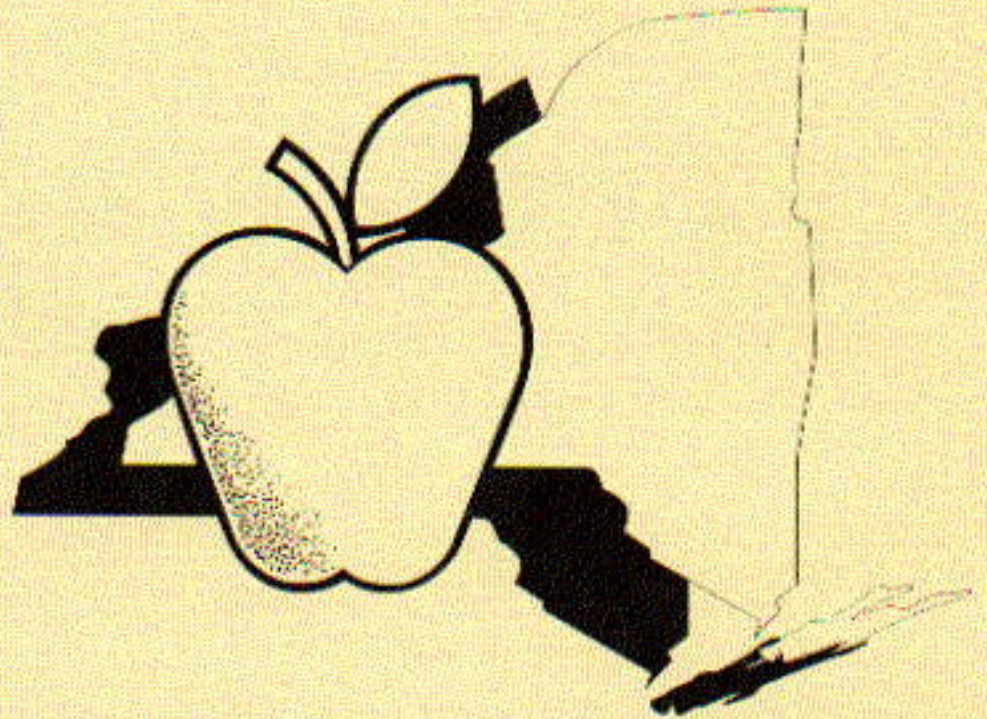


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FRUIT FARM BUSINESS SUMMARY

LAKE ONTARIO REGION NEW YORK 1998



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ABSTRACT

This report is a summary of 1998 farm business data collected from 18 fruit farm businesses located in Western New York State. Apples are the predominant fruit crop. The data are presented as averages for all 18 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.

**1998 FRUIT FARM BUSINESS SUMMARY
LAKE ONTARIO REGION**

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1998 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 1998.

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 81 percent of the receipts in 1998 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 18 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 25.5 million bushels in 1998. Statewide production was down about 4.5 percent from the previous year. The 18 farms in this summary produced a total of 2,051,101 bushels, or about 8.0 percent of the state's total production.

The average price of apples (both fresh and processing) for the Fruit Farm Business Summary farms was \$3.98 per bushel, the lowest since 1994. Prices for both fresh and processing apples fell for the second consecutive year. A severe wind storm on Labor Day as well as hail damage resulted in 2.6 million bushels production which was not utilized, mostly in the Western NY growing regions. Coupled with a large crop in Washington State and the Asian financial crisis, the result was low production, low prices, and low profitability. The return on equity of -12.9% was the worst since the disastrous year of 1993, and the second worst return in the last 20 years. Two bad years in a row have left farms with a considerable loss in net worth.

Table 1.

Apple Production and Prices, New York State, 1994-1998

Item	1994	1995	1996	1997	1998
<u>Production</u>	----- million bushels -----				
Fresh Apples					
Western New York	5.5	NA	NA	NA	NA
New York State	11.7	11.4	11.9	12.4	10.0
Processing Apples					
Western New York	12.4	NA	NA	NA	NA
New York State	14.5	15.0	12.6	14.3	12.9
All Varieties					
Western New York	17.9	NA	NA	NA	NA
New York State	26.2	26.4	24.5	26.7	25.5*
<u>Average Price Received Per Bushel</u>	----- dollars -----				
All Apples					
New York State	4.95	5.09	5.66	5.29	4.79
Fruit Farm Business Summary	3.68	4.36	5.08	4.35	3.98
Fresh Apples					
New York State	7.56	7.85	7.43	7.39	6.64
Fruit Farm Business Summary	5.05	5.81	6.15	5.25	5.32
Processing Apples					
New York State	2.84	2.96	3.99	3.49	3.36
Fruit Farm Business Summary	2.81	3.09	4.29	3.71	3.28

NA = Not Available.

*For the 1998 crop, 2.6 million bushels were not utilized.

Source: New York Agricultural Statistics Service, FRUIT series, Seasonal releases for July 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, 18 Western New York Fruit Farms, 1998

Type of Business	Number	Business Record System	Number
Proprietors	4	Account Book	1
Partnerships	5	Agrifax (mail-in)	0
Corporations	9	On-Farm Computer	17
		Other	0

<u>Business Composition</u>	<u>Number</u>
Fruit production only	4
Fruit with storage	4
Fruit & other enterprises	5
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 18 fruit farm cooperators. It lists the average value of assets and liabilities for December 31, 1997 and December 31, 1998 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, 18 Western New York Fruit Farms, December 31, 1997 & 1998

Farm Assets			Farm Liabilities & Net Worth		
	1997	1998		1997	1998
<u>Current</u>	\$	\$	<u>Current =<1 year</u>	\$	\$
Cash, checking, sav.	12,333	20,034	Accounts payable	28,225	58,805
Accounts receivable	164,076	140,127	Operating debt	161,466	175,349
Prepaid expenses	3,324	2,668	Short-term	6,705	6,318
Fruit, other crops	120,740	67,604	Advanced gov't receipts	36	36
Production supplies	7,732	10,471	Accrued interest	<u>539</u>	<u>1,915</u>
Packing supplies	<u>1,276</u>	<u>1,400</u>			
Total Current	\$ 309,481	\$ 242,305	Total Current	\$ 196,970	\$ 242,422
<u>Intermediate</u>			<u>Intermediate =>1 to <10 years</u>		
Livestock	292	278	Structured debt	96,684	120,654
Livestock leased	0	0	Financial lease-livestock & equipment	7,837	5,182
Equipment owned	248,799	260,531	Farm Credit stock	<u>10,507</u>	<u>10,187</u>
Equipment leased	7,837	5,182			
Farm Credit stock	10,507	10,187			
Other stock, cert.	<u>55,896</u>	<u>59,686</u>			
Total Intermediate	\$ 323,331	\$ 335,863	Total Intermediate	\$ 115,028	\$ 136,021
<u>Long-Term</u>			<u>Long-Term =>10 years</u>		
Land/Buildings:			Structured debt	160,522	148,704
Owned	592,025	615,992	Financial lease - structures	<u>0</u>	<u>0</u>
Structures leased	<u>0</u>	<u>0</u>			
Total Long-Term	\$ 592,025	\$ 615,992	Total Long-Term	\$ 160,522	\$ 148,704
Total Farm:			Total Farm:		
Assets	\$1,224,836	\$1,194,160	Liabilities	472,520	527,147
			Net Worth	752,316	667,013
			Liabilities & Net Worth	1,224,836	1,194,160

Table 3a. Nonfarm Assets & Liabilities

NonFarm Assets			NonFarm Liabilities		
	1997	1998		1997	1998
Cash, checking, sav.	\$ 1,426	\$ 1,887		\$ 0	\$ 0
Life ins.-cash value	2,164	1,240			
Real estate	0	3,750			
Auto (pers. share)	333	694			
Stocks & bonds	11,811	15,875			
Household furn.	1,667	1,667			
All other	<u>0</u>	<u>0</u>			
Total NonFarm Assets	\$ 17,400	\$ 25,113	Total Nonfarm: Liab. Net Worth	<u>0</u> <u>17,400</u>	<u>0</u> <u>25,113</u>
			Liabilities & Net Worth	\$ 17,400	\$ 25,113
			Farm and Nonfarm		
Assets	\$1,242,237	\$1,219,273	Liabilities	472,520	527,147
			Net Worth	<u>769,717</u>	<u>692,126</u>
			Liabilities & Net Worth	\$1,242,237	\$1,219,273

Table 4.**Farm Business Balance Sheet, My Farm, December 31, 1997 & 1998**

Farm Assets	1997	1998	Farm Liabilities & Net Worth	1997	1998
<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, 18 Western New York Fruit Farms, December 31, 1998

Item	Average 18 Farms	My Farm
----- For the Farm Business Only -----		
<u>Financial Ratios</u> - end of year		
Percent equity	56%	_____ %
Debt to asset ratios:		
Total debt	0.44	_____
Long-term	0.24	_____
Current & intermediate	0.65	_____
<u>Change in Net Worth</u>		
Without appreciation	\$(110,771)	\$ _____
With Appreciation	\$ (85,304)	\$ _____
<u>Debt Analysis</u> - end of year		
Percent of total farm debt that is:		
Long-term	28%	_____ %
Current & intermediate	72%	_____ %
Accounts payable only	11%	_____ %
<u>Debt Levels</u> - end of year		
Per bearing fruit acre:		
Total farm debt	\$ 2,176	\$ _____
Long-term	\$ 614	\$ _____
Current & intermediate	\$ 1,562	\$ _____

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, 18 Western New York Fruit Farms, 1998**

Inventory Balance	Average 18 Farms		My Farm	
	Real Estate	Equipment	Real Estate	Equipment
Beginning of year (1)	\$ 592,025	\$ 248,799	\$ _____	\$ _____
Purchases	\$ 24,220 ¹	\$ 35,111	_____	_____
+ Noncash transfer to farm	0	0	_____	_____
- Lost capital	3,461		_____	_____
- Sales	0	680	_____	_____
- Depreciation	14,418	24,845	_____	_____
= Net investment (2)	\$ 6,342	\$ 9,586	_____	_____
Appreciation (3-1-2)	17,626 ²	2,145	_____	_____
End of year (3)	\$ 615,992	\$ 260,531	_____	_____

¹Purchase includes \$8,222 for land and \$15,998 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, 18 Western New York Fruit Farms, 1998

Expenses	Cash amount paid	+ Change in inventory or prepaid ex- penses	+ Change in accounts payable	= Accrual expenses
<u>Hired Labor</u>				
Wages: regular	\$74,976	\$ 0	\$ 0	\$ 74,976
picking	85,436	0	0	85,436
other part-time seas.	48,062	0	0	48,062
Other labor costs	44,395	0	(1,518)	42,877
Picker travel	1,809	0	0	1,809
Labor camp expenses	1,893	0	0	1,893
<u>Equipment</u>				
Machine hire, rent, lease	17,416	0	0	17,416
Repairs & parts	31,165	(6)	4,634	35,793
Auto expense - farm share	76	0	0	76
Fuel, oil & grease	11,798	148	45	11,991
<u>Livestock</u>				
All livestock expenses	175	0	0	175
<u>Crops</u>				
Fertilizer & lime	10,518	(6)	3,660	14,172
Replacement trees & plants	2,141	0	0	2,141
Spray	73,470	(1,838)	26,714	98,346
Supplies, other production exp.	13,806	(912)	143	13,037
Processing and packing supplies	980	(124)	0	856
Storage	13,152	0	1,083	14,235
Marketing, selling expenses	2,596	0	0	2,596
<u>Real Estate</u>				
Repair - land, building, fences	9,924	(222)	(3,956)	5,747
Taxes	11,212	0	413	11,625
Rent & lease	10,933	0	436	11,369
<u>Other Expenses</u>				
Insurance: Fire, liability	9,153	0	143	9,297
Crop	361	0	0	361
Telephone - farm share	1,451	0	128	1,579
Electricity - farm share	5,125	0	0	5,125
Fruit purchased for resale	9,243	0	(14)	9,229
Interest paid	29,707	0	0	29,707
Miscellaneous	18,902	95	(1,332)	17,665
TOTAL OPERATING EXPENSES	\$ 539,874	\$ (2,864)	\$ 30,580	\$ 567,590
Expansion orchard	\$ 12,814	0	(86)	12,727
Depreciation: Equipment				24,845
Buildings				7,548
Bearing trees & vines				6,871
TOTAL ACCRUAL EXPENSES				\$ 619,581

Table 8.

Income Statement, Farm Expenses, My Farm, 1998

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
18 Western New York Fruit Farms, 1998**

Receipts	Cash Receipts	Change in + inventory ¹	Change in accounts + receivable	Accrual = receipts
Apples: fresh	\$ 261,105	\$ (43,646)	\$ (11,248)	\$ 206,211
processing	257,646	(6,753)	(3,825)	247,068
Cherries: sweet	11,720		93	11,813
tart	9,930		(1,085)	8,845
Grapes	1,111		667	1,778
Peaches	9,468		13	9,481
Pears	6,126		0	6,126
Plums & prunes	3,734		(866)	2,869
All other fruit	5,236	(734)	1,280	5,783
Other crops, livestock & prod.	3,253	(2,003)	0	1,250
Custom work, storage, rent	28,105		7,181	35,286
Other - including government receipts, refunds	19,286	0 ²	2,900	22,186
- Non-farm non-cash capital		0 ³		0
TOTAL OPERATING RECEIPTS	\$ 616,719	\$ (53,136)	\$ (4,890)	\$ 558,693

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, 1998**

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
18 Western New York Fruit Farms, 1998

Item	Average 18 Farms	My Farm
Total accrual receipts	\$ 558,693	\$ _____
+ Appreciation:		
Livestock	2,003	_____
Equipment	2,145	_____
Real estate	17,626	_____
Other - Stocks & certificates	<u>+3,693</u>	+ _____
= Total accrual receipts with appreciation	\$ 584,161	\$ _____
- Total accrual expenses	<u>-619,581</u>	- _____
= Net farm income with appreciation	\$ (35,420)	\$ _____
Net farm income without appreciation	\$ (60,888)	\$ _____

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
18 Western New York Fruit Farms, 1998

Item	Average 18 Farms	My Farm
With appreciation:		
Net farm income	\$ (35,420)	\$ _____
- Family unpaid labor @ \$1,600 per month	<u>-480</u>	- _____
= Return to operators' labor, management, & equity	\$ (35,900)	\$ _____
Without appreciation:		
Net farm income	\$ (60,888)	\$ _____
- Family unpaid labor @ \$1,600 per month	<u>-480</u>	- _____
= Return to operators' labor, management, & equity	\$ (61,368)	\$ _____

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
18 Western New York Fruit Farms, 1998**

Item	Average 18 Farms	My Farm
Without appreciation:		
Return to operators' labor, management, & equity	\$ (61,368)	\$ _____
- Real interest @ 5% on average equity capital	<u>-35,483</u>	_____
= Labor & management income per farm	\$ (96,851)	\$ _____
Labor & management income per operator	\$ (65,993)	\$ _____

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,
18 Western New York Fruit Farms, 1998**

Item	Average 18 Farms	My Farm
Average equity capital	\$709,665	\$ _____
Average total capital	\$1,209,498	\$ _____
Returns with appreciation:		
Return to operators' labor, management & equity capital	\$ (35,900)	\$ _____
- Value of operators' labor & management	<u>-55,616</u>	- _____
= Return on average equity capital	\$ (91,516)	\$ _____
+ Interest paid	<u>+29,707</u>	+ _____
= Return on average total capital	\$ (61,809)	\$ _____
Rates of return (with appreciation) on:		
Average equity capital	-12.9%	_____ %
Average total capital	-5.1%	_____ %
Returns without appreciation:		
Return on average equity capital with appreciation	\$ (91,516)	\$ _____
- Total appreciation	<u>-25,467</u>	- _____
= Return on average equity capital	\$ (116,983)	\$ _____
+ Interest paid	<u>+29,707</u>	+ _____
= Return on average total capital	\$ (87,276)	\$ _____
Rates of return (without appreciation) on:		
Average equity capital	-16.5%	_____ %
Average total capital	-7.2%	_____ %

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, 18 Western New York Fruit Farms, 1998

Item	Average 18 Farms	My Farm
<u>Cash Inflows</u>		
Beginning farm cash, checking, & savings	\$ 12,333	\$ _____
Cash farm receipts	630,858	_____
Sale of assets:		
Equipment	680	_____
Real estate	0	_____
Other stocks & certificates	50	_____
Money borrowed:		
Increase in operating debt	13,882	_____
Short-term	284	
Intermediate	49,088	_____
Long-term	1,111	_____
Refinanced debt	0	_____
Non-farm:		
Income	3,704	_____
Capital used in business	16,397	_____
Money borrowed	0	_____
Total Cash Inflows	\$728,387	\$ _____
<u>Cash Outflows</u>		
Cash farm expenses (excluding interest paid)	\$510,167	\$ _____
Capital purchases:		
Expansion orchard	12,814	_____
Equipment	35,111	_____
Real estate	24,220	_____
Other stocks & certificates	146	_____
Debt payments:		
Principal payments for -		
Decrease in operating debt	0	_____
Short-term	670	_____
Intermediate	25,120	_____
Long-term	12,929	_____
Refinanced debt	0	_____
Interest paid	29,707	_____
Personal withdrawals & family expenditures including non-farm debt payments & corporate operator labor costs	56,982	_____
Ending farm cash, checking & savings	<u>20,034</u>	_____
Total Cash Outflows	\$727,900	\$ _____
Imbalance (error)	\$486	\$ _____

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 18 Western New York Fruit Farms, 1998

	Average 18 Farms			My Farm		
	Planned for 1998 ¹	Actual Payments in 1998 ²	Planned for 1999	Planned for 1998	Actual payments 1998	Planned for 1999
Debt Payments						
Accts. payable (net reduction)	\$ 692	\$ 0	\$ 4,104	\$ _____	\$ _____	\$ _____
Operating (net reduction)	7,222	0	0	_____	_____	_____
Short-term (principal & int.)	4,876	867	0	_____	_____	_____
Intermediate (principal & int.)	19,471	31,242	18,783	_____	_____	_____
Long-term (principal & int.)	<u>26,798</u>	<u>24,318</u>	<u>21,743</u>	_____	_____	_____
Total debt payments	\$59,059	\$56,427	\$44,629	\$ _____	\$ _____	\$ _____
Payments as a percent of:						
Total accrual receipts	11%	10%		_____ %	_____ %	
Total accrual fruit receipts	12%	11%				
Payments per acre of:						
bearing fruit	\$ 244	\$ 233		\$ _____	\$ _____	
all fruit	\$ 210	\$ 201		\$ _____	\$ _____	
Payments/bushel of apples sold	\$0.52	\$0.50		\$ _____	\$ _____	

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 1999. The worksheet provided in Table 18 can be used to estimate repayment ability which can then be compared to planned 1999 debt payments shown in Table 16.

Table 17.

**Cash Flow Coverage Ratio
18 Western New York Fruit Farms, 1998**

Item	Average 18 Farms	My Farm
Cash farm receipts	\$630,858	\$ _____
- Cash farm expenses	539,874	_____
+ Interest paid	29,707	_____
- Net personal withdrawals from farm ¹	53,278	_____
= Amount available for debt service (1)	\$67,413	\$ _____
Debt payments planned (2)	\$59,059	\$ _____
Cash Flow Coverage Ratio (1 ÷ 2)	1.14	_____

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

Table 18.

Annual Cash Flow Worksheet, 1998 and 1999 Projection

Item	Average 18 Farms	My Farm, 1998		Expected change	1999 projection
		Total	Per bear- ing acre		
Average bearing acres of fruit	242	_____	_____	_____	_____
Accrual Operating Receipts (per bearing acre)					
Apples: Fresh	\$ 851	\$ _____	\$ _____	\$ _____	\$ _____
Processing	1,020	_____	_____	_____	_____
All other fruit	193	_____	_____	_____	_____
Other crops, livestock & products	5	_____	_____	_____	_____
Custom work, storage & rent	146	_____	_____	_____	_____
Other - including government receipts, refunds	92	_____	_____	_____	_____
Total Operating Receipts	\$2,306	\$ _____	\$ _____	\$ _____	\$ _____
Accrual Operating Expenses (per bearing acre)					
Labor: Wages					
regular	\$ 309	_____	_____	_____	_____
picking	353	_____	_____	_____	_____
other part-time, seasonal	198	_____	_____	_____	_____
Other labor costs	177	_____	_____	_____	_____
Picker travel, labor camp exp.	15	_____	_____	_____	_____
Equip: Machine hire, rent, lease	72	_____	_____	_____	_____
Repairs, parts & auto exp.	148	_____	_____	_____	_____
Fuel, oil & grease	49	_____	_____	_____	_____
Livestock: All livestock expense	1	_____	_____	_____	_____
Crops: Fertilizer & lime	58	_____	_____	_____	_____
Replacement trees & plants	9	_____	_____	_____	_____
Spray	406	_____	_____	_____	_____
Supplies, other prod. exp.	54	_____	_____	_____	_____
Storage	59	_____	_____	_____	_____
Packing supplies, marketing, selling exp.	14	_____	_____	_____	_____
Real Est.: Repair - land, bldg., fences	24	_____	_____	_____	_____
Taxes	48	_____	_____	_____	_____
Rent & lease	47	_____	_____	_____	_____
Other: Insurance - fire, liability crop	40	_____	_____	_____	_____
Utilities - phone, electricity	28	_____	_____	_____	_____
Resale items - fruit, etc.	38	_____	_____	_____	_____
Miscellaneous	73	_____	_____	_____	_____
Total Operating Expenses Excluding Interest	\$2,220	\$ _____	\$ _____	\$ _____	\$ _____
Repayment Analysis (Total)					
Net accrual operating income exc. interest	\$ 20,810	\$ _____	_____	_____	\$ _____
- Change in livestock & crop inv.	(53,136)	_____	_____	_____	_____
- Change in accounts receivable	(4,890)	_____	_____	_____	_____
+Change in crop & supply inv.	(2,864)	_____	_____	_____	_____
+Change in accounts payable exc. interest	(30,580)	_____	_____	_____	_____
Net Operating Cash Flow	\$106,553	\$ _____	_____	_____	\$ _____
- Net personal withdrawals	53,278	_____	_____	_____	_____
Available for debt payments, invest.	\$ 53,274	\$ _____	_____	_____	\$ _____
- Farm debt payments: principal & interest	56,427	_____	_____	_____	_____
Available for farm investment	\$(3,153)	\$ _____	_____	_____	\$ _____
Capital purchases	\$ 72,291	\$ _____	_____	_____	\$ _____
Additional capital needed	\$ 75,444	\$ _____	_____	_____	\$ _____

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 18 Western New York Fruit Farms, 1998

Item	Average Capital Investment			Per all fruit acres
	Per worker equivalent	Per Bearing Acre:		
		Owned	Operated	
Assets				
Total farm capital	\$101,147	\$6,753	\$4,992	\$4,299
Real estate	50,511	3,372	N/A	2,147
All equipment	10,620	N/A	524	451
Capital turnover, years	2.07			
My Farm:				
Total farm capital	\$ _____	\$ _____	\$ _____	\$ _____
Real estate	_____	_____	_____	_____
All equipment	_____	_____	_____	_____
Capital turnover, years	_____			

Equipment Analysis

Equipment costs comprised nearly 17 percent of the cost of fruit production in 1998. Total equipment expenses include the major fixed costs (interest and depreciation) as well as the accrual operating costs.

Table 20.

Accrual Equipment Expenses 18 Western New York Fruit Farms, 1998

Item	Average 18 Farms			My Farm		
	Total equip. cost	Equipment cost per fruit acre operated: Bearing	All fruit	Total equip. cost	Equipment cost per fruit acre operated: Bearing	All fruit

Annual Accrual Cost

Machine hire, equip. rent, lease	\$17,416	\$ 72	\$ 62	\$ _____	\$ _____	\$ _____
Repair & parts	35,793	148	127	_____	_____	_____
Auto exp. - farm share	76	0	0	_____	_____	_____
Fuel, oil & grease	11,991	49	43	_____	_____	_____
Interest - avg. cap. @5%	12,733	53	45	_____	_____	_____
Depreciation	<u>24,845</u>	<u>103</u>	<u>88</u>	_____	_____	_____
Total Equipment Cost	\$102,854	\$425	\$366	\$ _____	\$ _____	\$ _____

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

Table 21.

Labor Force	Full-time	Age, years	Education	Value of
Average:				
Operator -				
number 1	9.3	48	15	\$28,374
number 2	4.4	44	14	14,983
number 3	3.5	42	14	10,593
number 4	0.4	57	14	<u>1,667</u>
Family unpaid	0.3			Total \$55,617
Family paid	11.2			Avg./oper. \$37,835
Hired -				
regular	31.8			
picking	51.5			
other part-time, seasonal	31.2			
Total	143.5	mo./12 = 11.96 worker equivalent		1.47 oper./manager equiv.

My Farm:

Total _____ mo./12 = _____ worker equivalent
 Operators _____ mo./12 = _____ oper./manager equiv.

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Bearing fruit, acres	242.3	20.3	_____	_____
Total fruit, acres	281.4	23.5	_____	_____
Apples sold, bushels	122,442	10,239	_____	_____
Accrual receipts	\$558,693	\$46,722	\$ _____	\$ _____
Accrual fruit receipts	\$499,972	\$41,811	\$ _____	\$ _____

Labor Cost or Value

Type	Annual Accrual Cost					
	Total	Average 18 Farms		Total	My Farm	
		Per worker equiv.	Per bearing acre		Per worker equiv.	Per bearing acre
Value of operator(s) labor @ \$1,600/mo.	\$ 28,178	\$ 2,356	\$ 116	\$ _____	\$ _____	\$ _____
Family unpaid @ \$1,600/mo.	480	40	2	_____	_____	_____
Family paid (excl. operator)	16,157	1,351	67	_____	_____	_____
Hired -						
regular (excluding operator)	79,769	6,671	329	_____	_____	_____
picking	105,253	8,802	434	_____	_____	_____
other part-time, seasonal	<u>54,790</u>	<u>4,482</u>	<u>226</u>	_____	_____	_____
All labor (incl. non-cash)	\$284,626	\$23,802	\$1,175	\$ _____	\$ _____	\$ _____
All equipment cost	<u>102,854</u>	<u>8,601</u>	<u>425</u>	_____	_____	_____
Total labor & equip. cost	\$387,480	\$32,404	\$1,599	\$ _____	\$ _____	\$ _____

Cropping Program Analysis

The cropping program is the central part of a fruit farm business. A complete analysis 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

Table 22.
Land Resources and Crop Production, 18 Western New York Fruit Farms, 1998

Item			My Farm	
	Owned	Total	Owned	Total
Land Class (end of year)				
	179.1	63.2		
Non-bearing fruit, acres	31.8			
Other crops, open, acres		6.1		
	9.5	0.0		
Other non-tillable, acres	19.2			
		20.4		
Total land operated	9	77.8		
For farms having the fruit:				
Crop Production	No. of farms	Yield per acre	Total acres	
Bearing Fruit:				
Apples - fresh		111.7	367	
processing	18		725 bu.	
	18	209.3		bu.
Cherries - sweet		9.2	3,686	
tart	7		5,078 lb.	
	1	7.8		tn.
Peaches		10.8	188	
Pears	8		231 bu.	
	6	4.0		bu.
	5	7.5		
	18	242.3		
Apples - fresh	17			
processing		82.0		
	7	3.8		
tart	2			
Other non-bearing		7.9		
	18	39.1		
Other Crops, Open:				
Other		53.3		

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 60 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 18 Western New York Fruit Farms, 1998

Item	Cost Per Fruit Acre Operated	
	Bearing acres	All fruit acres
All labor - including operators' labor	\$1,175	\$1,012
Picking labor	434	374
Other hired labor	622	536
All equipment cost	425	366
Spray	406	350

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, 1996-1998**

	1996	1997	
Number of farms	21		18
Size of Business			
	291	316	
All fruit including non-bearing, acres	253		281
Bearing fruit, acres		238	242
	187	205	
Fresh - percent of all apple acres	50%		50%
Apples produced, bushels		123,641	113,950
	104,259	118,640	
Worker equivalent	12.24		11.96
Total accrual operating receipts		\$633,875	\$558,693
All apples, bushels per bearing acre	550		544
Fresh - percent of apples harvested		41%	34%
	5,527	7,288	
Pears, bushels per bearing acre	228		231
Non-bearing to bearing acre ratio		16%	16%
Bearing fruit, acres per worker	18		20
All fruit, acres per worker		23	24
	\$49,366	\$	\$46,722
Cost Control - Accrual			
All labor	\$1,106		\$1,175
All equipment		\$397	\$425
	\$332	\$347	
Hired labor as percent of operating expenses	43%		45%
Capital Efficiency - Average for the Year			
	\$5,069	\$5,156	
Total farm capital per fruit acre	\$4,358		\$4,299
Capital turnover, years		1.9	2.1
Net farm income:			
Without appreciation		\$53,279	\$(60,888)
	\$77,372	\$61,	\$(35,420)
Labor & management income per operator		\$9,146	\$(65,993)
Equity capital	3.4%		-12.9%
Total capital		2.5%	-5.1%
Farm:			
Net worth	37	\$784,005	
Debt to asset ratio	0.37		0.44
Debt per bearing acre		\$1,936	\$2,176
	1.69	2.40	

Table 25.
Progress of the Fruit Farm Business, Same Summary Farms, Western New York, 1996-1998

Selected Factors	Average per Farm, Same 17 Farms in:		
	1996	1997	1998
Size of Business			
All cropland including fruit, acres	321	327	336
All fruit including non-bearing, acres	278	283	288
Bearing fruit, acres	237	243	248
Bearing apples, acres	205	212	213
Fresh - percent of all apple acres	52%	48%	51%
Apples produced, bushels	112,349	128,921	115,208
Apples sold, bushels	112,947	123,411	124,200
Worker equivalent	13.82	12.57	12.25
Total accrual operating receipts	\$671,011	\$661,045	\$571,558
Rates of Production			
All apples, bushels per bearing acre	548	609	540
Fresh - percent of apples harvested	44%	43%	34%
Cherries - tart, pounds per bearing acre	5,205	7,526	5,078
Pears, bushels per bearing acre	218	123	231
Non-bearing to bearing acre ratio	17%	16%	16%
Labor Efficiency			
Bearing fruit, acres per worker	17	19	20
All fruit, acres per worker	20	22	24
Accrual receipts per worker	\$48,544	\$52,604	\$46,676
Cost Control - Accrual			
Cost per bearing acre:			
All labor	\$1,141	\$1,200	\$1,161
All equipment	\$414	\$408	\$426
Spray	\$337	\$354	\$408
Hired labor as percent of operating expenses	44%	47%	45%
Capital Efficiency - Average for the Year			
Total farm capital per bearing acre	\$5,025	\$5,145	\$4,975
Total farm capital per fruit acre	\$4,294	\$4,423	\$4,279
Capital turnover, years	1.7	1.9	2.1
Profitability			
Net farm income:			
Without appreciation	\$71,955	\$50,204	\$(61,429)
With appreciation	\$87,886	\$60,016	\$(35,143)
Labor & management income per operator	\$20,716	\$7,281	\$(65,755)
Rate of return to average capital with appreciation:			
Equity capital	4.2%	0.1%	-12.7%
Total capital	5.2%	2.3%	-5.0%
Financial Summary - End of Year			
Farm:			
Net worth	\$771,554	\$783,438	\$683,673
Debt to asset ratio	0.37	0.38	0.44
Debt per bearing acre	\$1,932	\$1,999	\$2,149
Cash flow coverage ratio	1.79	2.38	1.10

Table 26.

Selected Factors	1996		1998	Goal
All cropland incl. fruit, acres	_____		_____	_____
Bearing fruit, acres	_____	_____	_____	_____
Bearing apples, acres	_____	_____	_____	_____
	_____ %	_____ %	_____	_____ %
Apples sold, bushels	_____	_____	_____	_____
Worker equivalents	_____	_____	_____	_____
	\$ _____	_____	\$ _____	\$ _____
All apples, bushels/bearing acre	_____	_____	_____	_____
	_____ %	_____ %	_____	_____ %
Pears, bushels/bearing acre	_____	_____	_____	_____
Non-bearing to bearing acre ratio	_____	_____ %	_____ %	_____
Labor Efficiency				
Bearing fruit, acres/worker	_____	_____	_____	_____
All fruit, acres/worker	_____	_____	_____	_____
	\$ _____	_____	\$ _____	\$ _____
Cost/bearing acre:	\$ _____	\$ _____	_____	\$ _____
All labor	\$ _____	\$ _____	_____	\$ _____
All equipment	\$ _____	\$ _____	_____	\$ _____
Spray	\$ _____	\$ _____	_____	\$ _____
Hired labor as % of oper. exp.	_____	_____ %	_____ %	_____
Capital Efficiency -				
Average for the Year				
	\$ _____	_____	\$ _____	\$ _____
	\$ _____	_____	\$ _____	\$ _____
	_____	_____	_____	_____
Profitability				
Without appreciation	\$ _____	\$ _____	_____	\$ _____
With appreciation	\$ _____	\$ _____	_____	\$ _____
Labor & mgmt. income/oper.	\$ _____	\$ _____	_____	\$ _____
Rate of return to average capital w/apprec.:				
	_____ %	_____ %	_____	_____ %
	_____ %	_____ %	_____	_____ %
Farm:				
Net worth	_____	\$ _____	\$ _____	_____
Debt to asset ratio	_____	_____	_____	_____
Debt/bearing acre	\$ _____	\$ _____	_____	\$ _____
Cash flow coverage ratio	_____	_____	_____	_____

NOTES