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# FARM SUMMARY Ш И <u>S</u>

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LAKE ONTARIO REGION NEW YORK 1993

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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**

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## 1993 FRUIT FARM BUSINESS SUMMARY LAKE ONTARIO REGION

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### 1993 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 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		r	nillion bushel	s	
Fresh Apples Western New York New York State	5.2 10.5	5.5 12.4	4.3 10.0	5.0 12.4	3.8 9.5
Processing Apples Western New York New York State	11.0 12.4	9.8 11.2	12.9 15.0	13.1 15.5	9.3 11.2
All Varieties Western New York New York State	16.2 22.9	15.2 23.6	17.1 25.0	18.1 27.9	13.1 20.7
Average Price Received Per Bushel			dollars		
Fresh Apples Western New York					
F.O.B. less pkg., stg., etc. Bulk price Fruit Farm Business Sun	6.03 4.83 a. 4.96	8.65 4.83 5.50	8.61 4.90 6.07	6.68 4.70 4.59	8.11 4.80 4.94
New York State F.O.B. less pkg.,		<b>-</b> .0	0.44	<b>5.00</b>	
stg., etc. Bulk price	6.22 4.83	7.48 4.83	8.44 4.90	5.96 4. <b>7</b> 0	7.31 4.80
Processing Apples Western New York Fruit Farm Business Sun New York State	2.87 n. 2.93 2.81	3.25 3.34 3.15	3.27 3.01 3.21	2.79 2.88 2.71	2.97 3.14 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 Busin	ness <u>Number</u>	Business Record System	Number
Proprietors Partnerships Corporations	4 7 9	Account Book Agrifax (mail-in) On-Farm Computer Other	5 0 14 1
	Business Composition	<u>Number</u>	
	Fruit production only Fruit with storage Fruit & other enterprises Fruit with storage & other en	8 3 3 terprises 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

Decen	nber 31, 1	992 & 1993	<u> </u>		
Farm Assets	1992	1993	Farm Liabilities & Net Worth	1992	1993
Current	\$	\$	<u>Current</u> = < 1 year	\$	\$
Cash, checking, sav. Accounts receivable Prepaid expenses	115,444 6,188	8,570 102,504 5,532	Accounts payable Operating debt Short-term	21,338 92,503 1,603	28,327 126,879 3,293
Fruit, other crops Production supplies Packing supplies	93,918 6,641 <u>1.066</u>	96,883 6,957 _1.036	Advanced gov't receipts Accrued interest	0 <u>299</u>	0 <u>437</u>
Total Current	238,045	221,482	Total Current	115,744	158,935
<u>Intermediate</u>			$\underline{Intermediate} = > 1 \text{ to } < 10$	years	
Livestock Livestock leased	0 0	0 0	Structured debt Financial lease-livestock	38,614	41,377
Equipment owned Equipment leased Farm Credit stock Other stock, cert.	198,168 13,273 6,207 55,916	195,070 11,412 7,669 <u>58,802</u>	equipment FLB/PCA stock	13,273 <u>6,207</u>	11,412 <u>7,669</u>
Total Intermediate Long-Term	273,565	272,953	Total Intermediate Long-Term = > 10 years	58,094	60,458
Land/Buildings: Owned Structures leased	417,704 0	418,307 0	Structured debt Financial lease - structures	113,833 0	118,644 0
Total Long-Term		418,307	Total Long-Term	113,833	118,644
Total Farm:	000 014	010 541	Total Farm: Liabilities Net Worth	287,670 641,644	338,037 574,704
Assets	929,314	912,741	Liabilities & Net Worth	929,314	912,741
Table 3a. Nonfa	rm Assets	& Liabilitie	es		
NonFarm Assets	1992	1993	NonFarm Liabilities	1992	1993
Cash, checking, sav. Life inscash value Real estate Auto (pers. share)	6,811 0 300	1,389 9,333 0 225		3,600	3,035
Stocks & bonds Household furn. All other	2,027 1,075 2,135	2,268 1,075 <u>3,960</u>			
Total NonFarm Assets	13,148	18,250	Total Nonfarm: Liab. Net Worth Liabilities & Net Worth	3,600 <u>9,548</u> 13,148	3,035 15,215 18,250
Accets	040 400	020 001	Farm and Nonfarm	001.070	241.070
Assets	942,462	930,991	Liabilities Net Worth Liabilities & Net Worth	291,270 651,192 942,462	341,072 589,919 930,991

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

Farm Assets	1992	1993	Farm Liabilities & Net Worth	1992	1993
<u>Current</u> Cash, checking, sav.	\$	\$	<u>Current</u> = < 1 year Accounts payable	<b>\$</b>	<b>\$</b>
Accounts receivable			Operating debt		
Prepaid expenses			Short-term		
Fruit, other crops					
Production supplies					
Packing supplies		<del></del>	Advanced gov't receipts		<u></u>
		<del></del>	Accrual interest	<del></del>	
Total Current			Total Current		
Total Garrent			rom caron		
Intermediate			Intermediate = > 1 to < 10	years	
Livestock			Structured debt		
Livestock leased					
Equipment owned					<del></del> _
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		<del></del>			
Structures leased					<del></del>
			Financial lease-struc.		
Total Long-Term			Total Long-Term		<del></del>
			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

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

		uit Farms	My Farm	
Inventory Balance	Real Estate	Equipment	Real Estate	Equipment
Beginning of year (1)	\$417,704	\$198,168	\$	\$
Purchases	\$11,662 <sup>1</sup>	<b>\$</b> 16,386		
+ Noncash transfer to farm	0	0		
- Lost capital	3,799	0		
- Sales	1,826	2,223		<del></del>
- Depreciation	12,254	22,671		
= Net investment (2)	<b>\$</b> (6,217)	\$(8,508)		
Appreciation (3 - 1 - 2)	$6.820^{2}$	5,409		
End of year (3)	\$418,307	\$195,070		

<sup>&</sup>lt;sup>1</sup>Purchase includes \$0 for land and \$11,662 for buildings.

### **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.

<sup>&</sup>lt;sup>2</sup>Real estate appreciation excludes \$0 of appreciation on assets sold during the year.

Table 7. Income Statement - Farm Expenses, 20 Western New York Fruit Farms, 1993

Table 7. Income Statement	- Farm Expen	ses, 20 Weste	ern New York Frui	it Farms, 1993
		Change in		
	Cash	inventory	Change in	
	amount	or prepaid	accounts	Accrual
Expenses	paid +	expenses	+ payable =	expenses
Hired Labor				
Wages: regular	\$ 42,803	<b>\$</b> 0	<b>\$</b> 0	\$ 42,803
picking	61,909	Ö	(17)	61,891
other part-time,	02,000	_	<b>\-/</b>	,
seasonal	30,043	0	0	30,043
Other labor costs	36,769	(460)	472	36,780
Picker travel	1,013	Ò	0	1,013
Labor camp expenses	3,431	0	(3)	3,428
	·		• •	•
<u>Equipment</u>				
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
_				
<u>Livestock</u>				
All livestock expenses	0	0	0	0
<u>Crops</u>				
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		(231)	544	9,752
Processing & packing supplie		30	0	1,539
Storage	11,211	0	403	11,614
Marketing, selling expenses	1,044	50	0	1,094
Dest Date				
Real Estate	4.061	0	171	E 100
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				
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	1 <b>7,464</b>	0	(72)	17,391
Interest paid	17,451	0	365	17,816
Miscellaneous	11,661	0	7,735	19,396
Miscendicous	11,001	J	.,,,,	10,000
TOTAL OPERATING EXP.	\$396,045	\$(374)	\$27,333	\$423,004
Expansion orchard	17,210	(72)	1,885	19,023
Depreciation:	1.,210	(,	2,000	20,020
equipment				22,671
buildings				6,262
bearing trees & vines	<b>i</b>			5,992
2.5mm-19 m 000 m 1 mior				-,- <del>-</del>
TOTAL ACCRUAL EXPENSES	8	_		\$476,953

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

		es, My Farm, 1 Change in		
	Cash	inventory	Change in	
	amount	or prepaid	accounts	Accrual
Expenses	paid +		payable =	expenses
Hired Labor	<u> </u>	<u>emperioco</u>	payable _	
Wages: regular	\$	\$	\$	\$
picking	Ψ	Ψ	Ψ	¥ ——
other part-time,				
seasonal				
Other labor costs				<del></del>
Picker travel				<del></del>
Labor camp expenses				
Labor Camp expenses				
Equipment				
Machine hire, rent, lease				
Repairs & parts			<del></del> -	
Auto expense - farm share				
Fuel, oil & grease				
ruci, on a grease			<del></del>	
Livestock				
All livestock expenses				
<b>.</b>				
Crops				
Fertilizer & lime				
Replacement trees & plants			<del></del> _	
Spray				
Supplies, other prod. expense				
Processing & packing supplies				
Storage				
Marketing, selling expenses				
Real Estate				
Repair - land, bldg., fences				
Taxes	<u></u>			
Rent & lease				
			<u> </u>	
Other Expenses				
Insurance:				
fire, liability				
crop				
Telephone - farm share		<del></del>		
Electricity - farm share			<u>-</u>	
Fruit purchased for resale				
Interest paid				
Miscellaneous				
TOTAL OPERATING EXP.	\$	\$	\$	<b>\$</b>
Expansion orchard				
Depreciation:				_ <del></del>
equipment				
buildings				
bearing trees & vines				
_				
TOTAL ACCRUAL EXPENSES				ф

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

				Change in		
	Cash	Change in		accounts		Accrual
Receipts	receipts +	inventory <sup>1</sup>	+	receivable	=	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		Ó		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		$0_3$				O
TOTAL OPERATING RECEIPTS	\$444,411	<b>\$2,965</b>		\$(12,019)		\$435,358

<sup>&</sup>lt;sup>1</sup>Change in crop and livestock products inventory.

**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

Table 10. Income Statement,	I di ili itecci	705, 141y 1 di 111,	1000	
Receipts	Cash receipts +	Change in inventory	Change in accounts + receivable	Accrual = receipts
Apples: fresh processing	\$	\$	<b>\$</b>	<b>\$</b>
Cherries: sweet				<del></del>
tart				
Grapes				
Peaches				
Pears				
Plums & prunes				
All other fruit				
Other crops, livestock & prod.				
Custom work, storage, rent			<del></del>	<del></del>
Other - including government receipts, refunds				
- Non-farm non-cash capital		(-)		(-)
TOTAL OPER. RECEIPTS	\$	\$	\$	\$

<sup>&</sup>lt;sup>2</sup>Change in advanced government receipts.

<sup>&</sup>lt;sup>3</sup>Gifts and inheritances of livestock and crops to the farm business.

### **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	<b>\$435,358</b>	\$
+ 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	<u>-476.953</u>	-
= 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 - Family unpaid labor @ \$1,400 per month	\$(26,753) 189	\$
= Return to operators' labor, management, & equity	<b>\$</b> (26,942)	\$
Without appreciation: Net farm income - Family unpaid labor @ \$1,400 per month	\$(41,595) 189	\$
<ul><li>Return to operators' labor, management,</li><li>&amp; equity</li></ul>	\$(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 - Real interest @ 5% on average equity capital	\$(41,784) -30,409	\$
= Labor & management income per farm  Labor & management income per operator	\$(72,193) \$(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	<u>-57.253</u>	
= Return on average equity capital	\$(84,195)	*
+ Interest paid	<u>+17.816</u>	+
= 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	<u>14.842</u>	<del>-</del>
= Return on average equity capital	\$(99,037)	\$
+ Interest paid	<u>+17,816</u>	<u>+</u>
= 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	20 Faiii3 1333	Wiy Faiiii
<u> </u>		
Beginning farm cash, checking, & savings	<b>\$ 14,788</b>	\$
Cash farm receipts	447,548	
Sale of assets:		
Equipment	2,223	
Real estate	1,679	
Other stocks & certificates	<b>7</b> 11	
Money borrowed:		
Increase in operating debt	34,376	
Short-term	2,538	
Intermediate	17,196	
Long-term	12,673	
Refinanced debt	0	
Non-farm:	65-	
Income	901	
Capital used in business	2,567	
Money borrowed	0	
Total Cash Inflows	<b>\$537</b> ,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	<b>74</b> 9	
Debt payments:		
Principal payments for -		
Decrease in operating debt	0	
Short-term	848	-
Intermediate	14,434	<del></del>
Long-term	7,862	
Refinanced debt	0	•
Interest paid	17,451	
Personal withdrawals & family expenditures in	cluding	
non-farm debt payments & corporate operator	J	
labor costs	62,955	
Ending farm cash, checking & savings	_8.570	<del></del>
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		
	Planned	Actual	Planned	Planned	Actual 1	Planned
	for	<b>Payments</b>	for	for	payments	for
Debt Payments	1993¹	in 1993 <sup>2</sup>	1994	1993	1993	1994
Accts. payable (net reduction) Operating (net reduction) Short-term (principal & int.) Intermediate (principal & int.) Long-term (principal & int.)	\$ 800 13,422 750 7,689 15,809	2 0 848 16,687	9,773 1,909 5,313	\$	\$	<b>\$</b>
Total debt payments	\$38,470	\$31,817	\$35,643	\$	\$	\$
Payments as a percent of: Total accrual receipts Total accrual fruit receipts	9% 10%			%	%	
Payments per acre of: bearing fruit all fruit Payments/bushel of apples sol	\$162 \$142 ld \$0.43	\$118		\$ \$	\$ \$	

<sup>&</sup>lt;sup>1</sup>If on the Fruit Farm Business Summary the previous year.

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

20 Farms 1993	My Farm
\$447.548	\$
• • •	,
17,451	
62,055	
\$6,900	\$
\$38,470	\$
0.18	
	\$447.548 396,045 17,451 62,055 \$6,900 \$38,470

<sup>&</sup>lt;sup>1</sup>Personal withdrawals and family expenditures less non-farm income and non-farm money borrowed.

<sup>&</sup>lt;sup>2</sup>Actual payments excluding refinanced debt.

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

My Farm. 1993							
Item		Average 20 Farms	Total	Per bear- ing acre	Expected change	1994 projection	
Ittii	<del></del>	20 1 211113	10141	nig acre	Change	projection	
Average b	pearing acres of fruit	237					
	Operating Receipts (per	bearing acr	e) _				
Apples:	Fresh	\$ 795	\$	\$	\$	\$	
All other	Processing fruit	701 135					
	ps, livestock & products				<del></del>		
Custom v	vork, storage & rent	146					
Other - in	ncluding government						
receipts	, refunds Operating Receipts	\$1,836	\$	\$	\$	\$	
Total	operating receipts	φ1,000	Ψ	Ψ	Ψ	Ψ	
Accrual ( Labor:	<b>Operating Expenses (pe</b> r Wages	r bearing ac	re)				
Eusor.	regular	\$ 181					
	picking	261					
	other part-time, seaso	nal 127					
	Other labor costs Picker travel, labor can	155					
Equip:	Machine hire, rent, leas						
1P	Repairs, parts & auto e	xp. 99					
T 1	Fuel, oil & grease	58					
	: All livestock expense Fertilizer & lime	0 51					
Crops:	Replacement trees & pl			<del></del>			
	Spray	253					
	Supplies, other prod. e.	xp. 41					
	Storage Packing supplies, mark						
	selling exp.	11					
Real Est.	: Repair - land, bldg., fer Taxes	nces 22 43					
	Rent & lease	43 47					
Other:	Insurance - fire, liab., o						
	Utilities - phone, elec.	40					
	Resale items - fruit, etc					<del></del>	
Total One	Miscellaneous erating Expenses	82					
Exclud	ing Interest	\$1,709	\$	\$	\$	\$	
Repaymo	ent Analysis (Total)						
	ial operating income	¢20.710	<b>d</b>			æ	
	ding interest in livestock & crop inv.	\$30,710 2,965	\$			<b>\$</b>	
	in accounts receivable	(12,019)					
+ Change	e in crop & supply inv.	(374)					
	in accounts payable	00.000					
	ding interest	26,968 \$65,818	\$			•	
- Net ner	ating Cash Flow sonal withdrawals	<del>Ф</del> 05,616 62,055				Ψ	
Available	for debt payments, inves		\$			\$	
- Farm de	ebt payments: principal					<del></del>	
& inter		31,817	•			<u>~</u>	
	for farm investment urchases	\$(28,053) \$46,007	\$			\$	
	al capital needed	\$74,060	\$ \$			<b>\$</b>	
		,	T			T	

### 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

	Average Capital Investment					
	Per worker	Per Bear		Per all		
Item	<u>equivalent</u>	<u>Owned</u>	<u>Operated</u>	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	\$	<b>\$</b>	<b>\$</b>	\$		
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

	Average 20 Fruit Farms				My Farm		
	Total		nt cost per	Total			
ľ	equip.		operated:	equip.			
Item	_cost	Bearing	All fruit	cost	Bearing	All fruit	
Annual Accrual Cost							
Machine hire, equip.							
rent, lease	\$14,206	\$ 60	<b>\$</b> <u>53</u>	\$	<b>\$</b>	<b>\$</b>	
Repair & parts	23,049	97	85		<del></del>		
Auto exp farm share	526	2	2				
Fuel, oil & grease	13,638	58	2 50 36				
Interest - avg. cap. @5%	9,831	41	36				
Depreciation	<u>22.671</u>	<u>96</u>	<u>84</u>				
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

1 ams, 1990				
	Full-time	Age,	Years of	Value of
Labor Force	<u>months</u>	years	Education	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			tal \$ <u>57,253</u>
Family paid	1.0		Avg./o	per. \$30,948
·				
Hired -				
regular	29.6			
picking	45.7			
other part-time, seasonal	28.8			
m		(10	10.00	
Total	12 <b>7</b> .5 r	no./12 =	10.62 worker	
			1.85 oper./ma	nager equiv.
No. We are				
My Farm:	_	ma /10		
Total	<u></u>	no./12 =	worker eq	uivaient
Operators	I	no./12 =	oper./mai	nager equiv.
	<del></del>			
	Av	erage	<u>My</u>	<u>Farm</u>
I abor Difficiency	Total	Don Worls	Total	Domessonless
Labor Efficiency	Total	Per Worke	er Total	Per worker
Dooring fruit cores	027 1	00.9		
Bearing fruit, acres	237.1	22.3		<del></del>
Total fruit, acres	270.5	25.5		
Apples sold, bushels	94,019	8,852	<del></del>	<del>-</del> <del></del>
Accrual receipts		340,988	\$	\$
Accrual fruit receipts	\$386,885	36,424	\$	<u> </u>
Tabau 0 - 4 - 77 1 -			10	
Labor Cost or Value		Annual A	ccrual Cost	
	Average 20			Farm
	Per	Per		Per Per
		er bearing	wo	rker bearing
Type	<u>Total equiv</u>	. acre	<u>Total</u> eq	uiv. acre
Walne of angust-(-) 1-1 @				
Value of operator(s) labor @	# 01 04E # 0 00	0 4 101	Α .	
\$1,400/mo.	\$ 31,045 \$ 2,92		<b>\$</b> \$	\$
Family unpaid @ \$1,400/mo.		8 1		
Family paid (excl. operator)	1,534 14	4 6		
Hired -	E0 770 E 0 4	000		
regular (excluding operator)	56,778 5,34			
picking	81,357 7,66		<del></del> -	
other part-time, seasonal	36.667 3.45		<del></del> ~	
All labor (incl. non-cash)	\$207,570 \$19,54	to \$ 875	<b>\$</b> \$	<u> </u>
All equipment cost	83.921 7.90	2 354		
All equipment cost			<del>, </del> ,	
Total labor & equip. cost	<b>\$291,491 \$27,44</b>	7 \$ 1 000	\$ \$	\$

### **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 Owned R	Farm ented Total	
Land Class (end of year) Bearing fruit, acres Non-bearing fruit, acres Other crops, open, acres Non-tillable pasture, acres Other non-tillable, acres	163 27 18 3 27	7.6 5. 3.9 5. 3.8 0.	6 24.5 0 3.8		
Total land operated	240	<u>.6 91.</u>	3 331.9	·····	
Crop Production	For far No. of farms	ms havir Average acres		Total acres	Yield per acre
Bearing Fruit: Apples - fresh processing all apples Cherries sweet tart Grapes Peaches Pears Plums, prunes Other fruit Total bearing fruit	20 20 20 7 9 2 9 11 7 3 20	97.9 97.4 195.3 14.7 50.9 7.8 9.2 10.7 4.7 8.4 237.1	369 bu. 543 bu. 456 bu. 1,681 lb. 4,340 lb. 3.2 tn. 153 bu. 221 bu. 225 bu.		bu. bu. bu. bu. lb. bu. bu. bu. bu. bu. bu. bu.
Non-Bearing Fruit: Apples fresh processing Cherries sweet tart Other non-bearing Total non-bearing fruit acres Other Crops, Open: Other	18 1 3 2 6 20	30.3 59.0 7.5 11.7 2.7 33.3			

### **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 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

rainis, 1990	Cost Per Fruit Acre Operated		
Item	Bearing acres	All fruit acres	
All labor - including operators' labor	\$875	<b>\$768</b>	
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	<b>259</b>	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
	9.42	11,033	10.62
Worker equivalent			
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%	<b>37</b> %	41%
Cherries - tart, pounds per bearing acre	8,867	7,330	4,340
Pears, bushels per bearing acre	237	279	<b>22</b> 1
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	$\tilde{2}\tilde{3}$	25
Accrual receipts per worker	\$59,125	\$44,580	\$40,988
Accidal receipts per worker	Ψ03,120	Ψ11,000	φ40,300
Cost Control - Accrual			
Cost per bearing acre:			
All labor	\$888	<b>\$99</b> 1	<b>\$875</b>
All equipment	<b>\$</b> 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	
Capital turnover, years	1.4	1.9	2.0
Profitability			
Net farm income:			
Without appreciation	\$148,708	\$12,618	<b>\$</b> (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 apprecia	ation:	4(12, 100)	4(00,007)
Equity capital	19.4%	-5.6%	-13.8%
Total capital	16.2%	-3.5% -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 to asset ratio  Debt per bearing acre	\$1,059	\$1,290	\$1,426
Cash flow coverage ratio	1.91	0.92	0.18
Casil now coverage latio	1.31	0.32	0.16

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

Western New York, 1991-1993			
		er Farm.Same	
Selected Factors	<u> 1991</u>	<u> 1992</u>	1993
Olmo of Developes			
Size of Business	000	000	200
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	<b>\$</b> 618, <b>72</b> 4	<b>\$</b> 518,883	\$442,089
Dates of Bradwation			
Rates of Production	590	628	450
All apples, bushels per bearing acre	3 <b>7</b> %	40%	456
Fresh - percent of apples harvested			41%
Cherries - tart, pounds per bearing acre	8,364	6,444	4,340
Pears, bushels per bearing acre	227	256 1106	<b>221</b>
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
rectual receipts per worker	Ψ01,120	Ψ10,077	Ψ1,021
Cost Control - Accrual			
Cost per bearing acre:			
All labor	<b>\$</b> 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	40.00-	4	4
Total farm capital per bearing acre	\$3,897	<b>\$4,012</b>	\$3,823
Total farm capital per fruit acre	<b>\$3,497</b>	<b>\$3,614</b>	\$3,352
Capital turnover, years	1.4	1.9	2.0
W - 64 - 1 1114			
Profitability			
Net farm income:	A100 045	410.001	A(40, 450)
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:	10.004	E 10/	1.4.107
Equity capital	19.0%	-5.1%	-14.1%
Total capital	15.9%	-2.1%	-7.4%
Financial Summary - End of Year			
Farm:			
Net worth	<b>\$730,356</b>	<b>\$663,911</b>	\$580,778
Debt to asset ratio	0.25	0.30	0.37
Debt per bearing acre	\$1,025	<b>\$</b> 1,194	<b>\$1,389</b>
Cash flow coverage ratio	2.27	1. <b>04</b>	0.15

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

Salastad Fastora	1001	1000	1002	Cosl
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	<b>\$</b>	<b>\$</b>	<del></del>	<b>\$</b>
Cost Control - Accrual Cost/bearing acre: All labor All equipment Spray Hired labor as % of oper. exp.	\$ \$ \$ \$ %	\$ \$ \$ 96	\$ \$ \$ \$ %	\$ \$ \$%
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	<del></del> %	%	<u></u> %	%
Financial Summary - End of Year Farm:				
Net worth	\$	\$	\$	\$
Debt to asset ratio		-		
Debt/bearing acre Cash flow coverage ratio	\$	<b>\$</b>	\$	<b>\$</b>

# OTHER A.R.M.E. EXTENSION BULLETINS (Formerly A.E. Extension Publications)

No.	94-17	Financial Consideratons When Expanding Your Dairy Farming Operation	John R. Brake
No.	94-18	Your Dairy in Transition Your Farm and the Industry	Faculty & Staff Cornell University
No.	94-19	Your Dairy in Transition A Planning Process for Considering Dairy Farm Expansion	Faculty & Staff Cornell University
No.	94-20	Your Dairy in Transition Winding Down Your Farm Operation	John R. Brake
No.	94-21	Dairy Farm Business Summary Eastern New York Renter Summary 1993	Stuart F. Smith Linda D. Putnam
No.	94-22	Income Tax Consequences of Farm Debt Cancellation and Bankruptcy	George Casler
No.	94-23	Farm Income Tax Management and Reporting Reference Manual	George L. Casler Stuart F. Smith
No.	94-24	Dairy Farm Business Summary New York Large Herd Farms, 300 Cows or Larger 1993	Jason Karszes Stuart F. Smith Linda D. Putnam
No.	94-25	New York Economic Handbook 1995 Agricultural Situation and Outlook	A.R.M.E. Staff
No.	94-26	Census of Agriculture Highlights New York State, 1992	<ul><li>W. Knoblauch</li><li>L. Putnam</li><li>B. Stanton</li><li>N. Merrill</li></ul>