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

*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.*

Staff Paper

2002 Business Analysis Summary
Tree Fruit Farms

Eric Wittenberg , Steve Harsh
And
Suzanne Thornsbury

Staff Paper 2003-22 **December, 2003**

FIRM team
Farm Information Resource Management

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

MSU is an Affirmative Action/Equal Opportunity Institution

2002 Michigan Tree Fruit Business Analysis Summary

2002 Michigan TelFarm and AgriSolutions Data
Staff Paper No. 03-22

by

Eric Wittenberg, Steve Harsh
and
Suzanne Thornsbury

Copyright 2003 by Eric Wittenberg, Steve Harsh, and Suzanne Thornsbury. 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.

2002 Michigan Tree Fruit Business Analysis Summary

By
Eric Wittenberg, Steve Harsh and Suzanne Thornsbury [1]

Table of Contents **Page**

Executive Summary…… 2

List of Tables

Summary Tables

1) Synopsis of Michigan's Tree Fruit 2
2) Average 2002 Farm Characteristics……..… 3
3) Average Income Statement…… 4
4) Average Profitability Indicators (cost)…… 5
5) Average Profitability Indicators (market)…… 5
6) Livestock and Crop Production Summary……. 6
7) Farm Income Statement……. 7
8) Inventory Changes……..… 9
9) Depreciation and Other Capital Adjustments…. 10
10) Profitability Measures…… 11
11) Liquidity Measures…… 12
12) Balance Sheet at Cost Values…… 13
13) Balance sheet at Market Values…… 14
14) Statement of Cash Flows…… 15
15) Financial Standards Measures…… 16
16) Operator Information and Nonfarm Summary... 17
17) Financial Summary…… 18

[1] Co-workers in the TelFarm project were: R. Betz, L. Borton, R. Clark, G. Kole, T. Purdy, W. Schauer, D. Stein, and V. Varner with the assistance of Michigan State University Extension Agents. AgriSolutions co-workers were Kelly Tobin, Steve Eshelman, Janice Raymond, Tiffany Aldrich, Anne Gerke, Kathleen Spranger, and Lynette Wood. Farm Credit Services of Wisconsin co-worker was Steve Zimmerman.

Executive Summary

This report summarizes the financial and production records of 18 Michigan tree fruit farms. To be included, the farms must have produced at least 50 percent of gross cash farm income from one or a combination of sales from cherries, apples, and other fruits. 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 were included if a farm financial summary was completed on 2002 data including beginning and ending balance sheets, plus income and expenses. The data was checked to verify that cash and debt discrepancy were within an acceptable range. While considerable variation in the data exists, average values are reported in the summary tables that follow.

Synopsis of Michigan's Tree Fruit

According to the United States Department of Agriculture (USDA) and National Agricultural Statistics Service (NASS) data, the Michigan fruit season of 2002 was one of the worst in recent history. Michigan's fruit trees, apples, cherries, and peaches, were damaged by spring frost followed by cool wet weather. Summer conditions were hot and dry followed by a wet fall. These climatic conditions reduced fruit growth and promoted widespread disease in these major crops. This resulted in both lower returns and higher costs. Table 1 provides fruit bearing acres, yields per acre, the five year average yields per acre and prices received for apples, cherries sweet and tart, and peaches.

Table 1. Michigan Agricultural Statistical Service Summary of Tree Fruit

Fruit	2002 Avg. Bearing Acres	2002 Avg. Yield (lbs/acre)	1998-2002 Avg. Yield (lbs/acre)	2002 Price ($/lb)	1998-2002 Avg. Price ($/lb)
Apples	41,000	12,200	18,240	0.124	0.972
Cherries, Sweet	7,400	720	5,668	0.428	0.292
Cherries, Tart	27,000	556	6,843	0.479	0.243
Peaches	4,700	2,980	7,122	0.318	0.275

Data Sorting

The 2002 Business Summary uses different sort criteria than previous summaries. In the past, farm financial data were sorted on Net Farm Income (NFI), is a measure of profit. For 2002, the sort uses the Rate of Return to Assets (ROA) based on market value. This is a measure of profitability that includes price appreciation on assets. The switch from using net farm income to rate of return on assets for sorting does not change the average values across all farms.

Net farm income (NFI) is the starting point for calculating ROA. To calculate ROA, interest paid is added back to NFI and the resulting figure is the return to all assets and also the return to unpaid labor. When the value of unpaid labor is substracted from the prior calculated figure and the resulting figure is divided by average assets, ROA is determined. Rate of return on assets is a measure of how much profit the farm business assets generated. Accounting for total farm assets allows for a meaningful comparison across all farm sizes (e.g., operations with 5 acres of fruit and those with 100 acres of fruit). ROA reveals how both equity and borrowed capital are performing, because ROA is calculated as if the farm had no debt. ROA is the return to all assets.

Summary of Results

In 2002, the average tree fruit farm size in the business analysis was 170 acres owned and 114 acres cropped, (Table 2).

Table 2. Average 2002 Michigan Tree Fruit Farm Characteristics

Total acres owned	170
Total crop acres	114
Average price/bushel apple	$3.95
Number of farms	18

Gross cash farm income, total of all farm income before expenses are deducted, averaged $162,474 in 2002. The two largest components of these revenues were apple sales and cherries (sweet and tart) sales, $40,709 and $44,168 respectively. The third largest revenue was other crops, which averaged $26,751. Government payments averaged $10,088 per farm in 2002. Insurance payments were also important sources of income in this difficult year.

Net cash farm income, gross cash farm income ($162,474) less total cash farm expenses ($122,311), resulted in an average net cash farm income of $40,164. With less income these tree fruit farms were not able to hold inventory constant, with total inventories decreasing an average of $37,839.

Net farm income is the profit (loss) remaining after all farm expenses and inventory changes have been recognized. The net farm income value is the return to the operator's unpaid management, labor, equity capital invested and family labor (Table 3). Net farm income in 2002 averaged a negative $12,564. This average somewhat obscures a very large range of net farm income values. For example, the net farm income median was a negative $14,845 and the range was $91,630 to a negative $102,271. The average does illustrate that 2002 was a tough year.

Table 3. Average 2002 Tree Fruit Farm Income Statement

	Avg. of all Farms	Avg. of High 25%
Gross cash farm income	162,474	189,695
Total cash expense	122,311	129,572
Net cash farm income	40,164	60,123
Inventory change	-37,839	-16,741
Depreciation and capital adjustments	-14,888	-15,691
Net farm income	-12,564	27,691

Four key financial performance indicators are presented in Tables 4 and 5. The rate of return on assets (ROA) is calculated as if the farm has no debt. ROA indicates debt-free farm earnings, after subtracting an allowance for operator's unpaid labor, management, and family labor, as a percentage of invested assets. ROA provides the key summary performance indicator for a farm. By multiplying the operating profit margin (OPM), dollars of profit generated per dollar of revenue, by the asset turnover rate, the efficiency with which farm assets generate revenue, the ROA is determined. The ROA data presented in Tables 4 and 5 indicates a troubling trend with declines in performance for 2002.

The rate of return on equity (ROE) represents the farm earnings after interest payments expressed as a percentage of owner equity capital. Ideally the ROE should be higher than the ROA indicating that returns are being made on borrowed money (and conversely which is the case in Table 4). The figure in this summary indicates that profitability on these farms was a challenge in 2002.

Table 4 compares profitability for 2000, 2001 and 2002 with assets valued at cost. Profitability indicators calculated using assets valued at cost is good for comparing the same farm over time. The range for ROA in 2002 was a high of 6.9% to a low of negative 23.8%. The average 2002 tree fruit farm ROA was a negative 6.0 percent which was below the 2001 average ROA of 3.6 percent. Return on equity shows even a greater loss, from 0.8 percent in 2001 to a negative 6.0 percent in 2002. Operating profit margin in 2002 averaged a negative 21.8 percent and in 2001 averaged 7.8 percent. Asset turnover ratio in 2002 was 27.4 percent and in 2001 it was 45.9 percent. This decrease of 40 percent indicated that the farm assets were less efficient in 2002 mostly because of low yields. The trend with respect to profitability on the cost side is that 2002 was a difficult year when compared against 2001.

Table 4. Average Tree Fruit Farm Profitability Indicators, 2000-2002

	2000	2001	2002
		(Percent)	
Rate of return on assets*	-5.6	3.6	-6.0
Rate of return on equity	-29.7	0.8	-14.1
Operating profit margin	-12.0	7.8	-21.8
Asset turnover rate*	46.7	45.9	27.4

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

Table 5 compares profitability measures across three years, 2000, 2001 and 2002, with assets valued at market. The market value approach includes the impact of value appreciation (inflation) of the asset base overtime. Land is the main source of appreciation and it reflects a form of income. Financial performance indicators like ROA can be looked upon in this comparison as the "opportunity cost of capital" of farming versus alternative investments. Market value for assets is more appropriate when comparing across different farms.

The average return on assets (ROA) for 2002 was 3.2 percent, which was 63 percent below the 2001 average ROA of 8.6 percent. The range for ROA in 2002 was a high of 20.4% to a low of negative 12.3%. Return on equity (ROE) for 2002 was 2.9 percent and 2001 the ROE was 9.6 percent, a 70 percent decease. Operating profit margin (OPM) measures the dollars of profit generated per dollar of revenue. In 2002 the OPM was 24.4 percent and in 2001 the OPM was 38.8, a 37 percent decrease. Asset turnover ratio measures the efficiency with which farm assets generate revenue. In 2002, the asset turnover ratio was 13.2 percent and in 2001 the ratio was 22.1 percent, a decrease of 40 percent, meaning that the farm assets generated less dollars per dollar invested in farm assets. Again, the trend with respect to profitability is that 2002 was a difficult year when compared with 2001 and 2000. The reason the ROA is higher when using market values is mainly related to appreciaion in land values.

Table 5. Average Tree Fruit Farm Profitability Indicators, 2000-2002

	2000	2001	2002
		(Percent)	
Rate of return on assets*	-0.7	8.6	3.2
Rate of return on equity	-3.9	9.6	2.9
Operating profit margin	-3.0	38.8	24.4
Asset turnover rate*	22.8	22.1	13.2

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

The following tables provide additional details for the figures discussed earlier.

Table 6 Crop Production and Marketing Summary

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Acreage Summary		
Total acres owned	170	269
Total crop acres	114	137
Crop acres owned	90	133
Crop acres cash rented	23	-
Crop acres share rented	1	4
Total pasture acres	-	-
Average Price Received (Cash Sales Only)		
Apples per bushel	3.95	-
Cherries per lb	0.142	-

Table 7 Farm Income Statement

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Cash Farm Income		
Apples	40,709	60,175
Asparagus	1,055	3,799
Celery	367	1,321
Cherries	44,168	65,953
Cherries, Sweet	1,404	-
Cherries, Tart	103	-
Grapes	654	769
Peaches	2,188	4,939
Plums	1,280	2,977
Pumpkins	1,077	-
Raspberries	744	2,680
Squash	2,687	9,675
Tomatoes	279	-
Other crops	26,751	-
Miscellaneous crop income	75	-
Beef, Finish Yrlg Steers	1,824	-
Other government payments	10,088	17,895
Custom work income	1,256	4,068
Patronage dividends, cash	349	-2,192
Insurance income	12,852	10,750
Other farm income	12,563	6,886
Gross Cash Farm Income	162,474	189,695

Table 7 (continued) Farm Income Statement

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Cash Farm Expense		
Seed	1,651	3,084
Fertilizer	2,434	3,570
Crop chemicals	19,940	23,234
Crop insurance	722	1,367
Crop utilities	142	-
Marketing	1,679	1,206
Crop miscellaneous	4,748	3,837
Purchased feed	178	17
Livestock supplies	154	-
Interest	7,444	7,979
Fuel & oil	4,019	5,348
Repairs	11,475	12,360
Custom hire	2,394	4,266
Hired labor	27,054	33,619
Land rent	5,385	440
Machinery & bldg leases	4,406	8,216
Real estate taxes	3,812	5,258
Personal property taxes	226	135
Farm insurance	4,350	4,875
Utilities	3,196	3,021
Dues & professional fees	2,585	3,607
Miscellaneous	14,317	4,131
Total cash expense	122,311	129,572
Net cash farm income	40,164	60,123
Inventory Changes		
Crops and feed	-32,852	-9,142
Market livestock	-1,238	-
Accounts receivable	-4,322	-7,158
Prepaid expenses and supplies	-518	-2,229
Accounts payable	1,092	1,788
Total inventory change	-37,839	-16,741
Net operating profit	2,324	43,382
Depreciation and Other Capital Adjustments		
Breeding livestock	76	-
Machinery and equipment	-4,596	-5,081
Buildings and improvements	-9,455	-12,230
Other farm capital	-914	1,621
Total depr. and other capital adj	-14,888	-15,691
Net farm income	-12,564	27,691

Table 8 Inventory Changes

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Net cash farm income	40,164	60,123
Crops and Feed		
Ending inventory	38,150	70,619
Beginning inventory	71,002	79,761
Inventory change	-32,852	-9,142
Market Livestock		
Ending inventory	2,485	-
Beginning inventory	3,723	-
Inventory change	-1,238	-
Accts Receivable & Other Current Assets		
Ending inventory	9,838	6,026
Beginning inventory	14,160	13,184
Inventory change	-4,322	-7,158
Prepaid Expenses and Supplies		
Ending inventory	2,150	2,360
Beginning inventory	2,668	4,589
Inventory change	-518	-2,229
Accounts Payable & Accrued Expenses		
Beginning inventory	12,534	8,662
Ending inventory	11,442	6,874
Inventory change	1,092	1,788
Total inventory change	-37,839	-16,741
Net operating profit	2,324	43,382

Table 9 Depreciation and Other Capital Adjustments

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Net operating profit	2,324	43,382
Breeding Livestock		
Ending inventory	13,533	-
Capital sales	-	-
Beginning inventory	13,411	-
Capital purchases	46	-
Depreciation, capital adjust.	76	-
Machinery and Equipment		
Ending inventory	39,633	43,997
Capital sales	239	-
Beginning inventory	35,979	39,355
Capital purchases	8,489	9,723
Depreciation, capital adjust.	-4,596	-5,081
Buildings and Improvements		
Ending inventory	105,826	120,934
Capital sales	-	-
Beginning inventory	110,639	128,361
Capital purchases	4,642	4,803
Depreciation, capital adjust.	-9,455	-12,230
Other Capital Assets		
Ending inventory	41,528	61,902
Capital sales	2,972	932
Beginning inventory	29,988	36,207
Capital purchases	15,426	25,006
Depreciation, capital adjust.	-914	1,621
Total depreciation, capital adj.	-14,888	-15,691
Net farm income	-12,564	27,691

Table 10 Profitability Measures

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Profitability (assets valued at cost)		
Net farm income	-12,564	27,691
Labor and management earnings	-28,850	9,541
Rate of return on assets	-6.0 %	1.1 %
Rate of return on equity	-14.1 %	-0.5 %
Operating profit margin	-21.8 %	3.5 %
Asset turnover rate	27.4 %	32.7 %
Interest on farm net worth	16,286	18,150
Farm interest expense	8,928	7,563
Value of operator lbr and mgmt.	23,340	29,228
Return on farm assets	-26,976	6,026
Average farm assets	452,799	530,501
Return on farm equity	-35,904	-1,537
Average farm equity	255,226	302,497
Value of farm production	123,959	173,377

	Avg. Of All Farms	High 25%
Number of farms	18	5
Profitability (assets valued at market)		
Net farm income	44,704	175,133
Labor and management earnings	30	119,347
Rate of return on assets	3.2 %	13.3 %
Rate of return on equity	2.9 %	15.7 %
Operating profit margin	24.4 %	88.5 %
Asset turnover rate	13.2 %	15.0 %
Interest on farm net worth	44,675	55,786
Farm interest expense	8,928	7,563
Value of operator lbr and mgmt.	23,340	29,228
Return on farm assets	30,292	153,468
Average farm assets	942,150	1,157,776
Return on farm equity	21,364	145,905
Average farm equity	744,577	929,772
Value of farm production	123,959	173,377

Table 11 Liquidity Measures

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Liquidity (cash)		
Net cash farm income	40,164	60,123
Net nonfarm income	25,724	7,156
Family living and taxes	41,916	37,853
Real estate principal payments	10,134	12,428
Cash available for interm. debt	13,838	16,998
Average intermediate debt	39,214	47,971
Years to turnover interm. debt	2.8	2.8
Expense as a % of income	75 %	68 %
Interest as a % of income	5 %	4 %
Liquidity (accrual)		
Total accrual farm income	124,061	173,395
Total accrual operating expense	121,737	130,013
Net accrual operating income	2,324	43,382
Net nonfarm income	25,724	7,156
Family living and taxes	41,916	37,853
Real estate principal payments	10,134	12,428
Available for intermediate debt	-24,002	256
Average intermediate debt	39,214	47,971
Years to turnover interm. debt	**	187.1
Expense as a % of income	98 %	75 %
Interest as a % of income	7 %	4 %

** Income insufficient to meet debt servicing requirements

Table 12 Balance Sheet at Cost Values

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms		High 25%	
Number of farms	18		5	
	Beginning	Ending	Beginning	Ending
Assets				
Current Farm Assets				
Cash and checking balance	9,872	39,682	3,636	6,834
Prepaid expenses & supplies	2,668	2,150	4,589	2,360
Growing crops	0	0	0	0
Accounts receivable	8,605	1,675	13,184	6,026
Hedging accounts	0	0	0	0
Crops held for sale or feed	71,002	38,150	79,761	70,619
Crops under government loan	0	0	0	0
Market livestock held for sale	3,723	2,485	0	0
Other current assets	5,556	8,164	0	0
Total current farm assets	101,426	92,305	101,170	85,839
Intermediate Farm Assets				
Breeding livestock	13,411	13,533	0	0
Machinery and equipment	35,419	39,129	39,355	43,997
Titled vehicles	560	504	0	0
Other intermediate assets	22,300	34,025	22,719	48,469
Total intermediate farm assets	71,690	87,192	62,074	92,467
Long Term Farm Assets				
Farm land	159,554	161,776	217,618	225,618
Buildings and improvements	110,639	105,826	128,361	120,934
Other long-term assets	7,688	7,503	13,489	13,433
Total long-term farm assets	277,881	275,105	359,468	359,984
Total Farm Assets	450,996	454,601	522,711	538,290
Total Nonfarm Assets	49,193	53,048	71,206	75,696
Total Assets	500,189	507,650	593,918	613,986
Liabilities				
Current Farm Liabilities				
Accrued interest	4,800	6,283	7,286	6,869
Accounts payable	7,734	5,159	1,376	5
Current notes	20,815	10,013	44,039	7,625
Government crop loans	0	0	0	0
Principal due on term debt	10,452	10,105	12,700	11,548
Total current farm liabilities	43,801	31,560	65,401	26,048
Total intermediate farm liabs	7,360	65,934	9,936	83,148
Total long term farm liabilities	126,843	119,647	141,202	130,271
Total farm liabilities	178,004	217,141	216,540	239,467
Total nonfarm liabilities	38,163	42,666	15,900	14,940
Total liabilities	216,167	259,807	232,440	254,407
Net worth (farm and nonfarm)	284,023	247,843	361,478	359,578
Net worth change		-36,180		-1,900
Ratio Analysis				
Current farm liabilities / assets	43 %	34 %	65 %	30 %
Curr. & interm farm liab. / assets	30 %	54 %	46 %	61 %
Long term farm liab. / assets	46 %	43 %	39 %	36 %
Total debt to asset ratio	43 %	51 %	39 %	41 %

Table 13 Balance Sheet at Market Values

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms		High 25%	
Number of farms	18		5	
	Beginning	Ending	Beginning	Ending
Assets				
Current Farm Assets				
Cash and checking balance	9,872	39,682	3,636	6,834
Prepaid expenses & supplies	2,668	2,150	4,589	2,360
Growing crops	0	0	0	0
Accounts receivable	8,605	1,675	13,184	6,026
Hedging accounts	0	0	0	0
Crops held for sale or feed	71,002	38,150	79,761	70,619
Crops under government loan	0	0	0	0
Market livestock held for sale	3,723	2,485	0	0
Other current assets	5,556	8,164	0	0
Total current farm assets	101,426	92,305	101,170	85,839
Intermediate Farm Assets				
Breeding livestock	13,411	13,533	0	0
Machinery and equipment	115,148	116,053	157,870	160,608
Titled vehicles	2,000	1,722	0	0
Other intermediate assets	23,970	35,287	22,719	48,469
Total intermediate farm assets	154,528	166,596	180,589	209,077
Long Term Farm Assets				
Farm land	503,722	560,849	597,500	752,455
Buildings and improvements	141,022	140,085	173,400	162,897
Other long-term assets	11,015	12,751	23,607	29,018
Total long-term farm assets	655,759	713,685	794,507	944,369
Total Farm Assets	911,713	972,586	1,076,265	1,239,286
Total Nonfarm Assets	301,045	297,940	387,312	381,182
Total Assets	1,212,758	1,270,526	1,463,577	1,620,468
Liabilities				
Current Farm Liabilities				
Accrued interest	4,800	6,283	7,286	6,869
Accounts payable	7,734	5,159	1,376	5
Current notes	20,815	10,013	44,039	7,625
Government crop loans	0	0	0	0
Principal due on term debt	10,452	10,105	12,700	11,548
Total current farm liabilities	43,801	31,560	65,401	26,048
Total intermediate farm liabs	7,360	65,934	9,936	83,148
Total long term farm liabilities	126,843	119,647	141,202	130,271
Total farm liabilities	178,004	217,141	216,540	239,467
Total nonfarm liabilities	38,163	42,666	15,900	14,940
Total liabs excluding deferreds	216,167	259,807	232,440	254,407
Total deferred liabilities	0	0	0	0
Total liabilities	216,167	259,807	232,440	254,407
Retained earnings	284,023	247,843	361,478	359,578
Market valuation equity	712,569	762,876	869,660	1,006,482
Net worth (farm and nonfarm)	996,592	1,010,719	1,231,138	1,366,061
Net worth excluding deferreds	996,592	1,010,719	1,231,138	1,366,061
Net worth change		14,127		134,923
Ratio Analysis				
Current farm liabilities / assets	43 %	34 %	65 %	30 %
Curr. & interm farm liab. / assets	20 %	38 %	27 %	37 %
Long term farm liab. / assets	19 %	17 %	18 %	14 %
Total debt to asset ratio	18 %	20 %	16 %	16 %
Debt to assets excl deferreds	18 %	20 %	16 %	16 %

Table 14 Statement Of Cash Flows

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Beginning cash (farm & nonfarm)	14,346	16,022
Cash From Operating Activities		
Gross cash farm income	162,474	189,695
Net nonfarm income	25,724	7,156
Total cash farm expense	-122,311	-129,572
Apparent family living expense	-36,699	-36,853
Income and social security tax	-5,217	-1,000
Cash from operations	23,971	29,426
Cash From Investing Activities		
Sale of breeding livestock	-	-
Sale of machinery & equipment	239	-
Sale of titled vehicles	-	-
Sale of farm land	1,067	-
Sale of farm buildings	-	-
Sale of other farm assets	2,972	932
Sale of nonfarm assets	8,713	17,848
Purchase of breeding livestock	-46	-
Purchase of machinery & equip.	-8,489	-9,723
Purchase of titled vehicles	-	-
Purchase of farm land	-	-
Purchase of farm buildings	-4,642	-4,803
Purchase of other farm assets	-15,426	-25,006
Purchase of nonfarm assets	-9,983	-24,226
Cash from investing activities	-25,594	-44,978
Cash From Financing Activities		
Money borrowed	81,768	118,511
Cash gifts and inheritances	3,945	10,154
Principal payments	-37,612	-94,756
Dividends paid	-	-
Gifts given	-15,384	-13,683
Cash from financing activities	32,716	20,226
Net change in cash balance	31,094	4,674
Ending cash (farm & nonfarm)	45,440	20,696

Table 15 Financial Standards Measures

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Liquidity		
Current ratio	2.92	3.30
Working capital	60,745	59,791
Solvency (market)		
Farm debt to asset ratio	22 %	19 %
Farm equity to asset ratio	78 %	81 %
Farm debt to equity ratio	29 %	24 %
Profitability (cost)		
Rate of return on farm assets	-6.0 %	1.1 %
Rate of return on farm equity	-14.1 %	-0.5 %
Operating profit margin	-21.8 %	3.5 %
Net farm income	-12,564	27,691
Repayment Capacity		
Term debt coverage ratio	-4 %	97 %
Capital replacement margin	-26,472	-785
Efficiency		
Asset turnover rate (cost)	27.4 %	32.7 %
Operating expense ratio	90.9 %	70.6 %
Depreciation expense ratio	12.0 %	9.0 %
Interest expense ratio	7.2 %	4.4 %
Net farm income ratio	-10.1 %	16.0 %

Table 16 Operator and Labor Information

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Operator Information		
Average number of operators	1.3	1.0
Average age of operators	52.2	52.6
Average number of years farming	24.8	27.6
Results Per Operator		
Working capital	45,559	59,791
Total assets (market)	952,895	1,620,468
Total liabilities	194,855	254,407
Net worth (market)	758,039	1,366,061
Net worth excl deferred liabs	758,039	1,366,061
Gross farm income	93,046	173,395
Total farm expense	102,469	145,704
Net farm income	-9,423	27,691
Net nonfarm income	19,293	7,156
Family living & tax withdrawals	31,437	37,853
Total acres owned	127.3	269.0
Total crop acres	85.5	136.8
Crop acres owned	67.4	132.8
Crop acres cash rented	17.3	-
Crop acres share rented	0.8	4.0
Total pasture acres	-	-
Labor Analysis		
Number of farms	18	5
Total unpaid labor hours	1,916	2,570
Total hired labor hours	3,047	3,807
Total labor hours per farm	4,963	6,377
Unpaid hours per operator	1,437	2,570
Value of farm production / hour	24.97	27.19
Net farm income / unpaid hour	-6.56	10.77

Table 17 Financial Summary

Michigan Tree Fruit Farms, 2002

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

	Avg. Of All Farms	High 25%
Number of farms	18	5
Income Statement		
Gross cash farm income	162,474	189,695
Total cash farm expense	122,311	129,572
Net cash farm income	40,164	60,123
Inventory change	-37,839	-16,741
Depreciation and capital adjust	-14,888	-15,691
Net farm income	-12,564	27,691
Profitability (cost)		
Labor and management earnings	-28,850	9,541
Rate of return on assets	-6.0 %	1.1 %
Rate of return on equity	-14.1 %	-0.5 %
Operating profit margin	-21.8 %	3.5 %
Asset turnover rate	27.4 %	32.7 %
Profitability (market)		
Labor and management earnings	30	119,347
Rate of return on assets	3.2 %	13.3 %
Rate of return on equity	2.9 %	15.7 %
Operating profit margin	24.4 %	88.5 %
Asset turnover rate	13.2 %	15.0 %
Liquidity		
Ending current ratio	2.92	3.30
Ending working capital	60,745	59,791
End working capital to gross inc	37.4 %	31.5 %
Term debt coverage ratio	-3.9 %	96.6 %
Expense as a percent of income	98.1 %	75.0 %
Interest as a percent of income	7.2 %	4.4 %
Solvency (cost)		
Number of farms	18	5
Ending farm assets	454,601	538,290
Ending farm liabilities	217,141	239,467
Ending total assets	507,650	613,986
Ending total liabilities	259,807	254,407
Ending net worth	247,843	359,578
Net worth change	-36,180	-1,900
Ending farm debt to asset ratio	48 %	44 %
Beg total debt to asset ratio	43 %	39 %
End total debt to asset ratio	51 %	41 %
Solvency (market)		
Number of farms	18	5
Ending farm assets	972,586	1,239,286
Ending farm liabilities	217,141	239,467
Ending total assets	1,270,526	1,620,468
Ending total liabilities	259,807	254,407
Ending net worth	1,010,719	1,366,061
Net worth change	14,127	134,923
Ending farm debt to asset ratio	22 %	19 %
Beg total debt to asset ratio	18 %	16 %
End total debt to asset ratio	20 %	16 %
Nonfarm Information		
Net nonfarm income	25,724	7,156
Crop Acres		
Total acres owned	170	269
Total crop acres	114	137
Total crop acres owned	90	133
Total crop acres cash rented	23	-
Total crop acres share rented	1	4