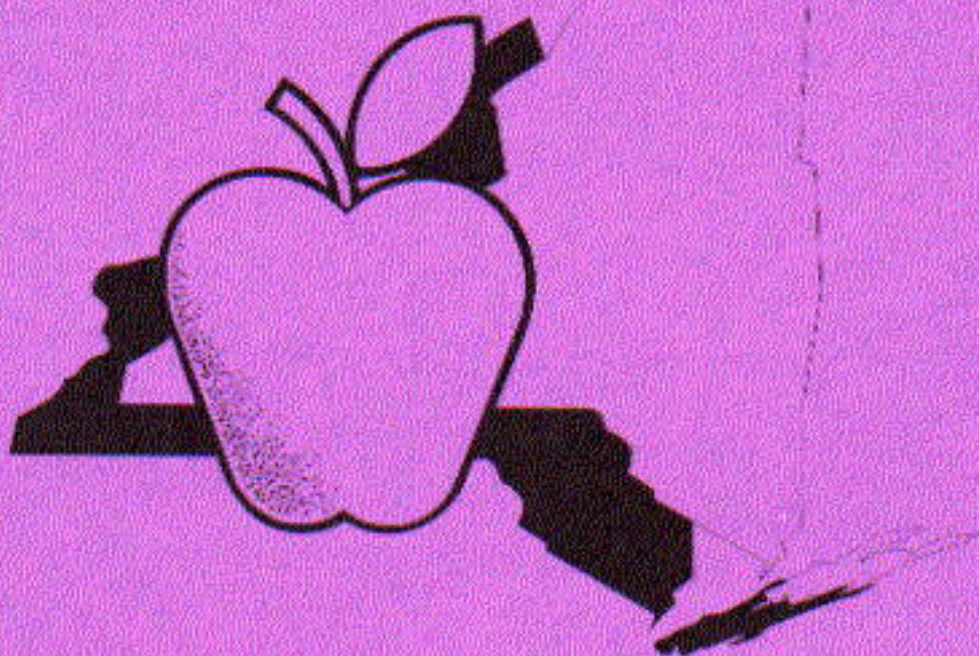


FRUIT FARM BUSINESS SUMMARY

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LAKE ONTARIO REGION NEW YORK 1997



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ABSTRACT

This report is a summary of 1997 farm business data collected from 19 fruit farm businesses located in Western New York State. Apples are the predominant fruit crop. The data are presented as averages for all 19 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.

ACKNOWLEDGEMENTS

The authors are Gerald B. White, Professor; Alison M. DeMarree, Regional Fruit Specialist; and Linda D. Putnam, Extension Support Specialist. Appreciation is expressed to the cooperating fruit farmers who provided the data summarized in this report.

**1997 FRUIT FARM BUSINESS SUMMARY
LAKE ONTARIO REGION**

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1997 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 year. 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 1997.

The primary objective of the fruit farm business summary (FFBS) program is to help farm managers improve the financial management of their business through 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.

The farms in this study are primarily apple farms. An average of 85 percent of the receipts in 1997 was from the sale of apples. The data were not obtained from a random sample of all fruit farms in Western New York. Therefore, the analysis should not be used to represent 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 19 farms.

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 Three Year Comparison of selected business factors.

Apple Production and Prices in Recent Years

Apple production for the State was 26.7 million bushels in 1997. Statewide production was up about 9 percent from the previous year. The 19 farms in this summary produced a total of 2,349,184 bushels, or about 8.8 percent of the state's total production.

The average price of apples (both fresh and processing) for the Fruit Farm Business Summary farms was \$4.35 per bushel, down 14.3 percent from the price in 1996. For New York State, even though both fresh and processing prices fell from their high levels of 1996, the utilized value of the apple crop was a record \$141.3 million, exceeding the record crop of the previous year on the strength of the large crop. Financial performance in terms of net income and return on assets for the summary farms were down from '95 and '96.

Table 1.

Apple Production and Prices, New York State, 1993-1997

Item	1993	1994	1995	1996	1997
<u>Production</u>	----- million bushels -----				
Fresh Apples					
Western New York	3.8	5.5	NA	NA	NA
New York State	9.5	11.7	11.4	11.9	12.4
Processing Apples					
Western New York	9.3	12.4	NA	NA	NA
New York State	11.2	14.5	15.0	12.6	14.3
All Varieties					
Western New York	13.1	17.9	NA	NA	NA
New York State	20.7	26.2	26.4	24.5	26.7
<u>Average Price Received Per Bushel</u>	----- dollars -----				
All Apples					
New York State	4.87	4.95	5.08	5.67	5.29
Fruit Farm Business Summary	3.77	3.68	4.36	5.08	4.35
Fresh Apples					
New York State	7.31	7.56	7.85	7.43	7.39
Fruit Farm Business Summary	4.94	5.05	5.81	6.15	5.25
Processing Apples					
New York State	2.79	2.84	2.96	3.99	3.49
Fruit Farm Business Summary	3.14	2.81	3.09	4.29	3.71

NA = Not Available.

Source: New York Agricultural Statistics Service, FRUIT series, Seasonal releases for July 1994 and 1995; New York Agricultural Statistics, 1998-1999; and the annual Fruit Farm Business Summaries.

SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics

Finding the right management strategies is an important part of operating a successful farm business. Various combinations of farm resources, enterprises, business arrangements, and management techniques are used by the fruit farmers in Western New York. The following table shows important farm business characteristics and the number of farmers reporting these characteristics.

Table 2.
Business Characteristics, 19 Western New York Fruit Farms, 1997

Type of Business	Number	Business Record System	Number
Proprietors	4	Account Book	3
Partnerships	6	Agrifax (mail-in)	0
Corporations	9	On-Farm Computer	16
		Other	0

<u>Business Composition</u>	<u>Number</u>
Fruit production only	4
Fruit with storage	6
Fruit & other enterprises	4
Fruit with storage & other enterprises	5

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 3 presents the balance sheet data for the 19 fruit farm cooperators. It lists the average value of assets and liabilities for December 31, 1996 and December 31, 1997 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 4 provides a format for the reader to use to develop a balance sheet for an individual farm business.

Table 3.
Farm Business Balance Sheet, 19 Western New York Fruit Farms, December 31, 1996 & 1997

Farm Assets			Farm Liabilities & Net Worth		
	1996	1997		1996	1997
<u>Current</u>	\$	\$	<u>Current =<1 year</u>	\$	\$
Cash, checking, sav.	18,520	11,783	Accounts payable	29,355	26,784
Accounts receivable	156,833	161,016	Operating debt	135,616	162,034
Prepaid expenses	4,779	4,624	Short-term	5,850	200
Fruit, other crops	116,041	125,518	Advanced gov't receipts	0	0
Production supplies	12,194	8,748	Accrued interest	<u>1,982</u>	<u>1,151</u>
Packing supplies	<u>1,362</u>	<u>1,396</u>			
Total Current	\$ 309,729	\$ 313,084	Total Current	\$ 172,803	\$ 190,169
<u>Intermediate</u>			<u>Intermediate =>1 to <10 years</u>		
Livestock	316	276	Structured debt	100,126	96,518
Livestock leased	0	0	Financial lease-livestock & equipment	7,566	6,657
Equipment owned	239,889	251,915	Farm Credit stock	<u>9,140</u>	<u>10,694</u>
Equipment leased	7,566	6,657			
Farm Credit stock	9,140	10,694			
Other stock, cert.	<u>73,779</u>	<u>77,990</u>			
Total Intermediate	\$ 330,691	\$ 347,532	Total Intermediate	\$ 116,833	\$ 113,869
<u>Long-Term</u>			<u>Long-Term =>10 years</u>		
Land/Buildings:			Structured debt	159,379	156,652
Owned	569,272	584,080	Financial lease - structures	<u>0</u>	<u>0</u>
Structures leased	<u>0</u>	<u>0</u>			
Total Long-Term	\$ 569,272	\$ 584,080	Total Long-Term	\$ 159,379	\$ 156,652
Total Farm:			Total Farm:		
Assets	\$1,209,691	\$1,244,696	Liabilities	449,015	460,691
			Net Worth	760,676	784,005
			Liabilities & Net Worth	1,209,691	1,244,696

Table 3a. Nonfarm Assets & Liabilities

NonFarm Assets			NonFarm Liabilities		
	1996	1997		1996	1997
Cash, checking, sav.	\$ 229	\$ 1,351		\$ 0	\$ 0
Life ins.-cash value	1,624	1,836			
Real estate	0	0			
Auto (pers. share)	368	316			
Stocks & bonds	8,199	11,208			
Household furn.	1,579	1,579			
All other	<u>0</u>	<u>0</u>			
Total NonFarm Assets	\$ 12,000	\$ 16,289	Total Nonfarm: Liab.	0	0
			Net Worth	<u>12,000</u>	<u>16,289</u>
			Liabilities & Net Worth	\$ 12,000	\$ 16,289
			Farm and Nonfarm		
Assets	\$1,221,691	\$1,260,985	Liabilities	449,015	460,691
			Net Worth	<u>772,676</u>	<u>800,294</u>
			Liabilities & Net Worth	\$1,221,691	\$1,260,985

Table 4.**Farm Business Balance Sheet, My Farm, December 31, 1996 & 1997**

Farm Assets	1996	1997	Farm Liabilities & Net Worth	1996	1997
<u>Current</u>	\$	\$	<u>Current</u> = < 1 year	\$	\$
Cash, checking, sav.	_____	_____	Accounts payable	_____	_____
Accounts receivable	_____	_____	Operating debt	_____	_____
Prepaid expenses	_____	_____	Short-term	_____	_____
Fruit, other crops	_____	_____		_____	_____
Production supplies	_____	_____		_____	_____
Packing supplies	_____	_____	Advanced gov't receipts	_____	_____
			Accrual interest	_____	_____
Total Current	_____	_____	Total Current	_____	_____
<u>Intermediate</u>			<u>Intermediate</u> = > 1 to < 10 years		
Livestock	_____	_____	Structured debt	_____	_____
Livestock leased	_____	_____		_____	_____
Equipment owned	_____	_____		_____	_____
Equipment leased	_____	_____		_____	_____
Farm Credit stock	_____	_____		_____	_____
Other stock, cert.	_____	_____	Financial lease-livestock, equipment	_____	_____
			Farm Credit stock	_____	_____
Total Intermediate	_____	_____	Total Intermediate	_____	_____
<u>Long-Term</u>			<u>Long-Term</u> = > 10 years		
Land/Buildings:	_____	_____	Structured debt	_____	_____
Owned	_____	_____		_____	_____
Structures leased	_____	_____		_____	_____
	_____	_____	Financial lease-struc.	_____	_____
Total Long-Term	_____	_____	Total Long-Term	_____	_____
			Total Farm:		
			Liabilities	_____	_____
			Net Worth	_____	_____
Total Farm Assets	_____	_____	Liabilities & Net Worth	_____	_____

The 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. Debt levels per unit of production include some old standards that are still useful if used with measures of cash flow and repayment ability. The change in farm net worth without appreciation is an excellent indicator of financial progress from operating the business.

Table 5.
Farm Business Balance Sheet Analysis, 19 Western New York Fruit Farms, December 31, 1997

Item	Average 19 Farms	My Farm
----- For the Farm Business Only -----		
<u>Financial Ratios</u> - end of year		
Percent equity	63%	_____ %
Debt to asset ratios:		
Total debt	0.37	_____
Long-term	0.27	_____
Current & intermediate	0.46	_____
<u>Change in Net Worth</u>		
Without appreciation	\$ 15,120	\$ _____
With Appreciation	\$ 23,329	\$ _____
<u>Debt Analysis</u> - end of year		
Percent of total farm debt that is:		
Long-term	34%	_____ %
Current & intermediate	66%	_____ %
Accounts payable only	6%	_____ %
<u>Debt Levels</u> - end of year		
Per bearing fruit acre:		
Total farm debt	\$ 1,936	\$ _____
Long-term	\$ 658	\$ _____
Current & intermediate	\$ 1,278	\$ _____

The farm inventory balance 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 6.**Farm Inventory Balance, 19 Western New York Fruit Farms, 1997**

Inventory Balance	Average 19 Farms		My Farm	
	Real Estate	Equipment	Real Estate	Equipment
Beginning of year (1)	\$ 569,272	\$ 239,889	\$ _____	\$ _____
Purchases	\$ 30,698 ¹	\$ 39,937	_____	_____
+ Noncash transfer to farm	0	0	_____	_____
- Lost capital	6,502	--	_____	_____
- Sales	1,316	2,557	_____	_____
- Depreciation	12,878	27,412	_____	_____
= Net investment (2)	\$ 10,003	\$ 9,968	_____	_____
Appreciation (3-1-2)	4,805 ²	2,058	_____	_____
End of year (3)	\$ 584,080	\$ 251,915	_____	_____

¹Purchase includes \$3,105 for land and \$27,593 for buildings.

²Real estate appreciation excludes \$0 of appreciation on assets sold during the year.

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 is provided to enable any fruit farmer to compare his or her expenses with the group averages in the corresponding table.

Table 7.
Income Statement - Farm Expenses, 19 Western New York Fruit Farms, 1997

Expenses	Cash amount paid	+ Change in inventory or prepaid ex- penses	+ Change in accounts payable	= Accrual expenses
<u>Hired Labor</u>				
Wages: regular	\$62,700	\$ 0	\$ 0	\$ 62,700
picking	86,974	0	0	86,974
other part-time seas.	49,458	0	0	49,458
Other labor costs	43,819	0	33	43,852
Picker travel	1,268	0	0	1,268
Labor camp expenses	1,696	0	0	1,696
<u>Equipment</u>				
Machine hire, rent, lease	16,531	0	(3,960)	12,571
Repairs & parts	29,537	205	(1,295)	28,448
Auto expense - farm share	208	0	0	208
Fuel, oil & grease	14,182	(20)	(662)	13,500
<u>Livestock</u>				
All livestock expenses	344	0	0	344
<u>Crops</u>				
Fertilizer & lime	12,657	343	367	13,366
Replacement trees & plants	1,108	0	0	1,108
Spray	74,192	2,832	5,544	82,568
Supplies, other production exp.	14,383	(388)	(962)	13,032
Processing and packing supplies	1,621	(33)	0	1,588
Storage	15,757	0	8	15,764
Marketing, selling expenses	1,963	0	0	1,963
<u>Real Estate</u>				
Repair - land, building, fences	6,170	53	(86)	6,137
Taxes	12,053	0	(526)	11,527
Rent & lease	10,304	0	0	10,304
<u>Other Expenses</u>				
Insurance: Fire, liability	8,890	(26)	(232)	8,632
Crop	3	0	0	3
Telephone - farm share	1,944	0	0	1,943
Electricity - farm share	5,686	0	0	5,686
Fruit purchased for resale	7,675	0	761	8,435
Interest paid	27,071	0	0	27,071
Miscellaneous	17,240	421	(1,569)	16,092
TOTAL OPERATING EXPENSES	\$ 525,434	\$ 3,386	\$ (2,581)	\$ 526,239
Expansion orchard	\$ 14,068	0	0	14,068
Depreciation: Equipment				27,412
Buildings				6,498
Bearing trees & vines				6,380
TOTAL ACCRUAL EXPENSES				\$ 580,596

Table 8.**Income Statement, Farm Expenses, My Farm, 1997**

Expenses	Cash amount paid	+ Change in inventory or prepaid ex- penses	+ Change in accounts payable	= Accrual expenses
<u>Hired Labor</u>				
Wages: regular	\$ _____	\$ _____	\$ _____	\$ _____
picking	_____	_____	_____	_____
other part-time seas.	_____	_____	_____	_____
Other labor costs	_____	_____	_____	_____
Picker travel	_____	_____	_____	_____
Labor camp expenses	_____	_____	_____	_____
<u>Equipment</u>				
Machine hire, rent, lease	_____	_____	_____	_____
Repairs & parts	_____	_____	_____	_____
Auto expense - farm share	_____	_____	_____	_____
Fuel, oil & grease	_____	_____	_____	_____
<u>Livestock</u>				
All livestock expenses	_____	_____	_____	_____
<u>Crops</u>				
Fertilizer & lime	_____	_____	_____	_____
Replacement trees & plants	_____	_____	_____	_____
Spray	_____	_____	_____	_____
Supplies, other production exp.	_____	_____	_____	_____
Processing and packing supplies	_____	_____	_____	_____
Storage	_____	_____	_____	_____
Marketing, selling expenses	_____	_____	_____	_____
<u>Real Estate</u>				
Repair - land, building, fences	_____	_____	_____	_____
Taxes	_____	_____	_____	_____
Rent & lease	_____	_____	_____	_____
<u>Other Expenses</u>				
Insurance: Fire, liability	_____	_____	_____	_____
Crop	_____	_____	_____	_____
Telephone - farm share	_____	_____	_____	_____
Electricity - farm share	_____	_____	_____	_____
Fruit purchased for resale	_____	_____	_____	_____
Interest paid	_____	_____	_____	_____
Miscellaneous	_____	_____	_____	_____
TOTAL OPERATING EXPENSES	\$ _____	\$ _____	\$ _____	\$ _____
Expansion orchard	_____	_____	_____	_____
Depreciation: Equipment	_____	_____	_____	_____
Buildings	_____	_____	_____	_____
Bearing trees & vines	_____	_____	_____	_____
TOTAL ACCRUAL EXPENSES				\$ _____

Table 9.

**Income Statement, Farm Receipts
19 Western New York Fruit Farms, 1997**

Receipts	Cash Receipts	Change in + inventory ¹	Change in accounts + receivable	Accrual = receipts
Apples: fresh	\$ 272,166	\$ 4,588	\$ (8,490)	\$ 268,264
processing	262,906	3,279	3,241	269,426
Cherries: sweet	11,068		(278)	10,790
tart	18,092		1,739	19,831
Grapes	580		0	580
Peaches	5,900		88	5,988
Pears	4,109		(52)	4,057
Plums & prunes	28		0	28
All other fruit	2,786	101	0	2,886
Other crops, livestock & prod.	465	1,511	0	1,975
Custom work, storage, rent	31,062		559	31,620
Other - including government receipts, refunds	16,021	0 ²	2,408	18,429
- Non-farm non-cash capital		0 ³		0
TOTAL OPERATING RECEIPTS	\$ 625,182	\$ 9,478	\$ (785)	\$ 633,875

¹Change in crop and livestock products inventory.

²Change in advanced government receipts.

³Gifts and inheritances of livestock and crops to the farm business.

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 10.

**Income Statement, Farm Receipts
My Farm, 1997**

Receipts	Cash receipts +	Change in inventory	+ Change in accounts receivable	=	Accrual receipts
Apples: fresh	\$ _____	\$ _____	\$ _____		\$ _____
processing	_____	_____	_____		_____
Cherries: sweet	_____	_____	_____		_____
tart	_____	_____	_____		_____
Grapes	_____	_____	_____		_____
Peaches	_____	_____	_____		_____
Pears	_____	_____	_____		_____
Plums & prunes	_____	_____	_____		_____
All other fruit	_____	_____	_____		_____
Other crops, livestock & prod.	_____	_____	_____		_____
Custom work, storage, rent	_____	_____	_____		_____
Other - including government receipts, refunds	_____	_____	_____		_____
- Non-farm non-cash capital		(-) _____			(-) _____
TOTAL OPER. RECEIPTS	\$ _____	\$ _____	\$ _____		\$ _____

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 11.

Net Farm Income
19 Western New York Fruit Farms, 1997

Item	Average 19 Farms	My Farm
Total accrual receipts	\$633,875	\$ _____
+ Appreciation:		
Livestock	(1,511)	_____
Equipment	2,058	_____
Real estate	4,805	_____
Other - Stocks & certificates	<u>+2,856</u>	+ _____
= Total accrual receipts with appreciation	\$642,084	\$ _____
- Total accrual expenses	<u>-580,596</u>	- _____
= Net farm income with appreciation	\$ 61,488	\$ _____
Net farm income without appreciation	\$ 53,279	\$ _____

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 12.

Return to Operators' Labor, Management, and Equity Capital
19 Western New York Fruit Farms, 1997

Item	Average 19 Farms	My Farm
With appreciation:		
Net farm income	\$ 61,488	\$ _____
- Family unpaid labor @ \$1,550 per month	<u>-382</u>	- _____
= Return to operators' labor, management, & equity	\$ 61,106	\$ _____
Without appreciation:		
Net farm income	\$ 53,279	\$ _____
- Family unpaid labor @ \$1,500 per month	<u>-382</u>	- _____
= Return to operators' labor, management, & equity	\$ 52,897	\$ _____

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 13.

**Labor & Management Income
19 Western New York Fruit Farms, 1997**

Item	Average 19 Farms	My Farm
Without appreciation:		
Return to operators' labor, management, & equity	\$ 52,897	\$ _____
- Real interest @ 5% on average equity capital	<u>-38,617</u>	_____
= Labor & management income per farm	\$ 14,280	\$ _____
Labor & management income per operator	\$ 9,146	\$ _____

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.

Table 14.

**Return on Equity Capital and Return on Total Capital,
19 Western New York Fruit Farms, 1997**

Item	Average 19 Farms	My Farm
Average equity capital	\$772,341	\$ _____
Average total capital	\$1,227,194	\$ _____
Returns with appreciation:		
Return to operators' labor, management & equity capital	\$ 61,106	\$ _____
- Value of operators' labor & management	<u>-57,622</u>	- _____
= Return on average equity capital	\$ 3,484	\$ _____
+ Interest paid	<u>+27,071</u>	+ _____
= Return on average total capital	\$ 30,556	\$ _____
Rates of return (with appreciation) on:		
Average equity capital	0.5%	_____ %
Average total capital	2.5%	_____ %
Returns without appreciation:		
Return on average equity capital with appreciation	\$ 3,484	\$ _____
- Total appreciation	<u>-8,208</u>	- _____
= Return on average equity capital	\$ (4,725)	\$ _____
+ Interest paid	<u>+27,071</u>	+ _____
= Return on average total capital	\$ 22,347	\$ _____
Rates of return (without appreciation) on:		
Average equity capital	-0.6%	_____ %
Average total capital	1.8%	_____ %

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 15. By definition, total cash inflows must equal total cash outflows when beginning and end balances are included. Any imbalance is, therefore, the error from incorrect accounting of cash inflows and cash outflows.

Table 15.
Annual Cash Flow Statement, 19 Western New York Fruit Farms, 1997

Item	Average 19 Farms	My Farm
<u>Cash Inflows</u>		
Beginning farm cash, checking, & savings	\$ 18,520	\$ _____
Cash farm receipts	640,809	_____
Sale of assets:		
Equipment	2,557	_____
Real estate	1,316	_____
Other stocks & certificates	137	_____
Money borrowed:		
Increase in operating debt	26,418	_____
Short-term	0	_____
Intermediate	24,733	_____
Long-term	11,673	_____
Refinanced debt	0	_____
Non-farm:		
Income	496	_____
Capital used in business	9,070	_____
Money borrowed	0	_____
Total Cash Inflows	\$735,730	\$ _____
<u>Cash Outflows</u>		
Cash farm expenses (excluding interest paid)	\$498,363	\$ _____
Capital purchases:		
Expansion orchard	14,068	_____
Equipment	39,937	_____
Real estate	30,698	_____
Other stocks & certificates	1,491	_____
Debt payments:		
Principal payments for -		
Decrease in operating debt	0	_____
Short-term	5,650	_____
Intermediate	28,341	_____
Long-term	14,400	_____
Refinanced debt	0	_____
Interest paid	27,071	_____
Personal withdrawals & family expenditures including non-farm debt payments & corporate operator labor costs	63,532	_____
Ending farm cash, checking & savings	<u>11,783</u>	_____
Total Cash Outflows	\$735,334	\$ _____
Imbalance (error)	\$396	\$ _____

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 16.

Farm Debt Payments Planned 19 Western New York Fruit Farms, 1997

	Average 19 Farms			My Farm		
	Planned for 1997 ¹	Actual Payments in 1997 ²	Planned for 1998	Planned for 1997	Actual payments 1997	Planned for 1998
Debt Payments						
Accts. payable (net reduction)	\$ 263	\$ 2,570	\$ 0	\$ _____	\$ _____	\$ _____
Operating (net reduction)	0	0	0	_____	_____	_____
Short-term (principal & int.)	395	5,650	200	_____	_____	_____
Intermediate (principal & int.)	14,098	34,643	18,286	_____	_____	_____
Long-term (principal & int.)	<u>18,388</u>	<u>26,259</u>	<u>25,492</u>	_____	_____	_____
Total debt payments	\$33,144	\$69,122	\$43,978	\$ _____	\$ _____	\$ _____
Payments as a percent of:						
Total accrual receipts	5%	11%		_____ %	_____ %	
Total accrual fruit receipts	6%	12%		_____ %	_____ %	
Payments per acre of:						
bearing fruit	\$ 139	\$ 290		\$ _____	\$ _____	
all fruit	\$ 120	\$ 251		\$ _____	\$ _____	
Payments/bushel of apples sold	\$0.27	\$0.56		\$ _____	\$ _____	

¹If on the Fruit Farm Business Summary the previous year.

²Actual payments excluding refinanced debt.

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 to many farmers and lenders is whether planned payments can be made in 1998. The worksheet provided in Table 18 can be used to estimate repayment ability which can then be compared to planned 1998 debt payments shown in Table 16.

Table 17.

**Cash Flow Coverage Ratio
19 Western New York Fruit Farms, 1997**

Item	Average 19 Farms	My Farm
Cash farm receipts	\$640,809	\$ _____
- Cash farm expenses	525,434	_____
+ Interest paid	27,071	_____
- Net personal withdrawals from farm ¹	63,036	_____
= Amount available for debt service (1)	\$79,410	\$ _____
Debt payments planned (2)	\$33,144	\$ _____
Cash Flow Coverage Ratio (1 ÷ 2)	2.40	_____

¹Personal withdrawals and family expenditures less non-farm income and non-farm money borrowed.

Table 18.

Annual Cash Flow Worksheet, 1997 and 1998 Projection

Item	Average 19 Farms	My Farm, 1997		Expected change	1998 projection
		Total	Per bear- ing acre		
Average bearing acres of fruit	238	_____	_____	_____	_____
Accrual Operating Receipts (per bearing acre)					
Apples: Fresh	\$1,127	\$_____	\$_____	\$_____	\$_____
Processing	1,132	_____	_____	_____	_____
All other fruit	186	_____	_____	_____	_____
Other crops, livestock & products	8	_____	_____	_____	_____
Custom work, storage & rent	133	_____	_____	_____	_____
Other - including government receipts, refunds	77	_____	_____	_____	_____
Total Operating Receipts	\$2,663	\$_____	\$_____	\$_____	\$_____
Accrual Operating Expenses (per bearing acre)					
Labor: Wages					
regular	\$ 263	_____	_____	_____	_____
picking	365	_____	_____	_____	_____
other part-time, seasonal	208	_____	_____	_____	_____
Other labor costs	184	_____	_____	_____	_____
Picker travel, labor camp exp.	12	_____	_____	_____	_____
Equip: Machine hire, rent, lease	53	_____	_____	_____	_____
Repairs, parts & auto exp.	120	_____	_____	_____	_____
Fuel, oil & grease	57	_____	_____	_____	_____
Livestock: All livestock expense	1	_____	_____	_____	_____
Crops: Fertilizer & lime	56	_____	_____	_____	_____
Replacement trees & plants	5	_____	_____	_____	_____
Spray	347	_____	_____	_____	_____
Supplies, other prod. exp.	55	_____	_____	_____	_____
Storage	66	_____	_____	_____	_____
Packing supplies, marketing, selling exp.	15	_____	_____	_____	_____
Real Est.: Repair - land, bldg., fences	26	_____	_____	_____	_____
Taxes	48	_____	_____	_____	_____
Rent & lease	43	_____	_____	_____	_____
Other: Insurance - fire, liability crop	36	_____	_____	_____	_____
Utilities - phone, electricity	32	_____	_____	_____	_____
Resale items - fruit, etc.	35	_____	_____	_____	_____
Miscellaneous	68	_____	_____	_____	_____
Total Operating Expenses Excluding Interest	\$2,097	\$_____	\$_____	\$_____	\$_____
Repayment Analysis (Total)					
Net accrual operating income exc. interest	\$134,708	\$_____	_____	_____	\$_____
- Change in livestock & crop inv.	9,478	_____	_____	_____	_____
- Change in accounts receivable	(785)	_____	_____	_____	_____
+Change in crop & supply inv.	3,386	_____	_____	_____	_____
+Change in accounts payable exc. interest	(2,581)	_____	_____	_____	_____
Net Operating Cash Flow	\$126,820	\$_____	_____	_____	\$_____
- Net personal withdrawals	63,036	_____	_____	_____	_____
Available for debt payments, invest.	\$ 63,784	\$_____	_____	_____	\$_____
- Farm debt payments: principal & interest	69,122	_____	_____	_____	_____
Available for farm investment	\$ (5,338)	\$_____	_____	_____	\$_____
Capital purchases	\$ 86,194	\$_____	_____	_____	\$_____
Additional capital needed	\$ 91,532	\$_____	_____	_____	\$_____

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.

Table 19.

Capital Efficiency Analysis 19 Western New York Fruit Farms, 1997

Item	Average Capital Investment			Per all fruit acres
	Per worker equivalent	Per Bearing Acre: Owned Operated		
Assets				
Total farm capital	\$103,717	\$6,996	\$5,156	\$4,454
Real estate	48,738	3,287	N/A	2,093
All equipment	10,419	N/A	518	447
Capital turnover, years	1.91			
My Farm:				
Total farm capital	\$ _____	\$ _____	\$ _____	\$ _____
Real estate	_____	_____	_____	_____
All equipment	_____	_____	_____	_____
Capital turnover, years	_____			

Equipment Analysis

Equipment costs comprised more than 16 percent of the cost of fruit production in 1997. Total equipment expenses include the major fixed costs (interest and depreciation) as well as the accrual operating costs.

Table 20.

Accrual Equipment Expenses 19 Western New York Fruit Farms, 1997

Item	Average 19 Farms			My Farm		
	Total equip. cost	Equipment cost per <u>fruit acre operated:</u> Bearing	All fruit	Total equip. cost	Equipment cost per <u>fruit acre operated:</u> Bearing	All fruit

Annual Accrual Cost

Machine hire, equip. rent, lease	\$12,571	\$ 53	\$ 46	\$ _____	\$ _____	\$ _____
Repair & parts	28,448	120	103	_____	_____	_____
Auto exp. - farm share	208	1	1	_____	_____	_____
Fuel, oil & grease	13,500	57	49	_____	_____	_____
Interest - avg. cap. @5%	12,295	52	45	_____	_____	_____
Depreciation	<u>27,412</u>	<u>115</u>	<u>99</u>	_____	_____	_____
Total Equipment Cost	\$94,433	\$397	\$343	\$ _____	\$ _____	\$ _____

The efficient use of labor is closely related to farm profitability. Measures of labor efficiency on fruit farms.

Table 21.

Labor Force	Full-time nths	Age, years		Value of labor/mgmt.
Average				
Operator - number 1		47	15	
number 2	4.9		14	15,417
	3.3	43		10,190
number 4		47	15	_____
Family unpaid	0.2			
Family paid	7.8			\$36,937
Hired -				
picking	29.7			
other part-time, seasonal	30.2			
	142.0	mo./12	11.83 worker equivalent	
			1.56 oper./manager equiv.	

Total :
Operators _____ mo./12 = _____ oper./manager equiv.

Labor Efficiency	Per Worker		My Farm	
	Total		Total	
Bearing fruit, acres	238.0		_____	_____
	275.5	23.3	_____	_____
Apples sold, bushels		10,027	_____	_____
Accrual receipts	\$633,875		\$ _____	\$ _____
	\$581,850	\$49,176	_____	_____

Labor Cost or Value

Type	Per		My Farm	
	worker equiv.	bearing acre	Per equiv.	bearing acre
\$1,550/mo.	\$ 29,042	\$ 122	\$	\$ _____
Family unpaid @ \$1,550/mo.		32		_____
	13,986	1,182	_____	_____
Hired -				
regular (excluding operator)		5,544		_____
	108,424	9,165	_____	_____
other part-time, seasonal	<u>58,619</u>	<u>246</u>	_____	_____
All labor (incl. non-cash)	\$23,333	\$1,160	_____	\$ _____
	<u>94,433</u>	<u>7,983</u>	_____	_____
Total labor & equip. cost	\$370,474	\$1,557	\$	\$ _____

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 acres and yields are presented for the number of farms reporting each crop.

Table 22.

Item	Average 19 Farms			
	Rented	Total	Rented	Total
Bearing fruit, acres	175.4	238.0	_____	_____
Non-bearing fruit, acres	35.5	37.5	_____	_____
Non-tillable pasture, acres	3.9	3.9	_____	_____
Other non-tillable, acres	3.8	32.0	_____	_____
	276.4	75.5	=====	=====

Crop Production	For farms having the fruit:		Yield per acre	Total	d per acre
	No. of	acres			
Bearing Fruit:					
	18	102.4	bu.	_____	bu.
processing		108.0	672	_____	_____
all apples	19		603 bu.	_____	bu.
	8	8.4	lb.	_____	lb.
tart		43.5	7,288	_____	_____
Grapes	1		5.1 tn.	_____	tn.
	8	8.1	bu.	_____	bu.
Pears		9.0	121	_____	_____
Plums, prunes	5		228 bu.	_____	bu.
	4	5.5			
	19	238.0			
Apples - fresh	18			_____	
processing		35.9		_____	
	6	5.0			
tart	2			_____	
Other non-bearing		3.7		_____	
	19	37.5			
Other Crops, Open:					
Other		48.2		_____	

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 in excess of 50 percent of total production costs on fruit farms, it is important to know and control these and other costs on a production unit basis.

Table 23.

Cost Control Factors 19 Western New York Fruit Farms, 1997

Item	Cost Per Fruit Acre Operated	
	Bearing acres	All fruit acres
All labor - including operators' labor	\$1,160	\$1,002
Picking labor	456	394
Other hired labor	581	502
All equipment cost	397	343
Spray	347	300

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.

The tables on the following pages provide the opportunity for you to compare your business factors with averages for the participating farms for the past three years. 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 24.**Progress of the Fruit Farm Business, Western New York Fruit Farms, 1995-1997**

	1995	1996	
Number of farms	21		19
Size of Business			
	284	291	
All fruit including non-bearing, acres	249		276
Bearing fruit, acres		218	238
	185	187	
Fresh - percent of all apple acres	50%		47%
Apples produced, bushels		102,836	123,641
	114,492	104,259	
Worker equivalent	11.85		11.83
Total accrual operating receipts		\$604,413	\$633,875
All apples, bushels per bearing acre	634		603
Fresh - percent of apples harvested		42%	41%
	7,213	5,527	
Pears, bushels per bearing acre	213		121
Non-bearing to bearing acre ratio		16%	16%
Bearing fruit, acres per worker	18		20
All fruit, acres per worker		21	23
	\$48,544	\$49,366	
Cost Control - Accrual			
Cost per bearing acre:			
	\$1,098	\$	\$1,160
All equipment		\$423	\$397
	\$284	\$332	
Hired labor as percent of operating expenses	45%		47%
Capital Efficiency - Average for the Year			
	\$4,891	\$5,069	
Total farm capital per fruit acre	\$4,292		\$4,454
Capital turnover, years		1.8	1.9
Net farm income:			
Without appreciation		\$65,448	\$53,279
	\$90,918	\$77,372	
Labor & management income per operator	\$13,267		\$9,146
Rate of return to average capital with appreciation:			
	4.8%	3.4%	
Total capital	6.1%		2.5%
Financial Summary - End of Year			
Net worth	\$716,087		\$784,005
Debt to asset ratio		0.37	0.37
	\$1,772	\$1,920	
Cash flow coverage ratio	1.52		2.40

Table 25.
Progress of the Fruit Farm Business, Same Summary Farms, Western New York, 1995-1997

Selected Factors	Average per Farm, Same 18 Farms in:		
	1995	1996	1997
Size of Business			
All cropland including fruit, acres	310	315	322
All fruit including non-bearing, acres	270	274	279
Bearing fruit, acres	237	235	241
Bearing apples, acres	198	200	207
Fresh - percent of all apple acres	49%	51%	47%
Apples produced, bushels	124,155	110,295	124,910
Apples sold, bushels	119,659	112,841	120,283
Worker equivalent	12.64	13.06	11.88
Total accrual operating receipts	\$608,189	\$649,287	\$635,722
Rates of Production			
All apples, bushels per bearing acre	626	551	604
Fresh - percent of apples harvested	38%	42%	41%
Cherries - tart, pounds per bearing acre	7,102	5,527	7,288
Pears, bushels per bearing acre	213	231	133
Non-bearing to bearing acre ratio	14%	16%	16%
Labor Efficiency			
Bearing fruit, acres per worker	19	18	20
All fruit, acres per worker	21	21	24
Accrual receipts per worker	\$48,128	\$49,732	\$53,519
Cost Control - Accrual			
Cost per bearing acre:			
All labor	\$1,088	\$1,094	\$1,153
All equipment	\$381	\$417	\$389
Spray	\$282	\$330	\$346
Hired labor as percent of operating expenses	46%	43%	47%
Capital Efficiency - Average for the Year			
Total farm capital per bearing acre	\$4,684	\$4,949	\$5,045
Total farm capital per fruit acre	\$4,109	\$4,255	\$4,353
Capital turnover, years	1.7	1.8	1.9
Profitability			
Net farm income:			
Without appreciation	\$56,073	\$69,967	\$53,553
With appreciation	\$87,409	\$85,169	\$62,072
Labor & management income per operator	\$11,818	\$18,971	\$8,941
Rate of return to average capital with appreciation:			
Equity capital	4.0%	3.7%	0.2%
Total capital	5.5%	4.8%	2.3%
Financial Summary - End of Year			
Farm:			
Net worth	\$731,675	\$769,022	\$780,247
Debt to asset ratio	0.36	0.36	0.37
Debt per bearing acre	\$1,733	\$1,829	\$1,875
Cash flow coverage ratio	1.59	1.84	2.52

Table 26.

Progress of the Fruit Farm Business, My Farm, 1995-1997

Selected Factors	1995	1996	1997	Goal
Size of Business				
All cropland incl. fruit, acres	_____	_____	_____	_____
All fruit incl. non-bearing, acres	_____	_____	_____	_____
Bearing fruit, acres	_____	_____	_____	_____
Bearing apples, acres	_____	_____	_____	_____
Fresh - % of all apple acres	_____ %	_____ %	_____ %	_____ %
Apples produced, bushels	_____	_____	_____	_____
Apples sold, bushels	_____	_____	_____	_____
Worker equivalents	_____	_____	_____	_____
Total accrual oper. receipts	\$ _____	\$ _____	\$ _____	\$ _____
Rates of Production				
All apples, bushels/bearing acre	_____	_____	_____	_____
Fresh - % of apples harvested	_____ %	_____ %	_____ %	_____ %
Cherries - tart, lbs./bearing acre	_____	_____	_____	_____
Pears, bushels/bearing acre	_____	_____	_____	_____
Non-bearing to bearing acre ratio	_____ %	_____ %	_____ %	_____ %
Labor Efficiency				
Bearing fruit, acres/worker	_____	_____	_____	_____
All fruit, acres/worker	_____	_____	_____	_____
Accrual receipts/worker	\$ _____	\$ _____	\$ _____	\$ _____
Cost Control - Accrual				
Cost/bearing acre:	\$ _____	\$ _____	\$ _____	\$ _____
All labor	\$ _____	\$ _____	\$ _____	\$ _____
All equipment	\$ _____	\$ _____	\$ _____	\$ _____
Spray	\$ _____	\$ _____	\$ _____	\$ _____
Hired labor as % of oper. exp.	_____ %	_____ %	_____ %	_____ %
Capital Efficiency -				
Average for the Year				
Total farm capital/bearing acre	\$ _____	\$ _____	\$ _____	\$ _____
Total farm capital/fruit acre	\$ _____	\$ _____	\$ _____	\$ _____
Capital turnover, years	_____	_____	_____	_____
Profitability				
Net farm income:				
Without appreciation	\$ _____	\$ _____	\$ _____	\$ _____
With appreciation	\$ _____	\$ _____	\$ _____	\$ _____
Labor & mgmt. income/oper.	\$ _____	\$ _____	\$ _____	\$ _____
Rate of return to average capital w/apprec.:				
Equity capital	_____ %	_____ %	_____ %	_____ %
Total capital	_____ %	_____ %	_____ %	_____ %
Financial Summary - End of Year				
Farm:				
Net worth	\$ _____	\$ _____	\$ _____	\$ _____
Debt to asset ratio	_____	_____	_____	_____
Debt/bearing acre	\$ _____	\$ _____	\$ _____	\$ _____
Cash flow coverage ratio	_____	_____	_____	_____

NOTES