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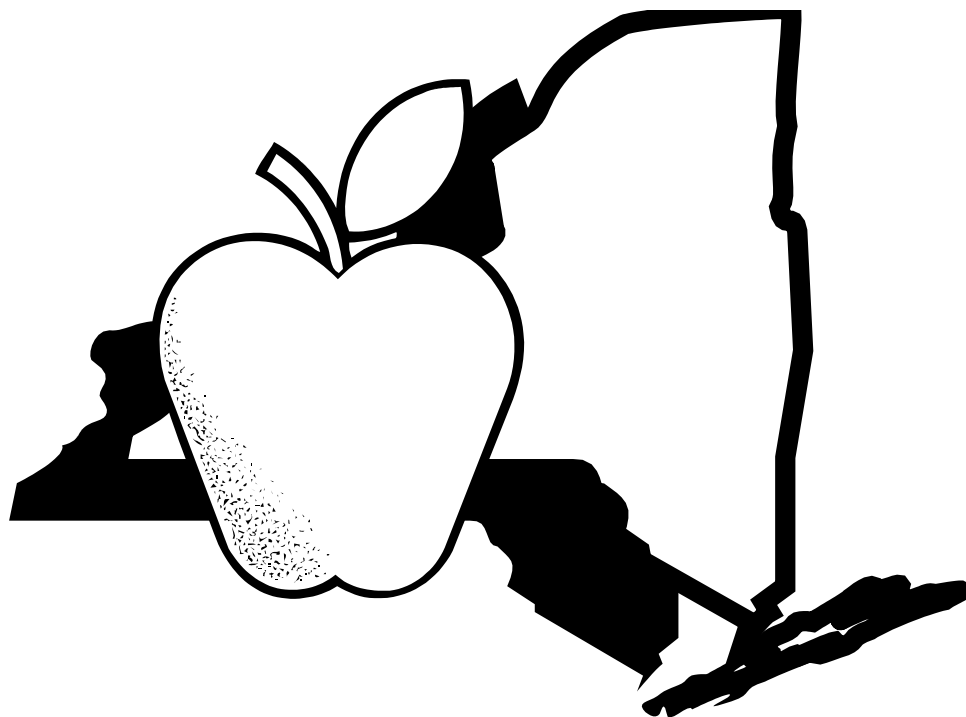
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# **FRUIT FARM BUSINESS SUMMARY**

## **LAKE ONTARIO REGION NEW YORK 2008**



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### **ABSTRACT**

This report is a summary of 2008 farm business data collected from 25 fruit farm businesses located in western New York State. Apples are the predominant fruit crop. The data are presented as averages for all 25 farms. The business analysis includes a balance sheet, income statement, cash flow statement, and several financial and production analyses for the farms. Also included are blank columns for the user to enter his or her own farm data for comparison purposes.

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**2008 FRUIT FARM BUSINESS SUMMARY  
LAKE ONTARIO REGION**

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# **2008 LAKE ONTARIO FRUIT FARM BUSINESS SUMMARY**

## **INTRODUCTION**

Western New York fruit farmers, whose major crop is apples, are invited to participate in Cornell Cooperative Extension's fruit farm business summary program. Each participating farmer receives a comprehensive business summary and analysis of his or her farm business. This report presents averages for the data submitted by participating farmers for 2008.

The primary objective of the fruit farm business summary (FFBS) program is to help farm managers improve the financial management of their businesses through the appropriate use of historical farm data and the application of modern farm business analysis techniques. The FFBS identifies the business and financial information farmers need and provides a framework for use in identifying and evaluating the strengths and weaknesses of the farm business.

A computer program is used to process the data collected from fruit farmers. This program enables an analysis to be produced on the farm as soon as the farmers' data are entered. This provides rapid processing of the information for timely use in the management of the farm business. A grant from the New York Farm Viability Institute made possible the development of a new program in Access and Excel for analyzing these fruit farms, with some new measures of financial performance added for 2005, 2006, 2007, and 2008.

The farms in this study are primarily apple farms. An average of 78 percent of the accrual receipts in 2008 was from the sale of apples. The data were not obtained from a random sample of all fruit farms in Western New York; however, the analysis is useful for fruit farmers to compare their own farm financial factors with benchmarks from typical farms in the Western New York fruit industry.

## **Format Features**

This report provides a set of tables which comprise a comprehensive analysis of the participating fruit farms. Worksheets are included to give fruit farmers an opportunity to summarize their business. The analysis tables have a blank column or section labeled "My Farm". It may be used to compare an individual farm business with the average performance of the farms in this study.

This report features:

- 1) A complete Balance Sheet and analysis including financial ratios.
- 2) An Income Statement including accrual accounting adjustments for farm business expenses and receipts, as well as measures of profitability with and without appreciation.
- 3) Forms for a Cash Flow Statement and Repayment Analysis Worksheets.

- 4) Analyses of Capital Efficiency, Equipment, and Labor.
- 5) A Cropping Program Analysis with Cost Control Factors.
- 6) A Summary of Selected Business Factors.

### **Apple Production, Prices, and Returns in Recent Years**

The 25 farms in this summary produced a total of 3.54 million bushels, or about 12 percent of the state's total production in 2008. The average price of apples (both fresh and processing) for the Fruit Farm Business Summary farms was \$7.17 per bushel, well above the price in any recent year! The return on equity capital was 22.8 % (including appreciation of assets), and is the highest return on equity since the 26 % realized in 1973! (It should be remembered that Business Summaries have not been done every year.) The value of the New York apple crop in 2008 was estimated at \$255 million, below the record \$288 million realized in 2007 (National Agricultural Statistics Service) and was the third consecutive year that the estimated value exceeded \$200 million.

As a comparison with the last five year period that the summary was published (1994-1998), prices for apples (both fresh and processing) on the FFBS ranged from \$3.68 per bushel in 1994 to a high of \$5.08 per bushel in 1996. Return on Equity (with appreciation) was -12.9 % in 1998, the last year the FFBS was published before 2000; this had been the second worst year in the previous 20 years.

## **SUMMARY AND ANALYSIS OF THE FARM BUSINESS**

### **Farm Financial Status**

The first step in evaluating the financial status of the farm business is to construct a balance sheet which identifies all the assets and liabilities of the business. The second step is to evaluate the relationships between assets, liabilities, and net worth at the end of the year and the changes that occurred during the year.

Financial lease obligations are included in the balance sheet. The present value of all future payments is listed as a liability since the farmer is committed to make the payments by signing the lease. The present value is also listed as an asset, representing the future value the item has to the business.

Table 1 presents the balance sheet data for the 25 fruit farm cooperators. It lists the average value of assets and liabilities for the beginning of the year and the end of the year, and, therefore, shows the changes that occurred for each category during the year. Asset values that are estimated each year should reflect changes in quantity or quality of the asset and conservative adjustments for price changes. Careful attention to asset values is important for a meaningful calculation of change in net worth, a measure of financial progress.

Table 1.

## Farm Balance Sheet, 25 Western New York Fruit Farms

Farm Assets	Beginning of Year	End of Year	Farm Liabilities	Beginning of Year	End of Year
<b>Current Assets</b>			<b>Current Liabilities</b>		
Farm cash, checking & savings	24,517	33,118	Accounts payable	15,512	11,140
Notes receivable	18,078	20,069	Operating lines	206,324	209,288
Accounts receivable	320,146	535,249	Other short-term	11,554	7,015
Production and packing supplies	26,886	42,722	Current portion intermediate	30,042	48,306
Fruit & other crops in inventory	240,888	197,096	Current portion long-term	18,385	18,535
Farm market inventory	680	560			
Other current assets:	6,518	12,899			
<b>Total Current Assets</b>	<b>\$637,712</b>	<b>\$841,712</b>	<b>Total Current Liabilities</b>	<b>\$281,818</b>	<b>\$294,284</b>
<b>Intermediate Assets</b>			<b>Intermediate Liabilities</b>		
Livestock	0	0	Structured debt	132,481	112,763
Livestock leased	0	0	Equipment and capital lines	12,620	17,301
Equipment owned	472,591	557,012	FLB/PCA stock	1,040	1,000
Equipment leased	0	0			
FLB / PCA stock	1,040	1,000			
Co-op delivery stock	5,860	5,704			
Co-op retains	3,864	3,743			
Other stock & investments	18,217	19,777			
Other:	23,871	22,849			
<b>Total Intermediate Assets</b>	<b>\$525,443</b>	<b>\$610,085</b>	<b>Total Intermediate Liabilities</b>	<b>\$146,140</b>	<b>\$131,063</b>
<b>Long term assets</b>			<b>Long Term Liabilities</b>		
Land & buildings:			Mortgage #1	109,196	100,359
Owned	796,289	858,886	Other long term	86,182	88,791
Structures leased	0	0			
Leasehold Improvements	37,372	25,002			
Other:	2,635	0			
<b>Total Long Term Assets</b>	<b>\$836,296</b>	<b>\$883,888</b>	<b>Total Long Term Liabilities</b>	<b>\$195,379</b>	<b>\$189,150</b>
<b>Total Farm Assets</b>	<b>\$1,999,451</b>	<b>\$2,335,685</b>	<b>Total Farm:</b>		
			<b>Liabilities</b>	<b>\$623,337</b>	<b>\$614,497</b>
			<b>Net Worth</b>	<b>\$1,376,114</b>	<b>\$1,721,188</b>
			<b>Liabilities &amp; Net Worth</b>	<b>\$1,999,451</b>	<b>\$2,335,685</b>
			<b>Percent equity</b>	<b>68.8%</b>	<b>73.7%</b>
			<b>Debt per bearing fruit acre</b>	<b>\$3,110</b>	<b>\$3,066</b>
			<b>Debt per crop acre</b>	<b>\$2,416</b>	<b>\$2,382</b>

Table 2 provides a format for the reader to use to develop a balance sheet for an individual farm business.



Table 2.

## Farm Balance Sheet-My Farm, 2008

Farm Assets	Beginning of Year	End of Year	Farm Liabilities	Beginning of Year	End of Year
<b>Current Assets</b>			<b>Current Liabilities</b>		
Farm cash, checking & savings			Accounts payable		
Notes receivable			Operating lines		
Accounts receivable			Other short-term		
Prdtn, packing supplies & prepaid exp.			Current portion intermediate		
Fruit & other crops in inventory			Current portion long-term		
Farm market inventory					
Other current assets:					
<b>Total Current Assets</b>			<b>Total Current Liabilities</b>		
<b>Intermediate Assets</b>			<b>Intermediate Liabilities</b>		
Livestock			Structured debt		
Livestock leased			Equipment and capital lines		
Equipment owned			FLB/PCA stock		
Equipment leased					
FLB / PCA stock					
Co-op delivery stock					
Co-op retains					
Other stock & investments					
Other:					
<b>Total Intermediate Assets</b>			<b>Total Intermediate Liabilities</b>		
<b>Long term assets</b>			<b>Long Term Liabilities</b>		
Land & buildings:			Mortgage #1		
Owned			Other long term		
Structures leased					
Leasehold Improvements					
Other:					
<b>Total Long Term Assets</b>			<b>Total Long Term Liabilities</b>		
<b>Total Farm Assets</b>			<b>Total Farm Liabilities</b>		

Balance sheet analysis involves an examination of financial and debt ratios. Percent equity is calculated by dividing end of year net worth by end of year assets. The debt to asset ratio is compiled by dividing liabilities by assets. Low debt to asset ratios reflect strength in solvency and the potential capacity to borrow. The change in farm net worth without appreciation is an excellent indicator of financial progress from operating the business.

The current ratio and working capital are measures of liquidity, or the ability of the farm business to meet its financial obligations as they come due. The business needs to generate enough cash to pay family living expenses, taxes, and to make debt payments on time. The current ratio is measured by end of year current assets divided by current liabilities.

Working capital indicates the operating capital available in the short term. The working capital expense ratio is computed by subtracting current liabilities from current assets, and dividing the result by total accrual expenses (end of year values).

The leverage ratio indicates the dollar amount of debt in relation to the dollar amount of net worth. As long as the rate of return on new investment exceeds the interest rate (marginal), the farm business can increase the level of net income with increased leverage. If some of the funds are re-invested, saved, or used to pay off debt, net worth will increase. Investing a portion of earnings back into the farm business results in growth under these conditions. Leverage is computed by dividing total liabilities by total farm net worth (end of the year values).

**Table 3.****Farm Business Balance Sheet Analysis, 25 Western New York Fruit Farms, Dec. 31, 2008**

Item	Average 25 Farms	My Farm
<u>Financial Ratios - end of year</u>		
Percent Equity	73.7%	_____ %
Debt to Asset Ratio		
Total Debt	0.26	_____
Long-term	0.08	_____
Current and intermediate	0.18	_____
Intermediate and long-term	0.14	_____
Leverage Ratio	0.36	_____
Current Ratio	2.86	_____
Working Capital as % total expenses	61.83%	
<u>Change in Net Worth</u>		
With appreciation	\$345,074	\$ _____
Without appreciation	\$300,415	\$ _____
<u>Debt Analysis</u>		
Percent of total farm debt that is:		
Long term	30.78%	_____ %
Current and intermediate	69.22%	_____ %
Accounts payable only	1.81%	_____ %
<u>Debt Levels</u>		
Per bearing fruit acre		
Total farm debt	\$3,066	\$ _____
Long-term	\$944	\$ _____
Current and intermediate	\$2,122	\$ _____

The farm inventory balance (Table 4, next page) is an accounting of the value of assets used on the balance sheet and the changes that occur from the beginning to end of year. Net investment indicates whether the capital stock is being expanded (positive) or depleted (negative).

**Table 4.****Farm Inventory Balance 25 Western New York Fruit Farms, 2008**

Inventory Balance	Average 25 Farms		My Farm	
	Real Estate	Equipment	Real Estate	Equipment
Beginning of year (1)	\$796,289	\$472,591	\$ _____	_____
Purchases	45,376	110,559	_____	_____
+ Noncash transfer to farm	-		_____	_____
- Lost capital	-		_____	_____
- Sales	9,004	2,401	_____	_____
- Depreciation	5,521	36,429	_____	_____
= Net Investment (2)	30,851	71,729	_____	_____
Appreciation (3-1-2)	31,746	12,692	_____	_____
End of year (3)	\$858,886	\$557,012	_____	_____

**Income Statement**

On the following pages the accrual adjusted income statement begins with an accounting of all farm business expenses.

**Cash Paid** is the actual amount of money paid out during the year and does not necessarily represent the cost of goods and services actually used.

**Change in Inventory:** An increase in inventory is subtracted in computing accrual expenses; it represents inputs that were purchased but not actually used during the year. A decrease in inventory is added to expenses because it represents the cost of inputs purchased in a prior year and used this year.

**Changes in Prepaid Expenses** apply to non-inventory categories. Included are expenses that have been paid in advance of their use, for example, next year's rent paid this year. An increase in a prepaid expense is an amount paid this year that is an expense for a future year and, thus, is subtracted from expenses; a decrease in a prepaid expense indicates an amount paid in a prior year that is an expense for this year and added to cash expenses.

**Change in Accounts Payable:** An increase in payables is an expense chargeable to this year but not paid by the end of the year. A decrease in payables is an expense for a previous year that was paid this year.

**Accrual Expenses** are the costs of inputs actually used for this year's production.

The worksheet on page 9 (Table 6) is provided to enable any fruit farmer to compare his or her expenses with the group averages in the corresponding table.

**Table 5. Farm Expenses, 25 Western New York Fruit Farms, 2008**

<b>Expenses</b>	<b>Cash amount paid</b>	<b>Change in inventory or prepaid expenses</b>	<b>Change in accounts payable</b>	<b>Accrual Expense s</b>
<b><u>Hired Labor</u></b>				
Wages:				
Regular	\$120,637	\$0	-\$141	\$120,496
Picking	148,566	0	-140	148,426
Other part-time, seasonal	45,490	-612	0	44,878
Other labor costs	49,650	80	-371	49,359
Picker travel	\$11,313	\$0	\$0	11,313
Labor camp expenses	\$1,783	\$0	\$0	1,783
<b><u>Equipment</u></b>				
Machine hire, rent, lease	14,692	0	73	14,765
Repairs and parts	47,203	60	-486	46,776
Trucking expense	7,264	0	-49	7,215
Fuel, oil, and grease	44,208	-326	-150	43,733
<b><u>Livestock</u></b>				
All livestock expense	0	0	0	0
<b><u>Crops</u></b>				
Fertilizer and lime	20,082	-1,392	-146	18,545
Replace trees and plants	12,672	-690	0	11,982
Spray	111,045	-6,551	-2,624	101,871
Supplies, other	28,147	-788	-9	27,351
Processing package supplies	3,452	-518	0	2,934
Storage	24,812	0	69	24,882
Marketing, selling expenses	2,950	0	0	2,950
<b><u>Real Estate</u></b>				
Repair-Land, building, fence	9,789	-60	185	9,914
Taxes	12,940	-177	0	12,763
Rent & lease	13,808	-28	-20	13,760
<b><u>Other Expenses</u></b>				
Fire, liability insurance expenses	15,208	0	0	15,208
Crop and revenue Insurance	13,937	0	-840	13,097
All utilities	18,257	0	-18	18,238
Legal/office expense	12,881	-4	-2	12,875
Fruit purchased for resale	18,840	-800	200	18,240
Interest paid	25,322	0	-1,112	24,211
Misc.	17,374	-255	-517	16,601
<b>TOTAL OPERATING EXPENSES</b>	<b>852,322</b>	<b>-\$12,060</b>	<b>-\$6,096</b>	<b>\$834,166</b>
Depreciation:				
Equipment				36,429
Buildings				5,521
Bearing trees and vines				9,330
<b>TOTAL ACCRUAL EXPENSES</b>				<b>\$885,446</b>

**Table 6.****Income Statement - Farm Expenses, My Farm, 2008**

Expenses	Cash amount paid	Change in inventory or prepaid expenses	Change in accounts payable	Accrual Expenses
<u>Hired Labor</u>				
Wages:				
Regular	\$ _____	\$ _____	\$ _____	\$ _____
Picking	_____	_____	_____	_____
Other part-time, seasonal	_____	_____	_____	_____
Other labor costs	_____	_____	_____	_____
Picker travel	_____	_____	_____	_____
Labor camp expenses	_____	_____	_____	_____
<u>Equipment</u>				
Machine hire, rent, lease	_____	_____	_____	_____
Repairs and parts	_____	_____	_____	_____
Trucking expense	_____	_____	_____	_____
Fuel, oil, and grease	_____	_____	_____	_____
<u>Livestock</u>				
All livestock expense	_____	_____	_____	_____
<u>Crops</u>				
Fertilizer and lime	_____	_____	_____	_____
Replace trees and plants	_____	_____	_____	_____
Spray	_____	_____	_____	_____
Supplies, other	_____	_____	_____	_____
Processing package supplies	_____	_____	_____	_____
Storage	_____	_____	_____	_____
Marketing, selling expenses	_____	_____	_____	_____
<u>Real Estate</u>				
Repair-Land, building, fence	_____	_____	_____	_____
Taxes	_____	_____	_____	_____
Rent & lease	_____	_____	_____	_____
<u>Other Expenses</u>				
Fire, liability insurance exp.	_____	_____	_____	_____
Crop and revenue Insurance	_____	_____	_____	_____
All utilities	_____	_____	_____	_____
Legal/office expense	_____	_____	_____	_____
Fruit purchased for resale	_____	_____	_____	_____
Interest paid	_____	_____	_____	_____
Misc.	_____	_____	_____	_____
<b>Total Operating Expenses</b>	_____	_____	_____	_____
Depreciation:				_____
Equipment				_____
Buildings				_____
Bearing trees and vines				_____
Total Accrual Expenses				_____

**Table 7. Income Statement-Farm Receipts, 25 Western New York Fruit Farms, 2008**

Receipts	Cash Receipts	Change in inventory	Change in accounts receivable	Accrual Receipts
<u>Apples:</u>				
Fresh	\$617,817	-\$45,649	\$86,301	\$658,468
Peelers	256,016	960	89,476	346,453
Juice	26,083	897	2,118	29,098
<u>Cherries:</u>				
Sweet	31,954	0	-544	31,410
Tart	25,528	0	3,369	28,898
Grapes				
Peaches	32,740	0	-260	32,480
Plums and Prunes	1,007	0	0	1,007
Pears	5,256	0	887	6,143
Other Crops, Livestock, & Prod	10,367	0	0	10,367
Custom Work, Storage, Rent	36,962	0	-1,944	35,018
Other	104,756	0	37,561	142,317
<b>Total Operating Receipts</b>	<b>\$1,148,487</b>	<b>-\$43,792</b>	<b>\$216,964</b>	<b>\$1,321,659</b>

**Cash Receipts** include the amount received during the year from the sale of farm products and services, and government programs.

**Changes in Inventory** are calculated by subtracting beginning of year values from end of year values excluding appreciation. Changes in crop and livestock inventories are calculated. Changes in advanced government receipts are calculated by subtracting the end of year balance from the beginning year balance.

**Changes in Accounts Receivable** are calculated by subtracting beginning year balances from end year balances.

**Accrual Receipts** represent the value of all farm commodities and services generated by the farm business during the year.

**Table 8.****Income Statement - Farm Receipts, My Farm 2008**

Receipts	Cash Receipts	Change in inventory	Change in accounts receivable	Accrual Receipts
<u>Apples:</u>				
Fresh	\$ _____	\$ _____	\$ _____	\$ _____
Peelers	_____	_____	_____	_____
Juice	_____	_____	_____	_____
<u>Cherries:</u>				
Sweet	_____	_____	_____	_____
Tart	_____	_____	_____	_____
Grapes	_____	_____	_____	_____
Peaches	_____	_____	_____	_____
Plums and Prunes	_____	_____	_____	_____
Pears	_____	_____	_____	_____
Other Crops, Livestock, & Prod	_____	_____	_____	_____
Custom Work, Storage, Rent	_____	_____	_____	_____
Other	_____	_____	_____	_____
<b>Total Operating Receipts</b>	_____	_____	_____	_____

**Profitability Analysis**

Farm owner-operators contribute labor, management, and capital to their businesses and the best combination of these resources maximizes profits. Farm profitability can be measured as the return to all family resources or as the return to one or more individual resources such as labor and management.

**Net Farm Income** is the total combined return to the farm operators and other unpaid family members for their labor, management, and equity capital. It is the farm family's annual net return from working, managing, financing, and owning the farm business. This is not a measure of cash available from the year's business operation. Cash flow is measured later in this report.

Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, equipment, real estate inventory, and stocks and certificates (other than Farm Credit). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.



**Table 9.**

<b>Net Farm Income, 25 Western New York Fruit Farms, 2008</b>		
Item	Average	My Farm
Total Accrual Receipts	\$1,321,659	\$_____
+ Appreciation:		
Livestock		_____
Equipment	12,692	_____
Real estate	31,746	_____
Other stocks and certificates	221	_____
= Total Accrual Receipts with Appreciation	\$1,366,318	_____
- Total Accrual Expenses	\$885,446	_____
= Net Farm Income with appreciation	\$480,872	_____
without appreciation	\$436,213	_____

**Return to Operators' Labor, Management, and Equity Capital** measures the total business profits for the farm operator(s). It is calculated by deducting a charge for unpaid family labor from net farm income. Operators' labor is not included in unpaid family labor. Return to operators' labor, management, and equity capital has been calculated both with and without appreciation. Appreciation is considered an important part of the return to ownership of farm assets.

**Table 10.**

<b>Return to Operators' Labor, Management, and Equity Capital 25 Western New York Fruit Farms, 2008</b>		
Item	Average	My Farm
With appreciation:	\$480,872	
Net farm income		\$_____
- Family unpaid labor @ \$2,300/mo	\$384	_____
= Return to operators' labor management and equity	\$480,488	_____
Without appreciation:		
Net farm income	\$436,213	_____
- Family unpaid labor @ \$2,300/mo	\$384	_____
= Return to operators' labor management and equity	\$435,829	_____

**Labor and Management Income** is the return which farm operators receive for their labor and management used in operating the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and management income is calculated by deducting the opportunity cost of using equity capital, at a real interest rate of five percent, from the return to operators' labor, management, and equity capital excluding appreciation. The interest charge of five percent reflects the long-term average rate of return above inflation that a farmer might expect to earn in an investment of comparable risk.

**Table 11.**

**Labor & Management Income  
25 Western New York Fruit Farms, 2008**

Item	Average	My Farm
Net Farm Income with Appreciation	\$480,872	\$_____
Net Farm Income without Appreciation	\$436,213	_____
- Family Labor @ \$2,300 per month	\$384	_____
- Real interest @ 5% on Equity Capital	<u>\$86,069</u>	_____
= Labor and management income with appreciation (1.65 operators)	\$394,429	_____
Labor and management income with appreciation per Operator	\$239,445	_____
= Labor and management income without appreciation (1.65 operators)	\$349,770	_____
Labor and management income without appreciation per Operator	\$212,333	_____

**Return on Equity Capital** measures the net return remaining for the farmer's equity or owned capital after a charge has been made for the owner-operators' labor and management. The earnings or amount of net farm income allocated to labor and management is the opportunity cost of operators' labor and management estimated by the cooperators. Return on equity capital is calculated with and without appreciation. The rate of return on equity capital is determined by dividing the amount returned by the average farm net worth or equity capital. Net farm income from operations ratio is net farm income (without appreciation) divided by total accrual receipts. It is a general measure of returns to equity and labor and management as a percent of what the farm produced.

**Table 12.**

**Return on Equity Capital and Return on Total Capital  
25 Western New York Fruit Farms, 2008**

Item	Average 25 Farms	My Farm
Net farm income with appreciation	\$480,872	\$_____
- Unpaid family labor @ \$2,000 per month	384	_____
- Values of operator labor and management	<u>88,776</u>	_____
= Return to equity capital with appreciation	391,712	_____
+ Interest Paid	<u>24,211</u>	_____
= Return to all capital with appreciation	\$415,923	_____
Return to equity capital without appreciation	\$347,053	_____
Return to all capital without appreciation	\$371,264	_____
Rate of return on average equity capital		
with appreciation	22.76%	_____%
without appreciation	20.16%	_____%
Rate of return on all capital		
with appreciation	17.81%	_____%
without appreciation	15.90%	_____%
Net farm income from operations ratio	0.33	_____

**Cash Flow Statement**

Completing an annual cash flow statement is an important step in understanding the sources and uses of funds for the business. Understanding last year's cash flow is the first step toward planning and managing cash flow for the current and future years.

The **Annual Cash Flow Statement** is structured to compare all the cash inflows with all the cash outflows for the year. A complete list of cash inflows and cash outflows is included in Table 13. By definition, total cash inflows must equal total cash outflows when beginning and ending balances are included. Any imbalance is, therefore, the error from incorrect accounting of cash inflows and cash outflows. A cash flow sheet is available for growers to use to reconcile cash flow on their own operations (Table 14).

**Table 13.**

<b>Annual Cash Flow Statement, 25 Western New York Fruit Farms 2008</b>			
<b>Cash Flow from Operating Activities</b>			
Cash farm receipts	\$1,148,487		
- Cash farm expenses	852,322		
= Net Cash Farm Income		296,165	
Personal withdrawals & family expenses including nonfarm debt payments	98,297		
- Nonfarm income	87		
- Net cash withdrawals from farm		98,210	
<b>= Net Provided by Operating Activities</b>			197,955
<b>Cash Flow from Investing Activities</b>			
Sale of assets: machinery	\$2,401		
real estate	9,004		
other stock & certificates	14,971		
= Total asset sales		26,376	
Capital Purchases: expansion orchard	38,864		
+ machinery	110,559		
+ real estate	45,376		
+ other stock & certificates	11,991		
- Total invested in farm assets		206,789	
<b>+ Net Provided by Investment</b>			(\$180,413)
<b>Cash Flow From Financing Activities</b>			
Money borrowed (intermediate & long term)	\$38,328		
+ Money borrowed (short term)	2,500		
+ Increase in operating debt	33,123		
+ Cash from nonfarm capital used in business	0		
+ Money borrowed - nonfarm	0		
= Cash flow from financing		\$73,951	
Principal payments (intermediate & long term)	41,180		
+ Principal payments (short term)	7,039		
+ Decrease in operating debt	25,284		
- Cash outflow for financing		\$73,502	
<b>= Net Provided by Financing Activities</b>			\$448
<b>Cash Flow from Reserves</b>			
Beginning farm cash, checking & savings		\$24,517	
- Ending farm cash, checking & savings		33,118	
<b>= Net Provided from Reserves</b>			(\$8,601)
<b>Imbalance</b>			<b>\$9,389</b>

**Table 14.**

Annual Cash Flow Statement, My Farm 2008			
<b>Cash Flow from Operating Activities</b>			
Cash farm receipts	\$	_____	
- Cash farm expenses		_____	
= Net Cash Farm Income			_____
Personal Withdrawals & family expenses including nonfarm debt payments		_____	
- Nonfarm income		_____	
- Net cash withdrawals from farm			_____
<b>= Net Provided by Operating Activities</b>			_____
<b>Cash Flow from Investing Activities</b>			
Sale of assets: machinery		_____	
real estate		_____	
other stock & certificates		_____	
= Total asset sales			_____
Capital Purchases: expansion orchard		_____	
+ machinery		_____	
+ real estate		_____	
+ other stock & certificates		_____	
- Total invested in farm assets			_____
<b>+ Net Provided by Investment</b>			_____
<b>Cash Flow From Financing Activities</b>			
Money borrowed (intermediate & long term)		_____	
+ Money borrowed (short term)		_____	
+ Increase in operating debt		_____	
+ Cash from nonfarm capital used in business		_____	
+ Money borrowed - nonfarm		_____	
= Cash flow from financing			_____
Principal payments (intermediate & long term)		_____	
+ Principal payments (short term)		_____	
+ Decrease in operating debt		_____	
- Cash outflow for financing			_____
<b>= Net Provided by Financing Activities</b>			_____
<b>Cash Flow from Reserves</b>			
Beginning farm cash, checking & savings			_____
- Ending farm cash, checking & savings			_____
<b>= Net Provided from Reserves</b>			_____
<b>Imbalance</b>			
			_____

## Repayment Analysis

The second step in cash flow analysis is to compare the debt payments planned for this year with the amount actually paid. The measures listed below provide a number of different perspectives on the repayment performance of the business.

**Table 15.**

**Farm Debt Payments Planned  
25 Western New York Fruit Farms, 2008**

Item	Average 25 Farms	
	Actual Payments 2008	Planned Payments 2009
Current/Short Term (net reduction)	(\$5,948)	\$0
Intermediate Term (net reduction)	\$3,227	\$48,306
Long Term (net reduction)	(\$6,078)	\$18,536
 Total Debt Payments	 (\$8,800)	 \$66,841
 Payments as a percent of:		
Total accrual receipts	-0.67%	5.06%
Total accrual fruit receipts	-0.78%	5.89%
 Payments per bearing fruit acre	 (\$44)	 \$333
Payments per acre operated	(\$25)	\$193
Payments per bushel of apples sold	(\$0.06)	\$0.46

Item	My Farm	
	Actual Payments 2008	Planned Payments 2009
Current/Short Term (net reduction)	\$_____	\$_____
Intermediate Term (net reduction)	_____	_____
Long Term (net reduction)	_____	_____
 Total Debt Payments	 _____	 _____
 Payments as a percent of:		
Total accrual receipts	_____%	_____%
Total accrual fruit receipts	_____%	_____%
 Payments per bearing fruit acre	 \$_____	 \$_____
Payments per acre operated	_____	_____
Payments per bushel of apples sold	_____	_____

The **Cash Flow Coverage Ratio** measures the ability of the farm business to meet its planned debt payment schedule. The ratio shows the percentage of planned payments that could have been made with this year's available cash flow. However, the critical question for many farmers and lenders is whether planned payments can be made in 2009. The worksheet provided in Table 17 and 18 can be used to estimate repayment ability which can then be compared to planned 2009 debt payments shown in Table 16.

**Table 16.**

**Cash Flow Coverage Ratio  
25 Western New York Fruit Farms, 2008**

Item	Average	My Farm
Cash Farm Receipts	\$1,148,487	\$_____
- Cash Farm Expenses	852,322	_____
+ Interest Paid	25,322	_____
 = Amount Available for debt service	 \$321,487	 _____
 Debt Payments Planned	 \$66,841	 _____
 Cash Flow Coverage Ratio	 4.81	 _____

**Table 17.**

**Annual Cash Flow Worksheet**  
**25 Western New York Fruit Farms, 2008**

Item	Average 25 Farms	My Farm Total	My Farm per bearing acre
Average Bearing Acres and Bearing Fruit Acres	200	_____	_____
<b>Accrual Operating Receipts</b> (per fruit bearing acre)			
Apples:			
Fresh	\$3,285	\$_____	\$_____
Peelers	\$1,728	_____	_____
Juice	\$145	_____	_____
Cherries:			
Sweet	157	_____	_____
Tart	144	_____	_____
Grapes		_____	_____
Peaches	162	_____	_____
Plums and Prunes	5	_____	_____
Pears	31	_____	_____
Other Crops, Livestock, & Prod	52	_____	_____
Custom Work, Storage, Rent	175	_____	_____
Other	710	_____	_____
Total Operating Receipts	6,593	_____	_____



**Table 18.**

**Annual Cash Flow Worksheet  
25 Western New York Fruit Farms, 2008**

Item	Average 25 Farms	My Farm Total	My Farm per bearing acre
<b>Accrual Operating Expenses</b>			
Wages:			
Regular	\$601	\$ _____	\$ _____
Harvest	\$740	_____	_____
Other part-time seasonal	\$224	_____	_____
Other labor costs	\$246	_____	_____
Picker travel	\$56	_____	_____
Labor camp expenses	\$9	_____	_____
Machine rent, hire, lease	\$74	_____	_____
Repairs and parts	\$233	_____	_____
Trucking expense	\$36	_____	_____
Fuel, oil, and grease	\$218	_____	_____
All livestock expense		_____	_____
Fertilizer and lime	93	_____	_____
Replacement trees and plants	60	_____	_____
Spray	508	_____	_____
Supplies, other	136	_____	_____
Processing package supplies	15	_____	_____
Storage	124	_____	_____
Marketing, selling expenses	15	_____	_____
Repair-land, build, fence	49	_____	_____
Taxes	64	_____	_____
Rent & lease	69	_____	_____
Fire, liability insurance exp.	76	_____	_____
Crop and revenue insurance	65	_____	_____
All utilities	91	_____	_____
Legal/office expense	64	_____	_____
Fruit purchased for resale	91	_____	_____
Miscellaneous	83	_____	_____
TOTAL Operating Expenses			
Excluding Interest Paid	\$4,041	_____	_____

**Table 19.**

**Annual Cash Flow Worksheet- Repayment Analysis  
25 Western New York Fruit Farms, 2008**

Item	Average 25 Farms	My Farm Total
<b>Repayment Analysis (Total)</b>		
Net Accrual Operating Income (excluding interest paid)	\$511,704	\$ _____
- Change in livestock and crop inventory	(43,792)	_____
- Change in accounts receivable	215,103	_____
- Change in supply inventory	15,836	_____
Net operating cash flow	324,556	_____
- Net personal withdrawals	98,297	_____
Available for debt payments and investment	226,259	_____
- Farm debt payments (principle and interest)	97,713	_____
Available for farm investment	128,546	_____
Capital purchases	\$206,789	_____
Additional capital needed	\$78,243	_____

### Capital Efficiency Analysis

Capital efficiency factors measure how intensively capital is being used in the farm business. As capital needs grow, capital management becomes more important.

Capital turnover is a measure of capital efficiency as it shows the number of years of farm receipts required to equal or "turnover" the capital investment. It is computed by dividing the average farm asset value by the year's total farm accrual receipts and appreciation. Summing the next three ratios (operating expense, interest expense, and depreciation expense) gives total expenses per dollar of accrual receipts. In Table 20, total expenses per dollar of receipts is \$.73.

**Table 20.**

<b>Capital Efficiency Analysis</b> <b>25 Western New York Fruit Farms, 2008</b>			
Item	Per worker equiv	Average 22 Farms Per bearing fruit acre	Per acre operated
<b>Assets</b>			
Total Farm Capital	\$159,032	\$10,814	\$6,240
Real estate	\$63,007	\$4,284	\$2,472
All Equipment	\$37,771	\$2,568	\$1,482
<b>Ratios:</b>			
Capital turnover	Operating Expense	Interest Expense	Depreciation Expense
0.61	0.67	0.02	0.04
=1.64 yrs.			
<b>My Farm</b>			
Total Farm Capital	_____	_____	_____
Real estate	_____	_____	_____
All Equipment	_____	_____	_____
<b>Ratios:</b>			
Capital turnover	Operating Expense	Interest Expense	Depreciation Expense
_____	_____	_____	_____

## Equipment Analysis

Equipment costs comprised 20 percent of the total accrual expenses in 2008. Total equipment expenses include the major fixed costs (interest and depreciation) as well as the accrual operating costs.

**Table 21.**

<b>Accrual Equipment Expenses</b> <b>25 Western New York Fruit Farms, 2008</b>			
Item	Total	Average 25 Farms	
		Equipment cost per fruit acre operated	
		bearing	all fruit
Machine Hire,			
Equipment Rent, Lease	\$14,765	\$74	\$43
Repair and parts	46,776	233	135
Trucking	7,215	36	21
Fuel, oil, and grease	43,733	218	126
Interest on avg equipment capital at 5%	25,740	128	74
Depreciation	<u>36,429</u>	<u>182</u>	<u>347</u>
Total Equipment Cost	\$174,658	\$871	\$756

Item	Total	My Farm	
		Equipment cost per fruit acre operated	
		bearing	all fruit
Machine Hire,			
Equipment Rent, Lease	\$_____	\$_____	\$_____
Repair and parts	_____	_____	_____
Trucking	_____	_____	_____
Fuel, oil, and grease	_____	_____	_____
Interest on avg.equipment capital at 5%	_____	_____	_____
Depreciation	_____	_____	_____
Total Equipment Cost	_____	_____	_____

## Labor Analysis

The efficient use of labor is closely related to farm profitability. Measures of labor efficiency or productivity are key indicators of management's success. Labor is the largest single cost category on fruit farms, accounting for 42 % of total accrual expenses (including depreciation).

**Table 22.**

**Labor Inventory Analysis, 25 Western New York Fruit Farms, 2008**

Labor force	Full-time Months	Age, Years	Education, Years	Value of Labor and Management
<b>Average</b>				
Operator 1	11.30	54	15	\$58,167
Operator 2	6.17	55	14	\$37,089
Operator 3	1.82	NA	NA	\$44,020
Operator 4	0.48	NA	NA	\$53,892
Family Paid	-			Total \$193,167
Family Unpaid	0.16			Avg. per Operator \$117,265
Hired				
Regular	50.14			
Harvest	70.80			
Other PT/Seasonal	22.69			
Total Hired	143.63			
Total	163.56	mo./12 =	13.63	worker equivalent
			1.65	oper./manager equivalent
			11.97	hired worker equiv
<hr/>				
<b>My Farm:</b>				
Total	_____	mo./12 =	_____	worker equivalent
Operators	_____	mo./12 =	_____	operator./manager equivalent

**Table 23.****Labor Efficiency Analysis, 25 Western New York Fruit Farms, 2008**

<b>Labor Efficiency</b>	<u>Average 25 Farms</u>		<u>My Farm</u>	
	Total	Per Worker	Total	Per Worker
Bearing fruit acres	200	14.71	_____	_____
Total acres operated	347	25.49	_____	_____
Apples sold, bu.	141,130	10,575	_____	_____
Accrual receipts	\$1,321,659	\$96,969	_____	_____

<b>Labor Cost or Value</b>	<u>Average 25 Farms</u>			<u>My Farm</u>		
	Total	Per Worker Equivalent	Per Bearing Fruit Acre	Total	Per Worker Equivalent	Per Bearing Fruit Acre
Value of operators' labor @ \$2,400/mo.	\$47,441	\$3,480.72	\$237	\$_____	\$_____	\$_____
Family unpaid @ \$2,400 per mo.	384	28	\$2	_____	_____	_____
Hired						
Regular	120,496	8,841	601	_____	_____	_____
Harvest	148,426	10,890	740	_____	_____	_____
Other PT/Seasonal	44,878	3,293	224	_____	_____	_____
Total Hired	313,800	23,023	1,565	_____	_____	_____
Indirect Labor Costs	49,359	3,621	246	_____	_____	_____
Total Labor	363,159	26,645	1,812	_____	_____	_____
Machinery Costs	\$174,658	\$12,814	\$871	_____	_____	_____
Total Labor and Machinery	\$537,818	\$39,459	\$2,683	_____	_____	_____
Hired Labor as Percent of Crop Sales	27.42%			\$_____		
Total Labor as Percent of Crop Sales	36.07%			\$_____		

**Cropping Program Analysis**

The cropping program is the central part of a fruit farm business. A complete evaluation of available land resources, how they are being used, how well crops are producing, and what it costs to produce them, is required to evaluate alternative cropping choices. In the table below, average crop acres and yields are presented for the number of farms reporting each crop. A worksheet is shown (Table 25) to develop comparable figures for your own operation. The nonbearing acreage is 13.0 percent of total fruit acres.

**Table 24.****Land Resources and Crop Production, 25 Western New York Fruit Farms, 2008**

Item	Average 25 Farms			
<b>Land Class (end of year)</b>				
Bearing fruit acres		200		
Non-bearing fruit acres		30.5		
Other crops and open acres		27.5		
Non-tillable acres		88.9		
Total land operated		347.4		
Rented land included above		72.5		
<hr/>				
<u>For farms having the fruit:</u>				
<b>Crop Production</b>	No. of farms	Average acres	Yield per acre	Percent of Total Apples
<b>Bearing Fruit:</b>				
Apples : fresh	24	114.9	669.2	47.3%
: Peelers	23	67.9	1001.7	46.0%
: Juice	19			6.7%
Total Apples	25	172.8	814.0	
Cherries : sweet	10	10.9	5,888.9	
: tart	6	30.1	8840.2	
Grapes	1			
Peaches	17	16.0	4.8	
Plums/Prunes	4	4.8	3.8	
Pears	4	15.3	7.0	
 <b>Non-Bearing Fruit:</b>				
Apples : fresh	21	20.0		
: Peeler	7	7.9		
Cherries : sweet	7	3.6		
: tart	7	19.9		
Grapes	2	10.0		
Peaches	7	6.7		
Plums/Prunes	2	13.0		
Pears	2	6.0		
 <b>Other Crops, Open:</b>				
Other	7	9.0		

**Table 25.****Land Resources and Crop Production, My Farm, 2008**

Item	Total acres
<b>Land Class (end of year)</b>	
Bearing fruit acres	_____
Non-bearing fruit acres	_____
Other crops and open acres	_____
Non-tillable acres	_____
Total land operated	_____
Rented land included above	_____
	<b>My Farm</b>
<b>Crop Production</b>	<b>Total acres</b>
<b>Bearing Fruit:</b>	
Apples:	
Fresh	_____ bu.
Peelers	_____ bu.
Juice	_____ %
Total Apples	_____ bu.
Cherries:	_____ lb.
Sweet	_____ lb.
Tart	_____ lb.
Grapes	_____ ton
Peaches	_____ ton
Plums/prunes	_____ ton
Pears	
<b>Non-Bearing Fruit:</b>	
Apples:	
Fresh	_____
Peeler	_____
Cherries:	_____
Sweet	_____
Tart	_____
Grapes	_____
Peaches	_____
Plums/prunes	_____
Pears	_____
<b>Other Crops, Open:</b>	
Other	



## Cost Control Factors

The control of costs is an important factor in the success of modern commercial fruit farm businesses. But before they can be controlled, they must be known. A major reason for farm business analysis is to identify the most significant cost items so cost control decisions can be encouraged as warranted. However, the optimum level of input items used to obtain the greatest net return is difficult to determine.

Farm managers have substituted power and equipment for labor to a large degree. With labor and equipment costs comprising about 61 percent of total production costs (including depreciation and interest), it is important to know and control these and other costs on a production unit basis.

**Table 26.**

**Cost Control Factors  
25 Western New York Fruit Farms, 2008**

Item	Average 22 Farms		My Farm	
	Cost Per Fruit Acre Operated Bearing Acres	All Fruit Acres	Cost Per Fruit Acre Operated Bearing Acres	All Fruit Acres
All labor including operators' labor	\$1,812	\$1,045	_____	_____
Harvest labor	740	427	_____	_____
Other hired labor	825	476	_____	_____
All equipment cost	871	503	_____	_____
Spray	508	441	_____	_____

## PROGRESS OF THE FARM BUSINESS

Comparing your business with average data from other fruit farms can be a helpful part of a business checkup. While a wide variation in business size and composition exists in this group of fruit farms, many of the factors will provide a meaningful indication of how you compare with other fruit farms. It is, perhaps, even more important for you to determine the progress your business has made over the past two or three years and to set goals for the future. See the last table in this publication for the progress chart for the farms in this year's study.

The tables on the following pages provide the opportunity for you to compare your business factors with averages for the participating farms for the current year. It also encourages you to set some goals toward which to strive as you measure the progress of your farm business over the years.

**Table 27.****Analyzing the Fruit Farm Business, 25 Western New York Fruit Farms, 2008**

Selected Factors	2008 Average 25 Farms	My Farm
Number of Farms		_____
<b>Size of Business</b>		
Total acres	347	_____
All fruit acres (incl non-bearing)	231	_____
Bearing fruit acres	200	_____
Fresh- percent of all apple acres	66. 4%	_____
Apples produced (bushels)	144,130	_____
Apples sold (bushels)	144,130	_____
Worker Equivalent	13.63	_____
<b>Rates of Production</b>		
All apples, bushels per bearing acre	814	_____
Fresh - percent of apples harvested	47%	_____
Cherries - tart, pounds per bearing acre	8840	_____
Cherries - sweet, pounds per bearing acre	5,889	_____
Peaches - tons per bearing acre	4.8	_____
Plums/Prunes - tons per bearing acre	3.8	_____
Pears - tons per bearing acre	7.0	_____
<b>Labor Efficiency</b>		
Bearing fruit acres per worker	14.71	_____
All fruit acres per worker	16.95	_____
Accrual Receipts per worker	\$96,969	_____
<b>Cost Control - Accrual</b>		
Costs per bearing fruit acre		
All labor	\$1,812	_____
All equipment	\$871	_____
Spray	\$508	_____
Expansion orchard expense	\$38,864	_____
Hired labor as percent of operating expense	37.6%	_____
<b>Capital Efficiency</b>		
Total farm capital per bearing fruit acre	\$10,814	_____
Total farm capital per fruit acre	\$9,404	_____
Capital Turnover Ratio	0.61	_____
<b>Profitability</b>		
Net farm income without appreciation	\$436,213	_____
Net farm income with appreciation	\$480,872	_____
Labor and management income per operator	\$212,333	_____
Rate of return on:		
Equity capital with appreciation	22.8%	_____
All capital with appreciation	17.8%	_____
<b>Financial Summary, End of Year</b>		
Farm net worth	\$1,721,188	_____
Debt to asset ratio	0.26	_____
Farm debt per bearing fruit acre	\$3,066	_____
Cash flow coverage ratio	4.81	_____

**Table 28. Progress of the Farm Business, 22 Farms, 2008 and 2007.**

Selected Factors	2008 Average 22 Farms	2007 Average 22 Farms	My Farm
<b>Size of Business</b>			
Total acres	342	321	_____
All fruit acres (incl non-bearing)	241	242	_____
Bearing fruit acres	210	210	_____
Fresh- percent of all apple acres	58.5%	56.6%	_____
Apples produced (bushels)	157,354	154,789	_____
Apples sold (bushels)	157,354	154,278	_____
Worker Equivalent	14.64	14.45	_____
<b>Rates of Production</b>			
All apples, bushels per bearing acre	859	868	_____
Fresh - percent of apples harvested	43%	45%	_____
Cherries - tart, pounds per bearing acre	9494	8353	_____
Cherries - sweet, pounds per bearing acre	6558	7257	_____
Peaches - tons per bearing acre	5.3	4.3	_____
Plums/Prunes - tons per bearing acre	3.8	2.9	_____
Pears - tons per bearing acre	7.8	6.8	_____
<b>Labor Efficiency</b>			
Bearing fruit acres per worker	14.3	14.5	_____
All fruit acres per worker	16.5	16.8	_____
Accrual Receipts per worker	\$97,177	\$77,532	_____
<b>Cost Control - Accrual</b>			
Costs per bearing fruit acre			
All labor	\$1,884	\$1,763	_____
All equipment	\$896	\$809	_____
Spray	\$506	\$465	_____
Expansion orchard expense	\$41,940	\$24,299	_____
Hired labor as percent of operating expense	38.2%	38.1%	_____
<b>Capital Efficiency</b>			
Total farm capital per bearing fruit acre	\$10,911	\$9,502	_____
Total farm capital per fruit acre	\$6,699	\$6,215	_____
Capital Turnover Ratio	0.62	0.56	_____
<b>Profitability</b>			
Net farm income without appreciation	\$471,063	\$246,718	_____
Net farm income with appreciation	\$514,678	\$259,475	_____
Labor and management income per operator	\$227,631	\$105,388	_____
Rate of return on:			
Equity capital with appreciation	23.1%	12.2%	_____
All capital with appreciation	18.1%	10.4%	_____
<b>Financial Summary, End of Year</b>			
Farm net worth	\$1,833,794	\$1,424,180	_____
Debt to asset ratio	0.26	0.31	_____
Farm debt per bearing fruit acre	\$3,032	\$3,047	_____
Cash flow coverage ratio	4.90	3.81	_____

**NOTES**

## OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2009-18	2009 Federal Reference Manual for Regional Schools, Income Tax Management and Reporting for Small Businesses and Farms	(\$25.00)	Bouchard, G. and J. Bennett
2009-17	2009 New York State Reference Manual for Regional Schools, Income Tax Management and Reporting for Small Businesses and Farms	(\$25.00)	Bennett J. and K. Bennett
2009-16	Bedded Pack Management System Case Study		Thurgood, J., Bagley, P., Comer, C., Flaherty, D., Karszes, J. and M. Kiraly
2009-15	Dairy Farm Business Summary, Northern New York Region, 2008	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Murray, P., Vokey, F., Ames, M., Deming, A. and J. Prosper
2009-14	Dairy Farm Business Summary, Central Valleys Region, 2008	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Murray, D., Radick, C., Wickswat, C., Manning, J., Collins, B., Balbian, D., Allhusen, G. and S. Buxton
2009-13	Dairy Farm Business Summary, Northern Hudson Region, 2008	(\$12.00)	Conneman, G., Putnam, L., Wickswat, C., Buxton, S., Smith, R. and J. Karszes
2009-12	Dairy Farm Business Summary, Southeastern New York Region, 2008	(\$12.00)	Knoblauch, W., Putnam, L., Kiraly, M., Walsh, J., Hulle, L. and C. Wickswat
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