FRUIT FARM BUSINESS SUMMARY

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ABSTRACT

This report is a summary of 1993 farm business data collected from 20 fruit farm businesses located in Western New York State. Apples are the predominant fruit crop. The data are presented as averages for all 20 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.

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LAKE ONTARIO REGION

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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 1993.

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 1993 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 20 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 20.7 million bushels in 1993. Western New York growers produced 13.1 million bushels or about 63 percent of the total State crop. Statewide, production was down 26 percent and in Western New York it was down about 28 percent compared to 1992.

Twenty-nine percent of the 1993 apple crop produced in Western New York was sold fresh. This was up from 28 percent of the crop for 1992. The 1993 fresh crop was 3.8 million bushels - down 24 percent from 1992. Processing apple production in Western New York decreased 29 percent from 1992 to 9.3 million bushels for 1993. Seventy-one percent of the Western New York crop was processing apples.

Net Freight-On-Board (F.O.B.) prices received per bushel for fresh apples in Western New York averaged $8.11 per bushel, 21 percent higher than in 1992. The bulk price for fresh apples was $4.80 per bushel. Western New York processing apple prices averaged $2.97 per bushel or 7.1 cents per pound in 1993, 6 percent above 1992.

Statewide, fresh apple prices received by growers averaged $7.31 per bushel net F.O.B., $1.35 per bushel higher than the average 1992 price. Processing apples, produced mostly in Western counties, averaged $2.79 per bushel or 6.6¢ per pound for 1993.

Table 1. Apple Production and Prices, New York State, 1989-1993

Item	1989	1990	1991	1992	1993
Production			-------- million bushels -------		
Fresh Apples					
Western New York	5.2	5.5	4.3	5.0	3.8
New York State	10.5	12.4	10.0	12.4	9.5
Processing Apples					
Western New York	11.0	9.8	12.9	13.1	9.3
New York State	12.4	11.2	15.0	15.5	11.2
All Varieties					
Western New York	16.2	15.2	17.1	18.1	13.1
New York State	22.9	23.6	25.0	27.9	20.7
Average Price Received Per Bushel			-------- dollars -------		
Fresh Apples					
Western New York					
F.O.B. less pkg., stg., etc.	6.03	8.65	8.61	6.68	8.11
Bulk price	4.83	4.83	4.90	4.70	4.80
Fruit Farm Business Sum.	4.96	5.50	6.07	4.59	4.94
New York State					
F.O.B. less pkg., stg., etc.	6.22	7.48	8.44	5.96	7.31
Bulk price	4.83	4.83	4.90	4.70	4.80
Processing Apples					
Western New York	2.87	3.25	3.27	2.79	2.97
Fruit Farm Business Sum.	2.93	3.34	3.01	2.88	3.14
New York State	2.81	3.15	3.21	2.71	2.79

Source: New York Agricultural Statistics Service, FRUIT series, Seasonal releases for July 1990, 1991, 1992, 1993, and 1994 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, 20 Western New York Fruit Farms, 1993

Type of Business	Number	Business Record System	Number
Proprietors	4	Account Book	5
Partnerships	7	Agrifax (mail-in)	0
Corporations	9	On-Farm Computer	14
		Other	1

Business Composition	Number
Fruit production only	8
Fruit with storage	3
Fruit & other enterprises	3
Fruit with storage & other enterprises	6

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 20 fruit farm cooperators. It lists the average value of assets and liabilities for December 31, 1992 and December 31, 1993 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, 20 Western New York Fruit Farms, December 31, 1992 & 1993

Farm Assets	1992	1993	Farm Liabilities & Net Worth	1992	1993
Current	$	$	Current = < 1 year	$	$
Cash, checking, sav.	14,788	8,570	Accounts payable	21,338	28,327
Accounts receivable	115,444	102,504	Operating debt	92,503	126,879
Prepaid expenses	6,188	5,532	Short-term	1,603	3,293
Fruit, other crops	93,918	96,883	Advanced gov't receipts	0	0
Production supplies	6,641	6,957	Accrued interest	299	437
Packing supplies	1,066	1,036			
Total Current	238,045	221,482	Total Current	115,744	158,935
Intermediate			Intermediate = > 1 to < 10 years		
Livestock	0	0	Structured debt	38,614	41,377
Livestock leased	0	0	Financial lease-livestock		
Equipment owned	198,168	195,070	equipment	13,273	11,412
Equipment leased	13,273	11,412	FLB/PCA stock	6,207	7,669
Farm Credit stock	6,207	7,669			
Other stock, cert.	55,916	58,802			
Total Intermediate	273,565	272,953	Total Intermediate	58,094	60,458
Long-Term			Long-Term = > 10 years		
Land/Buildings:			Structured debt	113,833	118,644
Owned	417,704	418,307	Financial lease -		
Structures leased	0	0	structures	0	0
Total Long-Term	417,704	418,307	Total Long-Term	113,833	118,644
			Total Farm:		
			Liabilities	287,670	338,037
Total Farm:			Net Worth	641,644	574,704
Assets	929,314	912,741	Liabilities & Net Worth	929,314	912,741

Table 3a. Nonfarm Assets & Liabilities

NonFarm Assets	1992	1993	NonFarm Liabilities	1992	1993
Cash, checking, sav.	800	1,389		3,600	3,035
Life ins.-cash value	6,811	9,333			
Real estate	0	0			
Auto (pers. share)	300	225			
Stocks & bonds	2,027	2,268			
Household furn.	1,075	1,075			
All other	2,135	3,960			
Total NonFarm			Total Nonfarm: Liab.	3,600	3,035
Assets	13,148	18,250	Net Worth	9,548	15,215
			Liabilities & Net Worth	13,148	18,250
			Farm and Nonfarm		
Assets	942,462	930,991	Liabilities	291,270	341,072
			Net Worth	651,192	589,919
			Liabilities & Net Worth	942,462	930,991

Table 4. Farm Business Balance Sheet, My Farm, December 31, 1992 & 1993

Farm Assets	1992	1993	Farm Liabilities & Net Worth	1992	1993
Current	$	$	Current = < 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		
Intermediate			Intermediate = > 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		
Long-Term			Long-Term = > 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, 20 Western New York Fruit Farms, December 31, 1993

Item	20 Farms 1993	My Farm
	------- For the Farm Business Only -------	
Financial Ratios - end of year		
Percent equity	63%	_____ %
Debt to asset ratios:		
Total debt	0.37	_____
Long-term	0.28	_____
Current & intermediate	0.44	_____
Change in Net Worth		
Without appreciation	$(81,782)	$_____
With appreciation	$(66,940)	$_____
Debt Analysis - end of year		
Percent of total farm debt that is:		
Long-term	35%	_____ %
Current & intermediate	65%	_____ %
Accounts payable only	8%	_____ %
Debt Levels - end of year		
Per bearing fruit acre:		
Total farm debt	$1,426	$_____
Long-term	$500	$_____
Current & intermediate	$925	$_____

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, 20 Western New York Fruit Farms, 1993

Inventory Balance	20 Fruit Farms Real Estate	20 Fruit Farms Equipment	My Farm Real Estate	My Farm Equipment
Beginning of year (1)	$417,704	$198,168	$_____	$_____
Purchases	$11,662[1]	$16,386	_____	_____
+ Noncash transfer to farm	0	0	_____	_____
- Lost capital	3,799	0	_____	_____
- Sales	1,826	2,223	_____	_____
- Depreciation	12,254	22,671	_____	_____
= Net investment (2)	$(6,217)	$(8,508)	_____	_____
Appreciation (3 - 1 - 2)	6,820[2]	5,409	_____	_____
End of year (3)	$418,307	$195,070	_____	_____

[1]Purchase includes $0 for land and $11,662 for buildings.
[2]Real 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, 20 Western New York Fruit Farms, 1993

Expenses	Cash amount paid +	Change in inventory or prepaid expenses +	Change in accounts payable =	Accrual expenses
Hired Labor				
Wages: regular	$ 42,803	$ 0	$ 0	$ 42,803
picking	61,909	0	(17)	61,891
other part-time, seasonal	30,043	0	0	30,043
Other labor costs	36,769	(460)	472	36,780
Picker travel	1,013	0	0	1,013
Labor camp expenses	3,431	0	(3)	3,428
Equipment				
Machine hire, rent, lease	12,830	323	1,054	14,206
Repairs & parts	22,793	(25)	281	23,049
Auto expense - farm share	526	0	0	526
Fuel, oil & grease	13,393	(121)	366	13,638
Livestock				
All livestock expenses	0	0	0	0
Crops				
Fertilizer & lime	10,630	(250)	1,603	11,982
Replacement trees & plants	1,027	0	0	1,027
Spray	47,599	311	12,117	60,028
Supplies, other prod. expense	9,439	(231)	544	9,752
Processing & packing supplies	1,508	30	0	1,539
Storage	11,211	0	403	11,614
Marketing, selling expenses	1,044	50	0	1,094
Real Estate				
Repair - land, bldg., fences	4,961	0	171	5,132
Taxes	8,530	0	1,656	10,186
Rent & lease	10,555	0	556	11,110
Other Expenses				
Insurance:				
fire, liability	7,569	0	285	7,854
crop	219	0	0	215
Telephone - farm share	1,180	0	9	1,189
Electricity - farm share	8,493	0	(191)	8,302
Fruit purchased for resale	17,464	0	(72)	17,391
Interest paid	17,451	0	365	17,816
Miscellaneous	11,661	0	7,735	19,396
TOTAL OPERATING EXP.	$396,045	$(374)	$27,333	$423,004
Expansion orchard	17,210	(72)	1,885	19,023
Depreciation:				
equipment				22,671
buildings				6,262
bearing trees & vines				5,992
TOTAL ACCRUAL EXPENSES				$476,953

Table 8. Income Statement, Farm Expenses, My Farm, 1993

Expenses	Cash amount paid	+	Change in inventory or prepaid expenses	+	Change in accounts payable	=	Accrual expenses
Hired Labor							
Wages: regular	$		$		$		$
picking							
other part-time, seasonal							
Other labor costs							
Picker travel							
Labor camp expenses							
Equipment							
Machine hire, rent, lease							
Repairs & parts							
Auto expense - farm share							
Fuel, oil & grease							
Livestock							
All livestock expenses							
Crops							
Fertilizer & lime							
Replacement trees & plants							
Spray							
Supplies, other prod. expense							
Processing & packing supplies							
Storage							
Marketing, selling expenses							
Real Estate							
Repair - land, bldg., fences							
Taxes							
Rent & lease							
Other Expenses							
Insurance:							
fire, liability							
crop							
Telephone - farm share							
Electricity - farm share							
Fruit purchased for resale							
Interest paid							
Miscellaneous							
TOTAL OPERATING EXP.	$		$		$		$
Expansion orchard							
Depreciation:							
equipment							
buildings							
bearing trees & vines							
TOTAL ACCRUAL EXPENSES							$

Table 9. Income Statement, Farm Receipts, 20 Western New York Fruit Farms, 1993

Receipts	Cash receipts +	Change in inventory[1] +	Change in accounts receivable =	Accrual receipts
Apples: fresh	$186,368	$(3,350)	$5,518	$188,537
processing	175,714	5,925	(15,381)	166,258
Cherries: sweet	8,162		(50)	8,112
tart	8,034		(768)	7,266
Grapes	796		(77)	719
Peaches	3,445		(27)	3,419
Pears	7,305		(911)	6,394
Plums & prunes	3,777		(1,113)	2,664
All other fruit	3,361	155	0	3,516
Other crops, livestock & prod.	476	235	0	711
Custom work, storage, rent	36,674		(2,020)	34,655
Other - including government receipts, refunds	10,298	0[2]	2,809	13,107
- Non-farm non-cash capital		0[3]		0
TOTAL OPERATING RECEIPTS	$444,411	$2,965	$(12,019)	$435,358

[1]Change in crop and livestock products inventory.
[2]Change in advanced government receipts.
[3]Gifts 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, 1993

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, 20 Western New York Fruit Farms, 1993

Item	20 Farms 1993	My Farm
Total accrual receipts	$435,358	$ _____
+ Appreciation:		
Livestock	(235)	_____
Equipment	5,409	_____
Real estate	6,820	_____
Other - Stocks & certificates	+2,848	+ _____
= Total accrual receipts with appreciation	$450,200	$ _____
- Total accrual expenses	-476,953	- _____
= Net farm income with appreciation	$(26,753)	$ _____
Net farm income without appreciation	$(41,595)	$ _____

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
20 Western New York Fruit Farms, 1993

Item	20 Farms 1993	My Farm
With appreciation:		
Net farm income	$(26,753)	$ _____
- Family unpaid labor @ $1,400 per month	-189	- _____
= Return to operators' labor, management, & equity	$(26,942)	$ _____
Without appreciation:		
Net farm income	$(41,595)	$ _____
- Family unpaid labor @ $1,400 per month	-189	- _____
= Return to operators' labor, management, & equity	$(41,784)	$ _____

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, 20 Western New York Fruit Farms, 1993

Item	20 Farms 1993	My Farm
Without appreciation:		
Return to operators' labor, management, & equity	$(41,784)	$ _____
- Real interest @ 5% on average equity capital	-30,409	_____
= Labor & management income per farm	$(72,193)	$ _____
Labor & management income per operator	$(39,067)	$ _____

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, 20 Western New York Fruit Farms, 1993

Item	20 Farms 1993	My Farm
Average equity capital	$608,174	$ _____
Average total capital	$921,028	$ _____
Returns with appreciation:		
Return to operators' labor, management & equity capital	$(26,942)	$ _____
- Value of operators' labor & management	-57,253	- _____
= Return on average equity capital	$(84,195)	$ _____
+ Interest paid	+17,816	+ _____
= Return on average total capital	$(66,379)	$ _____
Rates of return (with appreciation) on:		
Average equity capital	-13.8%	_____%
Average total capital	-7.2%	_____%
Returns without appreciation:		
Return on average equity capital with appreciation	$(84,195)	$ _____
- Total appreciation	-14,842	- _____
= Return on average equity capital	$(99,037)	$ _____
+ Interest paid	+17,816	+ _____
= Return on average total capital	$(81,220)	$ _____
Rates of return (without appreciation) on:		
Average equity capital	-16.3%	_____%
Average total capital	-8.8%	_____%

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, 20 Western New York Fruit Farms, 1993

Item	20 Farms 1993	My Farm
Cash Inflows		
Beginning farm cash, checking, & savings	$ 14,788	$
Cash farm receipts	447,548	
Sale of assets:		
Equipment	2,223	
Real estate	1,679	
Other stocks & certificates	711	
Money borrowed:		
Increase in operating debt	34,376	
Short-term	2,538	
Intermediate	17,196	
Long-term	12,673	
Refinanced debt	0	
Non-farm:		
Income	901	
Capital used in business	2,567	
Money borrowed	0	
Total Cash Inflows	$537,199	$
Cash Outflows		
Cash farm expenses (excluding interest paid)	$378,594	$
Capital purchases:		
Expansion orchard	17,210	
Equipment	16,386	
Real estate	11,662	
Other stocks & certificates	749	
Debt payments:		
Principal payments for -		
Decrease in operating debt	0	
Short-term	848	
Intermediate	14,434	
Long-term	7,862	
Refinanced debt	0	
Interest paid	17,451	
Personal withdrawals & family expenditures including non-farm debt payments & corporate operator labor costs	62,955	
Ending farm cash, checking & savings	8,570	
Total Cash Outflows	$536,720	$
Imbalance (error)	$479	$

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, 20 Western New York Fruit Farms, 1993

	20 Fruit Farms			My Farm		
Debt Payments	Planned for 1993[1]	Actual Payments in 1993[2]	Planned for 1994	Planned for 1993	Actual payments 1993	Planned for 1994
Accts. payable (net reduction)	$ 800	$ 0	$ 1,927	_____	$ _____	$_____
Operating (net reduction)	13,422	0	9,773	_____	_____	_____
Short-term (principal & int.)	750	848	1,909	_____	_____	_____
Intermediate (principal & int.)	7,689	16,687	5,313	_____	_____	_____
Long-term (principal & int.)	15,809	14,281	16,722	_____	_____	_____
Total debt payments	$38,470	$31,817	$35,643	$ _____	$_____	$_____
Payments as a percent of:						
Total accrual receipts	9%	7%		_____%	_____ %	
Total accrual fruit receipts	10%	8%				
Payments per acre of:						
bearing fruit	$162	$134		$ _____	$_____	
all fruit	$142	$118		$ _____	$_____	
Payments/bushel of apples sold	$0.43	$0.36		$ _____	$_____	

[1]If on the Fruit Farm Business Summary the previous year.
[2]Actual 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 1994. The worksheet provided in Table 18 can be used to estimate repayment ability which can then be compared to planned 1994 debt payments shown in Table 16.

Table 17. Cash Flow Coverage Ratio, 20 Western New York Fruit Farms, 1993

Item	20 Farms 1993	My Farm
Cash farm receipts	$447,548	$_____
- Cash farm expenses	396,045	_____
+ Interest paid	17,451	_____
- Net personal withdrawals from farm[1]	62,055	_____
= Amount available for debt service (1)	$6,900	$_____
Debt payments planned (2)	$38,470	$_____
Cash Flow Coverage Ratio (1 ÷ 2)	0.18	_____

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

Table 18. Annual Cash Flow Worksheet, 1993 and 1994 Projection

Item	Average 20 Farms	My Farm, 1993 Total	Per bearing acre	Expected change	1994 projection
Average bearing acres of fruit	237				
Accrual Operating Receipts (per bearing acre)					
Apples: Fresh	$ 795	$	$	$	$
Processing	701				
All other fruit	135				
Other crops, livestock & products	3				
Custom work, storage & rent	146				
Other - including government receipts, refunds	55				
Total Operating Receipts	$1,836	$	$	$	$
Accrual Operating Expenses (per bearing acre)					
Labor: Wages -- regular	$ 181				
picking	261				
other part-time, seasonal	127				
Other labor costs	155				
Picker travel, labor camp exp.	19				
Equip: Machine hire, rent, lease	60				
Repairs, parts & auto exp.	99				
Fuel, oil & grease	58				
Livestock: All livestock expense	0				
Crops: Fertilizer & lime	51				
Replacement trees & plants	4				
Spray	253				
Supplies, other prod. exp.	41				
Storage	49				
Packing supplies, marketing, selling exp.	11				
Real Est.: Repair - land, bldg., fences	22				
Taxes	43				
Rent & lease	47				
Other: Insurance - fire, liab., crop	34				
Utilities - phone, elec.	40				
Resale items - fruit, etc.	73				
Miscellaneous	82				
Total Operating Expenses Excluding Interest	$1,709	$	$	$	$
Repayment Analysis (Total)					
Net accrual operating income excluding interest	$30,710	$			$
- Change in livestock & crop inv.	2,965				
- Change in accounts receivable	(12,019)				
+ Change in crop & supply inv.	(374)				
+ Change in accounts payable excluding interest	26,968				
Net Operating Cash Flow	$65,818	$			$
- Net personal withdrawals	62,055				
Available for debt payments, invest.	$3,763	$			$
- Farm debt payments: principal & interest	31,817				
Available for farm investment	$(28,053)	$			$
Capital purchases	$46,007	$			$
Additional capital needed	$74,060	$			$

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, 20 Western New York Fruit Farms, 1993

Item	Average Capital Investment: Per worker equivalent	Per Bearing Acre: Owned	Per Bearing Acre: Operated	Per all fruit acres
Assets				
Total farm capital	$86,712	$5,647	$3,884	$3,406
Real estate	39,354	2,563	n/a	1,546
All equipment	9,866	n/a	442	387
Capital turnover, years 2.05				
My Farm:				
Total farm capital	$____	$____	$ ____	$____
Real estate	____	____	____	____
All equipment	____	____	____	____
Capital turnover, years ____				

Equipment Analysis

Equipment costs comprise nearly 20 percent of the cost of fruit production. Total equipment expenses include the major fixed costs (interest and depreciation) as well as the accrual operating costs.

Table 20. Accrual Equipment Expenses, 20 Western New York Fruit Farms, 1993

Item	Average 20 Fruit Farms: Total equip. cost	Equipment cost per fruit acre operated: Bearing	All fruit	My Farm: Total equip. cost	Equipment cost per fruit acre operated: Bearing	All fruit
Annual Accrual Cost						
Machine hire, equip. rent, lease	$14,206	$ 60	$ 53	$____	$____	$____
Repair & parts	23,049	97	85	____	____	____
Auto exp. - farm share	526	2	2	____	____	____
Fuel, oil & grease	13,638	58	50	____	____	____
Interest - avg. cap. @5%	9,831	41	36	____	____	____
Depreciation	22,671	96	84	____	____	____
Total Equipment Cost	$83,921	$354	$310	$____	$____	$____

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.

Table 21. Labor Force Inventory and Analysis, 20 Western New York Fruit Farms, 1993

Labor Force	Full-time months	Age, years	Years of Education	Value of labor/mgmt.
Average:				
Operator -				
number 1	10.6	45	15	$28,432
number 2	6.4	41	13	15,892
number 3	4.7	40	14	11,318
number 4	0.6	51	14	1,611
Family unpaid	0.1		Total	$57,253
Family paid	1.0		Avg./oper.	$30,948
Hired -				
regular	29.6			
picking	45.7			
other part-time, seasonal	28.8			
Total	127.5	mo./12 =	10.62 worker equivalent	
			1.85 oper./manager equiv.	
My Farm:				
Total	____	mo./12 =	____ worker equivalent	
Operators	____	mo./12 =	____ oper./manager equiv.	

	Average		My Farm	
Labor Efficiency	Total	Per Worker	Total	Per worker
Bearing fruit, acres	237.1	22.3	_____	_____
Total fruit, acres	270.5	25.5	_____	_____
Apples sold, bushels	94,019	8,852	_____	_____
Accrual receipts	$435,358	$40,988	$_____	$_____
Accrual fruit receipts	$386,885	$36,424	$_____	$_____

Labor Cost or Value	Annual Accrual Cost					
	Average 20 Farms			My Farm		
Type	Total	Per worker equiv.	Per bearing acre	Total	Per worker equiv.	Per bearing acre
Value of operator(s) labor @ $1,400/mo.	$ 31,045	$ 2,923	$ 131	$____	$____	$____
Family unpaid @ $1,400/mo.	189	18	1	_____	_____	_____
Family paid (excl. operator)	1,534	144	6	_____	_____	_____
Hired -						
regular (excluding operator)	56,778	5,346	239	_____	_____	_____
picking	81,357	7,661	343	_____	_____	_____
other part-time, seasonal	36,667	3,453	155	_____	_____	_____
All labor (incl. non-cash)	$207,570	$19,545	$ 875	$____	$____	$____
All equipment cost	83,921	7,902	354	_____	_____	_____
Total labor & equip. cost	$291,491	$27,447	$1,229	$____	$____	$____

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.

Table 22. Land Resources and Crop Production, 20 Western New York Fruit Farms, 1993

Item	Average 20 Farms Owned	Rented	Total	My Farm Owned	Rented	Total
Land Class (end of year)						
Bearing fruit, acres	163.1	74.0	237.1			
Non-bearing fruit, acres	27.6	5.7	33.3			
Other crops, open, acres	18.9	5.6	24.5			
Non-tillable pasture, acres	3.8	0.0	3.8			
Other non-tillable, acres	27.2	6.0	33.2			
Total land operated	240.6	91.3	331.9			

Crop Production	For farms having the fruit: No. of farms	Average acres	Yield per acre	Total acres	Yield per acre
Bearing Fruit:					
Apples -					
fresh	20	97.9	369 bu.		bu.
processing	20	97.4	543 bu.		bu.
all apples	20	195.3	456 bu.		bu.
Cherries					
sweet	7	14.7	1,681 lb.		lb.
tart	9	50.9	4,340 lb.		lb.
Grapes	2	7.8	3.2 tn.		tn.
Peaches	9	9.2	153 bu.		bu.
Pears	11	10.7	221 bu.		bu.
Plums, prunes	7	4.7	225 bu.		bu.
Other fruit	3	8.4			
Total bearing fruit	20	237.1			
Non-Bearing Fruit:					
Apples					
fresh	18	30.3			
processing	1	59.0			
Cherries					
sweet	3	7.5			
tart	2	11.7			
Other non-bearing	6	2.7			
Total non-bearing fruit acres	20	33.3			
Other Crops, Open:					
Other	16	30.6			

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, 20 Western New York Fruit Farms, 1993

Item	Cost Per Fruit Acre Operated	
	Bearing acres	All fruit acres
All labor - including operators' labor	$875	$768
Picking labor	343	301
Other hired labor	401	351
All equipment cost	354	310
Spray	253	222

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, 1991-1993

Selected Factors	1991	1992	1993
Number of farms	24	22	20
Size of Business			
All cropland including fruit, acres	257	290	295
All fruit including non-bearing, acres	233	259	270
Bearing fruit, acres	209	233	237
Bearing apples, acres	171	189	195
Fresh - percent of all apple acres	48%	47%	50%
Apples produced, bushels	98,244	121,305	89,046
Apples sold, bushels	99,713	114,655	94,019
Worker equivalent	9.42	11.21	10.62
Total accrual operating receipts	$557,217	449,521	435,358
Rates of Production			
All apples, bushels per bearing acre	575	640	456
Fresh - percent of apples harvested	37%	37%	41%
Cherries - tart, pounds per bearing acre	8,867	7,330	4,340
Pears, bushels per bearing acre	237	279	221
Non-bearing to bearing acre ratio	11%	11%	14%
Labor Efficiency			
Bearing fruit, acres per worker	22	21	22
All fruit, acres per worker	25	23	25
Accrual receipts per worker	$59,125	$44,580	$40,988
Cost Control - Accrual			
Cost per bearing acre:			
All labor	$888	$991	$875
All equipment	$351	$368	$354
Spray	$272	$287	$253
Hired labor as percent of operating expenses	42%	45%	42%
Capital Efficiency - Average for the Year			
Total farm capital per bearing acre	$4,009	$4,180	$3,884
Total farm capital per fruit acre	$3,596	$3,768	$3,406
Capital turnover, years	1.4	1.9	2.0
Profitability			
Net farm income:			
Without appreciation	$148,708	$12,618	$(41,595)
With appreciation	$168,666	$18,134	$(26,753)
Labor & management income per operator	$70,454	$(12,400)	$(39,067)
Rate of return to average capital with appreciation:			
Equity capital	19.4%	-5.6%	-13.8%
Total capital	16.2%	-2.5%	-7.2%
Financial Summary - End of Year			
Farm:			
Net worth	$672,684	$656,692	$574,704
Debt to asset ratio	0.25	0.31	0.37
Debt per bearing acre	$1,059	$1,290	$1,426
Cash flow coverage ratio	1.91	0.92	0.18

Table 25. Progress of the Fruit Farm Business, Same Summary Farms, Western New York, 1991-1993

Selected Factors	Average per Farm,Same 19 Farms in: 1991	1992	1993
Size of Business			
All cropland including fruit, acres	280	293	300
All fruit including non-bearing, acres	260	268	276
Bearing fruit, acres	233	242	242
Bearing apples, acres	193	198	199
Fresh - percent of all apple acres	48%	49%	50%
Apples produced, bushels	114,223	124,346	90,533
Apples sold, bushels	116,525	115,160	95,518
Worker equivalent	10.72	11.91	10.78
Total accrual operating receipts	$618,724	$518,883	$442,089
Rates of Production			
All apples, bushels per bearing acre	590	628	456
Fresh - percent of apples harvested	37%	40%	41%
Cherries - tart, pounds per bearing acre	8,364	6,444	4,340
Pears, bushels per bearing acre	227	256	221
Non-bearing to bearing acre ratio	11%	11%	14%
Labor Efficiency			
Bearing fruit, acres per worker	22	20	22
All fruit, acres per worker	24	23	26
Accrual receipts per worker	$57,720	$43,577	$41,021
Cost Control - Accrual			
Cost per bearing acre:			
All labor	$910	$1,007	$873
All equipment	$334	$357	$353
Spray	$272	$282	$252
Hired labor as percent of operating expenses	44%	47%	42%
Capital Efficiency - Average for the Year			
Total farm capital per bearing acre	$3,897	$4,012	$3,823
Total farm capital per fruit acre	$3,497	$3,614	$3,352
Capital turnover, years	1.4	1.9	2.0
Profitability			
Net farm income:			
Without appreciation	$162,347	$18,991	$(43,456)
With appreciation	$182,407	$24,065	$(29,387)
Labor & management income per operator	$ 69,037	$(8,756)	$(40,473)
Rate of return to average capital with appreciation:			
Equity capital	19.0%	-5.1%	-14.1%
Total capital	15.9%	-2.1%	-7.4%
Financial Summary - End of Year			
Farm:			
Net worth	$730,356	$663,911	$580,778
Debt to asset ratio	0.25	0.30	0.37
Debt per bearing acre	$1,025	$1,194	$1,389
Cash flow coverage ratio	2.27	1.04	0.15

Table 26. Progress of the Fruit Farm Business, My Farm, 1991-1993

Selected Factors	1991	1992	1993	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				

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