



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

**2005 Michigan Dairy Grazing Farm  
Business Analysis Summary**

Eric Wittenberg  
And  
Christopher Wolf

Staff Paper 2006-28

November, 2006



Department of Agricultural Economics  
MICHIGAN STATE UNIVERSITY  
East Lansing, Michigan 48824

MSU is an Affirmative Action/Equal Opportunity Institution

# 2005 Michigan Dairy Grazing Farm Business Analysis Summary

Staff Paper No. 2006-28, November 2006

By

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

<b>Table of Contents</b>	<b>Page</b>
Executive Summary.....	2

## List of Tables

### *Summary Tables*

1. Average Farm Characteristics, 2001-2005.....	2
2. Average Income Statement, 2001-2005.....	2
3. Average Profitability Indicators, 2001-2005.....	3
4. Average Income and Expenses.....	4

### *Averages of 11 Dairy Grazing Farms*

5. Livestock and Crop Production Summary	5
6. Farm Income Statement	6
7. Inventory Changes .....	8
8. Depreciation and Other Capital Adjustments.....	9
9. Profitability Measures	10
10. Liquidity Measures	11
11. Balance Sheet at Cost Values	12
12. Balance Sheet at Market Values	13
13. Statement of Cash Flows	14
14. Financial Standards Measures	15
15. Operator Information and Nonfarm Summary	16
16. Financial Summary	17

**Copyright (c) 2006 by Eric Wittenberg and Christopher Wolf.** Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

---

<sup>1</sup> Co-workers in the TelFarm project were: R. Betz, L. Borton, B. Battel, W. Schauer, D. Stein, and V. Varner with the assistance of Michigan State University Extension Agents. Greenstone Farm Credit Services co-workers were Kelly Tobin, Steve Eshelman, Janice Raymond, Tiffany Aldrich, Anne Gerke, Kathleen Spranger, Sonya Pentecost, and Lynette Wood. Farm Credit Services of Wisconsin co-worker was Steve Zimmerman.

## Executive Summary

This report summarizes the financial and production records of 11 dairy grazing farms from across Michigan. These 11 farms indicated that they grazed dairy cows at least three months of the year and that grazing provided more than 30 percent of the forage consumed during the year. 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 the Farm Credit Service system in Michigan. The values were pooled into averages for reporting purposes. Farm records were 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 size dairy farm in the business analysis had 115 cows producing an average of 15,869 pounds of milk per cow (Table 1). Milk price, based on gross income, averaged \$15.87/cwt. The average cropped acres per cow for the 11 dairy grazing farms was 3.5.

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

	2001	2002	2003	2004	2005
Average number of cows	99	111	114	115	115
Milk sold per cow (pounds)	15,250	15,758	16,392	16,030	15,869
Average price of milk sold (\$/cwt)	\$15.38	\$12.87	\$12.81	16.75	\$15.87
Total acres owned	231	400	417	342	364
Total crop acres	293	464	479	424	401
Cropped acres per Cow	3	4.2	4.2	3.7	3.5
Number of farms	14	9	9	10	11

Net farm income is the return to operator unpaid management, labor and capital invested. Net farm income in 2005 averaged \$41,106 (Table 2). The median was \$51,185 and the standard deviation was \$64,261. Gross cash farm income averaged \$340,678 in 2005. The largest component of these revenues was milk sales, which averaged \$292,325. Average total cash expenses were \$271,132 and average net cash farm income was \$69,545. Inventory value declined by \$10,651. Depreciation and capital adjustments averaged a negative \$17,788.

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

	2001	2002	2003	2004	2005
					(\$)
Gross cash farm income	277,512	277,302	297,148	357,317	340,678
- Total cash expense	<u>209,019</u>	<u>237,264</u>	<u>262,301</u>	<u>296,245</u>	<u>271,132</u>
= Net cash farm income	68,493	40,038	34,847	61,072	69,545
+ Inventory change*	-2,389	-1,766	-3,637	36,288	-10,651
+ Depreciation + capital adjustments*	<u>-21,234</u>	<u>-21,326</u>	<u>-14,060</u>	<u>-19,486</u>	<u>-17,788</u>
= Net farm income	44,871	16,945	17,150	77,873	41,106

\*Changes calculated as ending value minus beginning value.

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 3.2 percent, below 2004 value of 5.2 percent (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 dairy grazing farms generated 15.4 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 2005 to an average of 21.1 percent.

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

	2001	2002	2003	2004	2005
			(percent)		
Rate of return on assets*	2.4	-2.8	0.1	5.2	3.2
Rate of return on equity	-0.5	-9.3	-1.4	5.7	2.8
Operating profit margin	5.1	-7.3	0.6	20.9	15.4
Asset turnover rate*	47.1	38.8	25.7	24.8	21.1

\* Assets valued at market value

#### *Per Unit Income and Expenses*

Table 4 displays average income and expenses items per hundredweight (cwt.) of milk and per cow across 11 dairy grazing 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 \$4.73/cwt, machinery depreciation averaged \$1.44/cwt for second, and hired labor was the third largest at \$1.32/cwt. Repairs, interest, and milk marketing and trucking combined were also significant expenses in 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 grazing farms\*, 2005**

<b>Income Items:</b>	<b>Per cwt.</b>	<b>Per Cow</b>
Milk	\$15.87	\$2,486.44
Cull Cows and Calves	\$1.06	\$168.49
Dairy Steers	\$0.20	\$27.36
Dairy Heifers	\$0.41	\$51.36
Government Payments	\$0.49	\$77.62
Patronage Dividends, cash	\$0.06	\$10.61
Crop Sales	\$0.29	\$54.79
Other Cash Income	\$0.29	\$41.90
<b>Expense Items:</b>	<b>Per cwt.</b>	<b>Per Cow</b>
Purchased Feeds	\$4.73	\$731.23
Breeding Fees	\$ 0.10	\$16.84
Veterinary	\$0.30	\$47.99
BST	N/A	N/A
Livestock Supplies	\$0.68	\$111.84
DHIA	\$0.01	\$1.24
Milk & Livestock Mkt. & Trucking	\$0.81	\$128.70
Interest	\$0.86	\$127.77
Fuel and Oil	\$0.60	\$97.69
Repairs	\$1.26	\$203.13
Custom Hire	\$0.39	\$68.92
Hired Labor	\$1.32	\$214.49
Leases	\$0.06	\$8.35
Real Estate Taxes	\$0.33	\$50.82
Farm Insurance	\$0.32	\$49.17
Utilities	\$0.48	\$74.33
Dues, Professional Fees	\$0.11	\$17.75
Miscellaneous	\$0.35	\$60.25
Machinery Depreciation	\$1.44	\$237.86
Building Depreciation	\$0.61	\$86.38
<b>Expense Items per Cropped Acre:</b>	<b>Per Acre</b>	
Seed	\$12.70	
Fertilizer	\$33.66	
Crop Chemicals	\$8.74	
Crop Insurance	\$0.04	
Crop Miscellaneous	\$9.83	
Land Rent	\$16.65	

\* All income and expense items averaged across all 11 farms whether or not they had that income or expense item. Other cash income includes custom work, insurance claims, and miscellaneous income.

Table 5

---

Crop Production and Marketing Summary  
**2005 MI Grazing Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

---

	Avg. Of All Farms
Dairy	
Number of farms	11
Average number of Cows	115
Milk production per Cow, lbs.,	15,869
Average milk price per cwt.,	\$15.87
Acreage Summary	
Total acres owned	364
Total crop acres	401
Crop acres owned	255
Crop acres cash rented	146
Crop acres share rented	-
Total pasture acres	36
Average Price Received (Cash Sales Only)	
Corn per bushel	1.93
Soybeans per bushel	5.27
Wheat, Winter per bushel	3.07
Hay, Alfalfa per ton	85.32
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 Grazing Dairy Business Summary Analysis**  
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	11
Cash Farm Income	
Corn	1,532
Hay, Alfalfa	832
Hay, Mixed	3,498
Rye Silage	145
Wheat, Winter	296
Dairy, Milk	292,325
Dairy, Dairy Calves	6,219
Dairy Heifers (for sale)	2,023
Dairy Steers	3,497
Hogs, Farrow-Fin, Raised Hogs	84
Hogs, Feeder Pigs, Feeder Pigs	175
Cull breeding livestock	18,619
Direct & CC govt payments	5,030
Other government payments	4,389
Custom work income	216
Patronage dividends, cash	1,277
Insurance income	34
Other farm income	486
Gross Cash Farm Income	340,678



Table 6

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

	Avg. Of All Farms
Number of farms	11
Cash Farm Expense	
Seed	6,097
Fertilizer	11,143
Crop chemicals	3,265
Crop fuel & oil	643
Crop repairs	3,597
Crop custom hire	1,656
Crop hired labor	492
Crop marketing	415
Crop miscellaneous	676
Feeder livestock purchase	138
Livestock packaging and supplies	221
Purchased feed	85,571
Breeding fees	2,058
Veterinary	6,012
Supplies	12,258
DHIA	231
Livestock custom hire	277
Livestock hired labor	1,599
Livestock utilities	611
Hauling and trucking	3,606
Livestock marketing	9,636
Livestock miscellaneous	950
Interest	15,855
Packaging and supplies	935
Fuel & oil	11,938
Repairs	22,131
Custom hire	7,990
Hired labor	26,799
Land rent	6,635
Machinery leases	1,004
Real estate taxes	5,832
Personal property taxes	28
Farm insurance	5,297
Utilities	7,537
Dues & professional fees	1,892
Miscellaneous	6,107
Total cash expense	271,132
Net cash farm income	69,545
Inventory Changes	
Crops and feed	-9,546
Market livestock	-1,978
Accounts receivable	-264
Prepaid expenses and supplies	1,721
Accounts payable	-584
Total inventory change	-10,651
Net operating profit	58,894
Depreciation and Other Capital Adjustments	
Breeding livestock	21,040
Machinery and equipment	-28,611
Buildings and improvements	-10,229
Other farm capital	13
Total depr. and other capital adj	-17,788
Net farm income	41,106

Table 7

## Inventory Changes

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

---

	Avg. Of All Farms
Number of farms	11
Net cash farm income	69,545
Crops and Feed	
Ending inventory	54,323
Beginning inventory	63,869
Inventory change	-9,546
Market Livestock	
Ending inventory	2,839
Beginning inventory	4,817
Inventory change	-1,978
Accts Receivable & Other Current Assets	
Ending inventory	23,185
Beginning inventory	23,449
Inventory change	-264
Prepaid Expenses and Supplies	
Ending inventory	10,117
Beginning inventory	8,396
Inventory change	1,721
Accounts Payable & Accrued Expenses	
Beginning inventory	12,077
Ending inventory	12,661
Inventory change	-584
Total inventory change	-10,651
Net operating profit	58,894

Table 8

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

	Avg. Of All Farms
Number of farms	11
Net operating profit	58,894
Breeding Livestock	
Ending inventory	238,966
Capital sales	24,208
Beginning inventory	241,011
Capital purchases	1,124
Depreciation, capital adjust.	21,040
Machinery and Equipment	
Ending inventory	71,724
Capital sales	8,469
Beginning inventory	79,524
Capital purchases	29,279
Depreciation, capital adjust.	-28,611
Buildings and Improvements	
Ending inventory	83,761
Capital sales	-
Beginning inventory	77,597
Capital purchases	16,394
Depreciation, capital adjust.	-10,229
Other Capital Assets	
Ending inventory	12,913
Capital sales	12,669
Beginning inventory	11,909
Capital purchases	13,660
Depreciation, capital adjust.	13
Total depreciation, capital adj.	-17,788
Net farm income	41,106

Table 9

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

	Avg. Of All Farms
Number of farms	11
Profitability (assets valued at cost)	
Net farm income	41,106
Labor and management earnings	13,703
Rate of return on assets	2.1 %
Rate of return on equity	0.4 %
Operating profit margin	6.6 %
Asset turnover rate	32.2 %
Interest on farm net worth	27,404
Farm interest expense	15,770
Value of operator lbr and mgmt.	39,308
Return on farm assets	17,568
Average farm assets	819,500
Return on farm equity	1,799
Average farm equity	453,795
Value of farm production	264,220
	Avg. Of All Farms
Number of farms	11
Profitability (assets valued at market)	
Net farm income	64,111
Labor and management earnings	10,846
Rate of return on assets	3.2 %
Rate of return on equity	2.8 %
Operating profit margin	15.4 %
Asset turnover rate	21.1 %
Interest on farm net worth	53,266
Farm interest expense	15,770
Value of operator lbr and mgmt.	39,308
Return on farm assets	40,573
Average farm assets	1,251,339
Return on farm equity	24,803
Average farm equity	885,633
Value of farm production	264,220

Table 10

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

	Avg. Of All Farms
Number of farms	11
Liquidity (cash)	
Net cash farm income	69,545
Net nonfarm income	4,064
Family living and taxes	38,071
Principal due on long term debt	8,273
Cash available for interm. debt	27,266
Average intermediate debt	78,793
Years to turnover interm. debt	2.9
Expense as a % of income	80 %
Interest as a % of income	5 %
Working capital to gross income	14 %
Liquidity (accrual)	
Total accrual farm income	328,889
Total accrual operating expense	269,995
Net accrual operating income	58,894
Net nonfarm income	4,064
Family living and taxes	38,071
Principal due on long term debt	8,273
Available for intermediate debt	16,615
Average intermediate debt	78,793
Years to turnover interm. debt	4.7
Expense as a % of income	82 %
Interest as a % of income	5 %
Working capital to gross income	15 %

Table 11

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

	Avg. Of All Farms	
Number of farms	11	
	Beginning	Ending
<b>Assets</b>		
<b>Current Farm Assets</b>		
Cash and checking balance	9,679	20,903
Prepaid expenses & supplies	8,396	10,117
Growing crops	7,238	5,795
Accounts receivable	15,035	15,710
Hedging accounts	445	852
Crops held for sale or feed	63,869	54,323
Crops under government loan	0	0
Market livestock held for sale	4,817	2,839
Other current assets	732	828
<b>Total current farm assets</b>	<b>110,211</b>	<b>111,367</b>
<b>Intermediate Farm Assets</b>		
Breeding livestock	241,011	238,966
Machinery and equipment	77,615	70,178
Titled vehicles	1,909	1,545
Other intermediate assets	4,531	5,342
<b>Total intermediate farm assets</b>	<b>325,066</b>	<b>316,031</b>
<b>Long Term Farm Assets</b>		
Farm land	299,648	300,371
Buildings and improvements	77,597	83,761
Other long-term assets	7,377	7,571
<b>Total long-term farm assets</b>	<b>384,622</b>	<b>391,703</b>
<b>Total Farm Assets</b>	<b>819,899</b>	<b>819,101</b>
<b>Total Nonfarm Assets</b>	<b>65,388</b>	<b>78,299</b>
<b>Total Assets</b>	<b>885,287</b>	<b>897,401</b>
<b>Liabilities</b>		
<b>Current Farm Liabilities</b>		
Accrued interest	2,839	2,753
Accounts payable	9,238	9,907
Current notes	14,670	34,703
Government crop loans	0	0
Principal due on term debt	20,593	16,108
<b>Total current farm liabilities</b>	<b>47,339</b>	<b>63,471</b>
<b>Total intermediate farm liabs</b>	<b>68,391</b>	<b>66,465</b>
<b>Total long term farm liabilities</b>	<b>255,299</b>	<b>230,446</b>
<b>Total farm liabilities</b>	<b>371,029</b>	<b>360,382</b>
<b>Total nonfarm liabilities</b>	<b>871</b>	<b>141</b>
<b>Total liabilities</b>	<b>371,900</b>	<b>360,523</b>
<b>Net worth (farm and nonfarm)</b>	<b>513,388</b>	<b>536,878</b>
<b>Net worth change</b>		<b>23,490</b>
<b>Ratio Analysis</b>		
Current farm liabilities / assets	43 %	57 %
Curr. & interm farm liab. / assets	27 %	30 %
Long term farm liab. / assets	66 %	59 %
<b>Total debt to asset ratio</b>	<b>42 %</b>	<b>40 %</b>

Table 12

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

	Avg. Of All Farms	
Number of farms	11	
	Beginning	Ending
<b>Assets</b>		
<b>Current Farm Assets</b>		
Cash and checking balance	9,679	20,903
Prepaid expenses & supplies	8,396	10,117
Growing crops	7,238	5,795
Accounts receivable	15,035	15,710
Hedging accounts	445	852
Crops held for sale or feed	63,869	54,323
Crops under government loan	0	0
Market livestock held for sale	4,817	2,839
Other current assets	732	828
<b>Total current farm assets</b>	<b>110,211</b>	<b>111,367</b>
<b>Intermediate Farm Assets</b>		
Breeding livestock	240,671	238,978
Machinery and equipment	158,757	157,917
Titled vehicles	3,233	2,928
Other intermediate assets	4,600	5,410
<b>Total intermediate farm assets</b>	<b>407,260</b>	<b>405,233</b>
<b>Long Term Farm Assets</b>		
Farm land	569,955	584,504
Buildings and improvements	145,432	153,768
Other long-term assets	7,377	7,571
<b>Total long-term farm assets</b>	<b>722,764</b>	<b>745,843</b>
<b>Total Farm Assets</b>	<b>1,240,235</b>	<b>1,262,442</b>
<b>Total Nonfarm Assets</b>	<b>104,600</b>	<b>136,252</b>
<b>Total Assets</b>	<b>1,344,835</b>	<b>1,398,694</b>
<b>Liabilities</b>		
<b>Current Farm Liabilities</b>		
Accrued interest	2,839	2,753
Accounts payable	9,238	9,907
Current notes	14,670	34,703
Government crop loans	0	0
Principal due on term debt	20,593	16,108
<b>Total current farm liabilities</b>	<b>47,339</b>	<b>63,471</b>
<b>Total intermediate farm liabs</b>	<b>68,391</b>	<b>66,465</b>
<b>Total long term farm liabilities</b>	<b>255,299</b>	<b>230,446</b>
<b>Total farm liabilities</b>	<b>371,029</b>	<b>360,382</b>
<b>Total nonfarm liabilities</b>	<b>871</b>	<b>141</b>
<b>Total liabs excluding deferreds</b>	<b>371,900</b>	<b>360,523</b>
<b>Total deferred liabilities</b>	<b>0</b>	<b>0</b>
<b>Total liabilities</b>	<b>371,900</b>	<b>360,523</b>
<b>Retained earnings</b>	<b>513,388</b>	<b>536,878</b>
<b>Market valuation equity</b>	<b>459,548</b>	<b>501,293</b>
<b>Net worth (farm and nonfarm)</b>	<b>972,935</b>	<b>1,038,171</b>
<b>Net worth excluding deferreds</b>	<b>972,935</b>	<b>1,038,171</b>
<b>Net worth change</b>		<b>65,236</b>
<b>Ratio Analysis</b>		
Current farm liabilities / assets	43 %	57 %
Curr. & interm farm liab. / assets	22 %	25 %
Long term farm liab. / assets	35 %	31 %
Total debt to asset ratio	28 %	26 %
Debt to assets excl deferreds	28 %	26 %

Table 13

## Statement Of Cash Flows

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

	Avg. Of All Farms
Number of farms	11
Beginning cash (farm & nonfarm)	9,679
Cash From Operating Activities	
Gross cash farm income	340,678
Net nonfarm income	4,064
Total cash farm expense	-271,132
Apparent family living expense	-35,455
Income and social security tax	-2,616
Cash from operations	35,539
Cash From Investing Activities	
Sale of breeding livestock	24,208
Sale of machinery & equipment	8,469
Sale of titled vehicles	-
Sale of farm land	-
Sale of farm buildings	-
Sale of other farm assets	12,669
Sale of nonfarm assets	228
Purchase of breeding livestock	-1,124
Purchase of machinery & equip.	-29,279
Purchase of titled vehicles	-
Purchase of farm land	-
Purchase of farm buildings	-16,394
Purchase of other farm assets	-13,660
Purchase of nonfarm assets	-1,818
Cash from investing activities	-16,701
Cash From Financing Activities	
Money borrowed	52,934
Cash gifts and inheritances	7,310
Principal payments	-64,372
Dividends paid	-
Gifts given	-3,486
Cash from financing activities	-7,614
Net change in cash balance	11,224
Ending cash (farm & nonfarm)	20,903



Table 14

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

	Avg. Of All Farms
Number of farms	11
Liquidity	
Current ratio	1.75
Working capital	47,896
Solvency (market)	
Farm debt to asset ratio	29 %
Farm equity to asset ratio	71 %
Farm debt to equity ratio	40 %
Profitability (cost)	
Rate of return on farm assets	2.1 %
Rate of return on farm equity	0.4 %
Operating profit margin	6.6 %
Net farm income	41,106
Repayment Capacity	
Term debt coverage ratio	109 %
Capital replacement margin	2,863
Efficiency	
Asset turnover rate (cost)	32.2 %
Operating expense ratio	77.3 %
Depreciation expense ratio	5.4 %
Interest expense ratio	4.8 %
Net farm income ratio	12.5 %

Table 15

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

	Avg. Of All Farms
Number of farms	11
Operator Information	
Average number of operators	1.3
Average age of operators	56.2
Average number of years farming	29.5
Results Per Operator	
Working capital	37,633
Total assets (market)	1,098,974
Total liabilities	283,268
Net worth (market)	815,706
Net worth excl deferred liabs	815,706
Gross farm income	258,413
Total farm expense	226,115
Net farm income	32,298
Net nonfarm income	3,193
Family living & tax withdrawals	29,913
Total acres owned	285.7
Total crop acres	315.1
Crop acres owned	200.2
Crop acres cash rented	114.9
Crop acres share rented	-
Total pasture acres	28.6
Labor Analysis	
Number of farms	11
Total unpaid labor hours	3,427
Total hired labor hours	3,048
Total labor hours per farm	6,475
Unpaid hours per operator	2,693
Value of farm production / hour	40.81
Net farm income / unpaid hour	12.00
Average hourly hired labor wage	9.24

Table 16

## Financial Summary

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

	Avg. Of All Farms
Number of farms	11
Income Statement	
Gross cash farm income	340,678
Total cash farm expense	271,132
Net cash farm income	69,545
Inventory change	-10,651
Depreciation and capital adjust	-17,788
Net farm income	41,106
Profitability (cost)	
Labor and management earnings	13,703
Rate of return on assets	2.1 %
Rate of return on equity	0.4 %
Operating profit margin	6.6 %
Asset turnover rate	32.2 %
Profitability (market)	
Labor and management earnings	10,846
Rate of return on assets	3.2 %
Rate of return on equity	2.8 %
Operating profit margin	15.4 %
Asset turnover rate	21.1 %
Liquidity	
Ending current ratio	1.75
Ending working capital	47,896
End working capital to gross inc	14.1 %
Term debt coverage ratio	109.0 %
Expense as a percent of income	82.1 %
Interest as a percent of income	4.8 %
Solvency (cost)	
Number of farms	11
Ending farm assets	819,101
Ending farm liabilities	360,382
Ending total assets	897,401
Ending total liabilities	360,523
Ending net worth	536,878
Net worth change	23,490
Ending farm debt to asset ratio	44 %
Beg total debt to asset ratio	42 %
End total debt to asset ratio	40 %
Solvency (market)	
Number of farms	11
Ending farm assets	1,262,442
Ending farm liabilities	360,382
Ending total assets	1,398,694
Ending total liabilities	360,523
Ending net worth	1,038,171
Net worth change	65,236
Ending farm debt to asset ratio	29 %
Beg total debt to asset ratio	28 %
End total debt to asset ratio	26 %
Nonfarm Information	
Net nonfarm income	4,064
Crop Acres	
Total acres owned	364
Total crop acres	401
Total crop acres owned	255
Total crop acres cash rented	146
Total crop acres share rented	-