	-	-
Owner withdrawals per farm	-	-	-
Withdrawals per operator	-	-	-

Table 16

Financial Summary  
**2005 MI UP Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	Low 25%	High 25%
Number of farms	30	7	8
Income Statement			
Gross cash farm income	552,192	675,233	597,852
Total cash farm expense	410,527	548,653	406,106
Net cash farm income	141,665	126,580	191,746
Inventory change	-7,345	-37,282	184
Depreciation and capital adjust	-69,158	-66,954	-97,588
Net farm income	65,162	22,344	94,343
Profitability (cost)			
Labor and management earnings	36,946	-13,556	56,909
Rate of return on assets	3.7 %	0.5 %	4.8 %
Rate of return on equity	3.3 %	-2.7 %	6.1 %
Operating profit margin	7.8 %	1.1 %	10.2 %
Asset turnover rate	47.9 %	44.5 %	47.5 %
Profitability (market)			
Labor and management earnings	56,126	-45,624	172,069
Rate of return on assets	5.9 %	-0.5 %	10.3 %
Rate of return on equity	6.6 %	-3.0 %	11.9 %
Operating profit margin	21.7 %	-1.3 %	48.4 %
Asset turnover rate	27.3 %	33.7 %	21.2 %
Liquidity			
Ending current ratio	1.32	1.68	1.58
Ending working capital	36,112	60,466	83,560
End working capital to gross inc	6.5 %	9.0 %	14.0 %
Term debt coverage ratio	205.9 %	150.6 %	259.5 %
Expense as a percent of income	75.6 %	86.2 %	68.7 %
Interest as a percent of income	3.3 %	3.3 %	2.3 %
Solvency (cost)			
Number of farms	30	7	8
Ending farm assets	927,682	1,113,007	1,134,327
Ending farm liabilities	445,729	513,532	487,957
Ending total assets	973,411	1,154,349	1,212,193
Ending total liabilities	445,729	513,532	487,957
Ending net worth	527,682	640,818	724,236
Net worth change	29,377	12,985	43,347
Ending farm debt to asset ratio	48 %	46 %	43 %
Beg total debt to asset ratio	45 %	41 %	38 %
End total debt to asset ratio	46 %	44 %	40 %
Solvency (market)			
Number of farms	30	7	8
Ending farm assets	1,632,465	1,449,055	2,569,278
Ending farm liabilities	445,729	513,532	487,957
Ending total assets	1,712,204	1,524,739	2,712,165
Ending total liabilities	445,729	513,532	487,957
Ending net worth	1,266,475	1,011,207	2,224,208
Net worth change	92,862	-4,283	257,355
Ending farm debt to asset ratio	27 %	35 %	19 %
Beg total debt to asset ratio	26 %	30 %	18 %
End total debt to asset ratio	26 %	34 %	18 %
Nonfarm Information			
Net nonfarm income	26,259	16,346	40,875
Crop Acres			
Total acres owned	621	523	1,133
Total crop acres	689	684	940
Total crop acres owned	402	298	683
Total crop acres cash rented	286	386	256
Total crop acres share rented		-	-

