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# **FRUIT FARM BUSINESS SUMMARY**

## **LAKE ONTARIO REGION 1988**

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1988 FRUIT FARM BUSINESS SUMMARY  
LAKE ONTARIO REGION

Table of Contents	Page
	----
INTRODUCTION .....	1
Format Features .....	1
Apple Production and Prices in Recent Years .....	2
SUMMARY AND ANALYSIS OF THE FARM BUSINESS .....	3
Business Characteristics .....	3
Farm Financial Status .....	4
Income Statement .....	7
Profitability Analysis .....	11
Cash Flow Statement .....	13
Repayment Analysis .....	15
Capital Efficiency Analysis .....	17
Equipment Analysis .....	17
Labor Analysis .....	18
Cropping Program Analysis .....	19
Cost Control Factors .....	20
PROGRESS OF THE FARM BUSINESS .....	20

ABSTRACT

This report is a summary of 1988 farm business data collected from 12 fruit farm businesses located in Western New York State. Apples are the predominant fruit crop. The data are presented as averages for the 12 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 research associate and regional fruit specialist respectively. Appreciation is expressed to the cooperating fruit farmers who provided the data summarized in this report. Also, the authors appreciate reviews of this report and helpful comments by Professors G. B. White and E. L. LaDue of the Department of Agricultural Economics.

# 1988 LAKE ONTARIO FRUIT FARM BUSINESS SUMMARY

## INTRODUCTION

Fruit farmers, with an emphasis on producing apples in Western New York, are invited to participate in Cornell Cooperative Extension's fruit farm business summary program. Each participating farmer receives a comprehensive business summary and analysis of his or her farm business. This report presents averages for the data submitted from participating farms.

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 in the field by the Cornell Cooperative Extension fruit specialist. This program enables an analysis to be produced on the farm as soon as the farmer's data are entered. This provides rapid processing of the information provided for timely use in the management of the farm business.

The farms in this study are primarily apple farms. An average of 78 percent of the receipts in 1988 was from the sale of apples. The data were not obtained by using a random sample of all fruit farms in Western New York. The analysis should not be used to represent the Western New York fruit industry.

### Format Features

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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 his or her business with the average data presented.

This report features:

- (1) a complete BALANCE SHEET 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) a CASH FLOW SUMMARY including debt repayment analysis,
- (4) analyses of CAPITAL EFFICIENCY, EQUIPMENT, and LABOR,
- (5) a CROPPING PROGRAM ANALYSIS with COST CONTROL FACTORS, and
- (6) a THREE YEAR COMPARISON of selected business factors.

Apple Production and Prices in Recent Years

Apple production for the State was 21.7 million bushels in 1988. Western New York growers produced 13.6 million bushels or about 63 percent of the total State crop. Statewide, production was up about three percent but in Western New York it was down six percent compared to 1987.

Table 1. APPLE PRODUCTION AND PRICES  
New York State, 1985 - 1988

Item	1985	1986	1987	1988
Production: ----- million bushels -----				
Fresh apples				
Western New York	4.8	4.8	4.5	3.5
New York State	9.7	8.6	9.0	9.6
Processing apples				
Western New York	14.3	9.5	10.0	10.1
New York State	16.7	12.9	11.9	12.0
All varieties				
Western New York	19.0	14.3	14.5	13.6
New York State	26.4	21.4	21.0	21.7
Average Price Received per Bushel: ----- dollars -----				
Fresh Apples				
Western New York				
F.O.B. Packed	9.20	12.10	11.59	13.48
F.O.B. less pkg, stg, etc	4.62	6.89	5.92	6.09
Bulk price	4.45	4.83	4.37	4.62
All fresh apples	6.85	11.00	8.17	9.43
New York State				
F.O.B. Packed	9.63	12.45	11.76	13.97
F.O.B. less pkg, stg, etc	4.93	7.21	6.19	6.43
Bulk price	4.45	4.83	4.37	4.62
All fresh apples	8.42	11.68	10.00	12.43
Processing apples				
Western New York	1.90	2.52	2.42	3.15
New York State	1.87	2.48	2.39	3.02
All apples, New York State	4.17	6.17	5.67	7.21

Source: New York Agricultural Statistics Service, FRUIT series, Seasonal releases for July 1986, 1987, 1988, and 1989

About 25 percent of the 1988 apple crop produced in Western New York was sold fresh. This was down from a third of the crop for the two previous years. The 1988 fresh crop was three and one-half million bushels - one million bushels less than the 1987 crop. Processing apple production remained the same at about ten million bushels or three-quarters of the 1988 Western New York apple crop.

Prices received per bushel for fresh apples in Western New York averaged 15 percent higher in 1988 than for 1987. Western New York processing apple prices averaged \$3.15 per bushel or 7.5 cents per pound in 1988 - 30 percent above the \$2.42 per bushel received in 1987.

Statewide, fresh apple prices received by growers averaged \$12.43 per bushel - 24 percent more than the previous year. Processing apples, produced mostly in Western counties, averaged \$3.02 per bushel or 7.2 cents per pound for 1988. Overall, prices averaged \$7.21 per bushel for all apples. This was 27 percent above 1987 and the highest price in recent years.

### SUMMARY AND ANALYSIS OF THE FARM BUSINESS

#### Business Characteristics

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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  
12 Western New York Fruit Farms, 1988

---

Type of Business:	No.	Business Record System:	No.
	---		---
Proprietors	3	ELFAC	0
Partnerships	2	Account Book	2
Corporations	7	Agrifax (mail-in)	2
		On-Farm Computer	8
		Other	0

---

Business Composition:	No.
	---
Fruit production only	4
Fruit with storage	3
Fruit & other enterprises	1
Fruit w/storage & other enterprises	4

---

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 relationship between assets, liabilities, and net worth and 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

Table 3. 1988 FARM BUSINESS BALANCE SHEET  
12 Western New York Fruit Farms, January 1, 1989

Farm Assets	Dec 31		Farm Liabilities & Net Worth	Dec 31	
	1987	1988		1987	1988
Current			Current: =< 1 yr		
	\$	\$		\$	\$
Cash, checking, sav	19,430	18,734	Accounts payable	41,479	38,749
Accounts receivable	60,931	101,657	Operating debt	7,676	13,448
Prepaid expenses	0	451	Short term	6,661	2,728
Fruit, other crops	74,156	90,609	Advanced govt recpts	0	0
Production supplies	2,470	5,790	Accrued interest	0	0
Packing supplies	417	208			
Total current	157,404	217,450	Total current	55,816	54,926
Intermediate			Intermediate: > 1 to < 10 yr		
Livestock	0	0	Structured debt	48,227	58,649
Livestock leased	0	0	Fin lease- Lvstk, Eq	5,210	3,714
Equipment owned	171,662	174,470	FLB/PCA stock	8,135	8,060
Equipment leased	5,210	3,714			
FLB/PCA stock	8,135	8,060	Total intermediate	61,571	70,423
Other stock, certs	47,598	34,412			
Total intermediate	232,605	220,655	Long Term: => 10 yr		
Long Term			Structured debt	160,531	152,869
Land/buildings:				0	0
Owned	349,307	360,991	Fin lease-structures	0	0
Structures leased	0	0			
Total long term	349,307	360,991	Total long term	160,531	152,870
Total Farm:			Total Farm:		
Assets	739,316	799,096	Liabilities	277,919	278,218
			Net Worth	461,397	520,878
			Liab & Net Worth	739,316	799,096



the item has to the business.

Some fruit farmers who participate in the feed grain program may receive early payments. These advanced government receipts are included as current liabilities if they represent income that has been received but will not be earned until the next year. Payments received in 1988 that are for participation in the 1989 program are the end year balance and payments received in 1987 for participation in the 1988 program are the beginning year balance.

The table below provides a format for the reader to use to develop a balance sheet for an individual's farm business.

Table 4. 1988 FARM BUSINESS BALANCE SHEET Date \_\_\_\_\_

My Farm

Farm Assets	Dec 31 1987	1988	Farm Liabilities & Net Worth	Dec 31 1987	1988
<u>Current</u>	\$	\$	<u>Current: =&lt; 1 yr</u>	\$	\$
Cash, checking, sav	_____	_____	Accounts payable	_____	_____
Accounts receivable	_____	_____	Operating debt	_____	_____
Prepaid expenses	_____	_____	Short term	_____	_____
Fruit, other crops	_____	_____	Advanced govt recpts	_____	_____
Production supplies	_____	_____	Accrued interest	_____	_____
Packing supplies	_____	_____			
Total current	_____	_____	Total current	_____	_____
<u>Intermediate</u>			<u>Intermediate: &gt; 1 to &lt; 10 yr</u>		
Livestock	_____	_____	Structured debt	_____	_____
Livestock leased	_____	_____	Fin lease- Lvstk, Eq	_____	_____
Equipment owned	_____	_____	FLB/PCA stock	_____	_____
Equipment leased	_____	_____			
FLB/PCA stock	_____	_____	Total intermediate	_____	_____
Other stock, certs	_____	_____			
Total intermediate	_____	_____			
<u>Long Term</u>			<u>Long Term: =&gt; 10 yr</u>		
Land/buildings:			Structured debt	_____	_____
Owned	_____	_____	Fin lease-structures	_____	_____
Structures leased	_____	_____			
Total long term	_____	_____	Total long term	_____	_____
<b>Total Farm:</b>			<b>Total Farm:</b>		
Assets	_____	_____	Liabilities	_____	_____
			Net Worth	_____	_____
			Liab & Net Worth	_____	_____

The balance sheet analysis involves an examination of financial and debt ratios measuring levels of debt. 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.

Table 5. BALANCE SHEET ANALYSIS  
12 Western New York Fruit Farms, January 1, 1989

Item	Average	My Farm
<hr/>		
Financial Ratios - end of year	Farm Business	
Percent equity	65%	_____ %
Debt to asset ratios		
Total debt	0.35	_____
Long term	0.42	_____
Current & intermediate	0.29	_____
<hr/>		
Change in Net Worth		
Without appreciation	\$ 46,746	\$ _____
With appreciation	\$ 59,480	\$ _____
<hr/>		
Debt Analysis - end of year		
Percent of total farm debt that is:		
Long term	55%	_____ %
Current & intermediate (incl A/P)	45%	_____ %
Accounts payable	14%	_____ %
<hr/>		
Debt Levels - end of year	Per fruit acre operated:	Per fruit acre operated:
	Bearing	All fruit
	_____	_____
Total farm debt	\$1,130	\$1,029
Long term	621	566
Current & intermediate	509	464
	_____	_____
	_____	_____
<hr/>		

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  
12 Western New York Fruit Farms, 1988

Item	Average		My Farm	
	Real Estate	Equipment	Real Estate	Equipment
Value- beginning of year (1)	\$ 349,307	\$ 171,662	\$ _____	\$ _____
Purchases	\$ 22,012 a	\$ 20,319	\$ _____	\$ _____
+ Nonfarm noncash transfers	0	0	_____	_____
- Lost capital	3,490		_____	_____
- Sales	8,875	999	_____	_____
- Depreciation	15,902	24,493	_____	_____
= Net investment (2)	\$ (6,254)	\$ (5,173)	\$ _____	\$ _____
Appreciation (3-1-2)	17,938 b	7,980	_____	_____
Value- end of year (3)	\$ 360,991	\$ 174,470	\$ _____	\$ _____

a Purchase includes \$2,500 for land and \$19,512 for buildings.  
b RE apprec 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 because it represents purchased inputs 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, 1989 rent paid in 1988. A positive change is an amount paid in a previous year that is an expense for this year; a negative change indicates an amount paid this year that is an expense for a future year.

CHANGE IN ACCOUNTS PAYABLE: An increase in payables is an expense chargeable to this year but not paid at 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 in this year's production.

The following worksheets are provided to enable any fruit farmer to compare his or her expenses and receipts with the group averages in the corresponding tables.

Table 7.

CASH AND ACCRUAL FARM EXPENSES  
12 Western New York Fruit Farms, 1988

EXPENSES	Cash amount paid	+	Change in inventory or prepaid expense	+	Change in accounts payable	=	Accrual expenses
<b>Hired Labor</b>							
Wages- regular	\$ 39,090	\$	0	\$	0	\$	39,090
picking	48,954		0		0		48,954
other parttime, seasonal	10,207		0		0		10,207
Other labor costs	18,579		0		0		18,579
Picker travel	676		0		0		676
Labor camp expenses	793		0		183		977
<b>Equipment</b>							
Machine hire, rent, lease	6,376		0		0		6,376
Repairs & parts	16,225		(146)		0		16,079
Auto expense - farm share	51		0		0		51
Fuel, oil & grease	10,292		(100)		0		10,192
<b>Livestock</b>							
All livestock expenses	0		0		0		0
<b>Crops</b>							
Fertilizer & lime	11,464		(375)		0		11,089
Replacement trees & plants	634		0		0		634
Spray	37,372		(2,560)		0		34,811
Other crop production expenses	7,419		(21)		0		7,398
Packing supplies	955		208		0		1,164
Storage	7,156		0		0		7,156
Marketing, selling expenses	1,401		0		0		1,401
<b>Real Estate</b>							
Repair- land, bldg, fences	1,724		0		0		1,724
Taxes	6,187		0		0		6,187
Rent & lease	6,557		(451)		(451)		5,654
<b>Other Expenses</b>							
Insurance	6,700		0		0		6,700
Telephone- farm share	875		0		0		875
Electricity- farm share	3,732		0		0		3,732
Fruit purchased for resale	10,330		0		0		10,330
Interest paid	21,738		0		0		21,738
Miscellaneous	8,516		(118)		(2,463)		5,936
<b>TOTAL OPERATING EXPENSES</b>	<b>\$ 284,001</b>	<b>\$</b>	<b>(3,563)</b>	<b>\$</b>	<b>(2,730)</b>	<b>\$</b>	<b>277,708</b>
Expansion orchard	\$ 6,635		0		0		6,635
Depreciation - Equipment							24,493
Buildings							3,694
Bearing trees & vines							12,208
<b>TOTAL ACCRUAL EXPENSES</b>						<b>\$</b>	<b>324,737</b>

Table 8.

CASH AND ACCRUAL FARM EXPENSES  
My Farm, 1988

EXPENSES	Cash amount paid +	Change in inventory or prepaid expense +	Change in accounts payable	Accrual expenses =
<b>Hired Labor</b>				
Wages- regular	\$ _____	\$ _____	\$ _____	\$ _____
picking	_____	_____	_____	_____
other parttime, seasonal	_____	_____	_____	_____
Other labor costs	_____	_____	_____	_____
Picker travel	_____	_____	_____	_____
Labor camp expenses	_____	_____	_____	_____
<b>Equipment</b>				
Machine hire, rent, lease	_____	_____	_____	_____
Repairs & parts	_____	_____	_____	_____
Auto expense - farm share	_____	_____	_____	_____
Fuel, oil & grease	_____	_____	_____	_____
<b>Livestock</b>				
All livestock expenses	_____	_____	_____	_____
<b>Crops</b>				
Fertilizer & lime	_____	_____	_____	_____
Replacement trees & plants	_____	_____	_____	_____
Spray	_____	_____	_____	_____
Other crop production expenses	_____	_____	_____	_____
Packing supplies	_____	_____	_____	_____
Storage	_____	_____	_____	_____
Marketing, selling expenses	_____	_____	_____	_____
<b>Real Estate</b>				
Repair- land, bldg, fences	_____	_____	_____	_____
Taxes	_____	_____	_____	_____
Rent & lease	_____	_____	_____	_____
<b>Other Expenses</b>				
Insurance	_____	_____	_____	_____
Telephone- farm share	_____	_____	_____	_____
Electricity- farm share	_____	_____	_____	_____
Fruit purchased for resale	_____	_____	_____	_____
Interest paid	_____	_____	_____	_____
Miscellaneous	_____	_____	_____	_____
<b>TOTAL OPERATING EXPENSES</b>	\$ _____	\$ _____	\$ _____	\$ _____
Expansion orchard	\$ _____	_____	_____	_____
Depreciation - Equipment	_____	_____	_____	_____
Buildings	_____	_____	_____	_____
Bearing trees & vines	_____	_____	_____	_____
<b>TOTAL ACCRUAL EXPENSES</b>	_____	_____	_____	\$ _____

Table 9.

CASH AND ACCRUAL FARM RECEIPTS  
12 Western New York Fruit Farms, 1988

RECEIPTS	Cash receipts	+ Change in inventory	+ Change in accts/rec	= Accrual receipts
Apples- Fresh	\$ 163,573	\$ 18,240	\$ 13,077	\$ 194,891
Processing	127,278	(1,788)	9,986	135,477
Cherries - sweet	7,120		0	7,120
tart	16,433		2,121	18,553
Grapes	384		167	551
Peaches	1,267		0	1,267
Pears	5,081		583	5,664
Plums & prunes	906		0	906
All other fruit	2,732	0	0	2,732
Other crops, livestock & prod	675	0	0	675
Custom work, storage, rent	13,055		944	13,999
Other- incl govt recpts, refunds	32,429	0 a	7,502	39,930
- Nonfarm noncash capital		(-) 0 b		(-) 0
<b>TOTAL OPERATING RECEIPTS</b>	<b>\$ 370,933</b>	<b>\$ 16,452</b>	<b>\$ 34,380</b>	<b>\$ 421,765</b>

a Change in advanced government receipts. b Gifts & inheritances of livestock & crops.

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 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.

CASH AND ACCRUAL FARM RECEIPTS - My Farm

RECEIPTS	Cash receipts	+ Change in inventory	+ Change in accts/rec	= 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- incl govt recpts, refunds	_____	_____	_____	_____
- Nonfarm noncash capital	_____	(-) _____	_____	(-) _____
<b>TOTAL OPERATING RECEIPTS</b>	<b>\$ _____</b>	<b>\$ _____</b>	<b>\$ _____</b>	<b>\$ _____</b>

Profitability Analysis

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Farm owner-operators contribute labor, management, and capital to their businesses and the best combination of these resources maximizes income. 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 net annual 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 FLB and PCA). 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  
12 Western New York Fruit Farms, 1988

Item	Average	My Farm
Total accrual receipts	\$ 421,765	\$ _____
+ Appreciation:		
Livestock	\$ 0	_____
Equipment	7,980	_____
Real estate (incl orchards)	17,938	_____
Other- Stock & certificates	+ (13,184)	+ _____
= Total accrual receipts with apprec	\$ 434,499	\$ _____
- Total accrual expenses	- 324,737	- _____
= Net Farm Income (w/appreciation)	\$ 109,762	\$ _____
Net Farm Income (w/o appreciation)	\$ 97,028	\$ _____

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  
12 Western New York Fruit Farms, 1988

Item	Average		My Farm	
	With apprec.	Without apprec.	With apprec.	Without apprec.
Net farm income	\$ 109,763	\$ 97,028	\$ _____	\$ _____
- Family unpaid labor @ \$700 per month	- 1,575	- 1,575	- _____	- _____
= Return to operators' labor management, & equity	\$ 108,188	\$ 95,453	\$ _____	\$ _____

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 comparable risk investments.

Table 13. LABOR AND MANAGEMENT INCOME  
12 Western New York Fruit Farms, 1988

Item	Average	My Farm
Return to operators' labor, management, & equity capital without appreciation	\$ 95,453	\$ _____
- Real interest @ 5% on \$491,138 average equity capital	- 24,557	- _____
= Labor & Management Income for 1.9 Operators	\$ 70,896	\$ _____
Labor & Management Income per Operator	\$ 36,592	\$ _____

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-operator's 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.



RETURN ON TOTAL CAPITAL is calculated by adding interest paid to the return on equity capital and then dividing by average farm assets to calculate the rate of return on total capital. It indicates the rate of return earned by this business on all of the funds used in the business.

Table 14. RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL  
12 Western New York Fruit Farms, 1988

Item	Average	My Farm
Return to operators' labor, management, & equity capital with appreciation	\$ 108,188	\$ _____
- Value of operators' labor & management	- 47,133	- _____
= Return on avg. equity capital w/apprec	\$ 61,055	\$ _____
+ Interest paid	+ 21,738	+ _____
= Return on avg. total capital w/apprec	\$ 82,793	\$ _____
Return on avg. equity capital w/apprec	\$ 61,055	\$ _____
- Total appreciation	- 12,734	- _____
= Return on avg. equity capital w/o apprec	\$ 48,321	\$ _____
+ Interest paid	+ 21,738	+ _____
= Return on avg. total capital w/o apprec	\$ 70,059	\$ _____
Rate of return on avg. equity capital of \$491,138:		
with appreciation	12.4%	_____ %
without appreciation	9.8%	_____ %
Rate of return on avg. total capital of \$769,206:		
with appreciation	10.8%	_____ %
without appreciation	9.1%	_____ %

Measures of profitability for 1988 were increased by government disaster payments received by some fruit farmers. Accrual receipts include about \$18,000 average per farm for these receipts for 1988. They accounted for about \$9,500 of the labor and management income per operator. Also, rates of return on average equity capital were increased by 3.6 percentage points and rates of return on average total capital were increased by 2.3 percentage points.

### 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 the following table. 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  
12 Western New York Fruit Farms, 1988

Item	Average	My Farm
<b>Cash Inflows</b>		
Beginning farm cash, checking & savings	\$ 19,430	\$ _____
Cash farm receipts	370,933	_____
Sale of assets:		
Equipment	999	_____
Real estate	4,208	_____
Other stock & certificates	222	_____
Money borrowed:		
Increase in operating debt	5,772	_____
Short term	0	_____
Intermediate	21,199	_____
Long term	0	_____
Refinanced debt	1,771	_____
Nonfarm:		
Income	180	_____
Capital used in business	2,516	_____
Money borrowed	0	_____
Total Cash Inflows	\$ 427,230	\$ _____
<b>Cash Outflows</b>		
Cash farm expenses (excluding interest paid)	\$ 262,263	\$ _____
Capital purchases:		
Expansion orchard	6,635	_____
Equipment	20,319	_____
Real estate	22,012	_____
Other stock & certificates	220	_____
Debt payments:		
Principal payments for:		
Decrease in operating debt	0	_____
Short term	2,161	_____
Intermediate	12,548	_____
Long term	7,661	_____
Refinanced debt	1,771	_____
Interest paid	21,738	_____
Personal withdrawals and family expenditures including nonfarm debt payments and corporation operator labor costs	51,150	_____
Ending farm cash, checking & savings	18,734	_____
Total Cash Outflows	\$ 427,212	\$ _____
Imbalance (error)	\$ 18	\$ _____

Repayment Analysis

The second step in cash flow analysis is to compare the debt payments planned for the last year with the amount actually paid. The measures listed below provide a number of different perspectives on the repayment performance of the business. However, the critical question to many farmers and lenders is whether planned payments can be made in 1989. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1989 debt payments shown below.

Table 16. FARM DEBT PAYMENTS PLANNED  
12 Western New York Fruit Farms, 1988

Debt Payments	Average			My Farm		
	1988 Payments Planned	Made a	Planned 1989	1988 Payments Planned	Made a	Planned 1989
Accts payable (net reduction)	\$4,701	\$2,730	\$4,183	\$_____	\$_____	\$_____
Operating (net reduction)	(583)	0	12,894	_____	_____	_____
Short term (prin & interest)	2,045	3,205	191	_____	_____	_____
Intermediate (prin & interest)	19,663	17,199	7,636	_____	_____	_____
Long term (prin & interest)	16,700	20,816	19,561	_____	_____	_____
Total debt payments	\$42,527	\$43,951	\$44,465	\$_____	\$_____	\$_____
Payments as a % of:						
total accrual receipts	10%	10%		_____%		
total acrrl fruit recpts	12%	12%		_____%	_____%	
Pymts per acre of bearing fruit	\$173	\$178		\$_____	\$_____	
Pymts per bushel of apples sold	\$0.50	\$0.51		\$_____	\$_____	

a 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 last year's available cash flow.

Table 17. CASH FLOW COVERAGE RATIO  
12 Western New York Fruit Farms, 1988

Item		Average	My Farm
Cash farm receipts		\$370,933	\$_____
- Cash farm expenses		284,001	_____
+ Interest paid		21,738	_____
- Net personal withdrawals from farm a		50,969	_____
= Amount available for debt service	(1)	\$57,701	\$_____
Debt payments planned for 1988	(2)	\$42,527	\$_____
Cash Flow Coverage Ratio	(1/2)	1.36	_____

a Personal withdrawals and family expenditures less nonfarm income and nonfarm money borrowed. If family withdrawals are excluded the cash flow coverage ratio will be incorrect.

Table 18. ANNUAL CASH FLOW WORKSHEET - 1988 AND 1989 PROJECTION

Item	Average of 12 farms	My Farm Total	Per acre	Expected change	1989 Projection
Average bearing acres of fruit	246				
Accrual Operating Receipts					
	(/brng ac)				
Apples - Fresh	\$ 791	\$	\$	\$	\$
Processing	550				
All other fruit	149				
Other crops, livestock & products	3				
Custom work, storage & rent	57				
Other - incl govt recpts, refunds	162				
Total operating receipts	\$ 1,712	\$	\$	\$	\$
Accrual Operating Expenses					
Labor- Wages - regular	\$ 159	\$	\$	\$	\$
picking	199				
other parttime, seasonal	41				
Other labor costs	75				
Picker travel, Labor camp expense	7				
Equip- Machine hire, rent, lease	26				
Repairs, parts & auto expense	65				
Fuel, oil & grease	41				
Lvstk- All livestock expense	0				
Crops- Fertilizer & lime	45				
Replacement trees & plants	3				
Spray	141				
Other crop production expense	30				
Packing supplies, storage	34				
Marketing, selling expense	6				
R Est- Repair- land, bldg, fences	7				
Taxes	25				
Rent & lease	23				
Other- Insurance	27				
Utilities- telephone, electricity	19				
Fruit purchased for resale	42				
Miscellaneous	24				
Total excluding interest paid	\$ 1,039	\$	\$	\$	\$
Repayment Analysis:	(total)				
Net accrual oper income excl interest	\$165,796	\$			\$
- Change in livestock & crop inventory	16,452				
- Change in accounts receivable	34,380				
+ Change in crop & supply inventory	(3,563)				
+ Change in accounts payable a	(2,730)				
NET CASH FLOW	\$108,670	\$			\$
- Net personal withdrawals	50,969				
Available for debt pymnts,	\$ 57,701	\$			\$
- Farm debt payments: prin & int	43,951 b				
Available for farm investment	\$ 13,750	\$			\$
Capital purchases	\$ 49,185	\$			\$
Additional capital needed	\$ 35,435	\$			\$

a Less change in accounts payable for interest.

b See previous page.

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 numbers 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 years' total farm accrual receipts and appreciation.

Table 19.

CAPITAL EFFICIENCY ANALYSIS  
12 Western New York Fruit Farms, 1988

Item	Average Capital Investment			
	Per worker equiv	Per bearing ac:		Per all fruit acres
		Owned	Operated	
Average: Total farm capital	\$80,610	\$3,928	\$3,123	\$2,845
----- Real estate	37,218	1,814	n/a	1,314
All equipment	9,189	n/a	356	324
Capital turnover, years	1.77			
My Farm: Total farm capital	\$ _____	\$ _____	\$ _____	\$ _____
----- Real estate	_____	_____	n/a	_____
All equipment	_____	n/a	_____	_____
Capital turnover, years	_____			

Equipment Analysis

Equipment costs comprise about 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  
12 Western New York Fruit Farms, 1988

Item	Total equip cost	Average		Total equip cost	My Farm	
		fruit acre operated: Bearing	All fruit		fruit acre operated: Bearing	All fruit
Annual Accrual Cost:						
Mach hire, rent, lease	\$ 6,376	\$ 26	\$ 24	\$ _____	\$ _____	\$ _____
Repair & parts	16,079	65	59	_____	_____	_____
Auto exp - farm share	51	0	0	_____	_____	_____
Fuel, oil & grease	10,192	41	38	_____	_____	_____
Interest - (5%)	8,653	35	32	_____	_____	_____
Depreciation	24,493	99	91	_____	_____	_____
Total equipment cost	\$65,844	\$ 267	\$ 244	\$ _____	\$ _____	\$ _____

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  
12 Western New York Fruit Farms, 1988

Labor Force	Full time months	Age yrs	Years of Education	Value of lab/mgt
Average: Operator number 1	11.5	43	14	\$24,206
number 2	5.3	38	14	\$10,842
number 3	5.0	41	15	\$9,342
number 4	1.5	34	14	\$2,744
Family unpaid	2.3			
Family paid	2.3			
Hired-regular	31.3			
-picking	45.8			
-parttime, seasonal	9.6			
			Total	\$47,133
			Average /oper =	\$24,326
Total	114.5	mo / 12 =	9.54	worker equivalent
			1.94	operator/manager equiv
My Farm: Total	_____	mo / 12 =	_____	worker equivalent
Operators	_____	mo / 12 =	_____	operator/manager equiv

Labor Efficiency	Average		My Farm	
	Total	Per worker	Total	Per worker
Bearing fruit, acres	246.3	25.8	_____	_____
Total fruit, acres	270.3	28.3	_____	_____
Apples sold, bushels	85,730	8,984	_____	_____
Accrual receipts	\$421,765	\$44,199	\$_____	\$_____
Accrual fruit receipts	\$367,160	\$38,477	\$_____	\$_____

Labor Cost or Value

Annual accrual cost

Type	Total	Average	Per	Total	My Farm	Per
		Per worker equiv			Per wkr equiv	
Value of operator(s)						
labor @ \$1000 /mo	\$23,250	\$12,000	\$94	\$_____	\$_____	\$_____
Family unpaid @ \$ 700 /mo	1,575	8,400	6	_____	_____	_____
Family paid (excl oper)	2,355	12,111	10	_____	_____	_____
Hired - regular (excl oper)	45,361	17,372	184	_____	_____	_____
- picking	58,862	15,428	239	_____	_____	_____
- other parttime, seasonal	11,905	14,946	48	_____	_____	_____
All labor (incl non-cash)	\$143,308	\$15,018	\$582	\$_____	\$_____	\$_____
All equipment cost	65,844	6,900	267	_____	_____	_____
Total labor and equipment cost	\$209,152	\$21,918	\$849	\$_____	\$_____	\$_____

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  
12 Western New York Fruit Farms, 1988

Item	Average			My Farm		
	Owned	Rented	Total	Owned	Rented	Total
Land class (End of year)						
Bearing fruit, acres	196	51	246			
Non-bearing fruit, acres	21	3	24			
Other crops, open, acres	20	3	23			
Nontillable pasture, acres	8	1	9			
Other nontillable, acres	32	19	51			
Total land operated	277	77	354			
CROP PRODUCTION						
	No. of farms	Average acres	Yield per acre	Total acres	Yield per acre	
Bearing Fruit:						
Apples - fresh	11	106.3	382 bu		bu	
- processing	11	121.0	415 bu		bu	
Cherries - sweet	6	6.9	3,774 lb		lb	
- tart	8	37.2	4,803 lb		lb	
Grapes	1	7.8	5.1 tn		tn	
Peaches	2	6.8	140 bu		bu	
Pears	5	11.6	249 bu		bu	
Plums, prunes	4	5.0	107 bu		bu	
Other fruit	1	18.0				
Total bearing fruit ac	12	246.3				
Non-bearing Fruit:						
Apples - fresh	9	20.2				
- processing	2	29.5				
Cherries - sweet	1	1.5				
- tart	2	21.1				
Other non-bearing	2	3.0				
Total non-brng fruit acres	11	26.4				
Other crops, open:						
Other	2	38.0				

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  
12 Western New York Fruit Farms, 1988

Item	Cost per fruit acre operated	
	Bearing acres	All fruit acres
All labor - including operators	\$ 582	\$ 530
Picking labor only	239	218
Other hired labor	242	221
All equipment cost	267	244
Spray	141	129

  

Type of Paid Labor	Average annual labor costs			Accrual adjustment	Accrual total costs	Average accrual total cost per month
	Cash gross wage	Other cash costs Cost	% of gross			
Family paid	\$10,432	\$1,963	19%	\$	\$12,395	\$1,033
Hired:						
Career regular	14,218	3,162	22%		17,380	1,448
Picking	12,815	2,554	20%	151	15,520	1,293
Parttime, seasonal	12,759	2,083	16%	32	14,874	1,240
All paid labor	13,247	2,703	20%	25	15,975	1,331

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 State, 1986-1988

Selected Factors	Average per Farm		
	10 farms in: 1986	11 farms in: 1987	12 farms in: 1988
<b>Size of Business</b>			
All cropland incl fruit, ac	156	175	293
All fruit incl non-brng, ac	150	173	270
Bearing fruit, acres	130	151	246
Bearing apples, acres	107	123	208
Fresh- % of all apple acres	n/a	n/a	47%
Apples produced, bushels	43,455	55,122	83,246
Accrual apples sold, bushels	n/a	n/a	85,730
Worker equivalents	6.20	6.80	9.54
Total acrl operating recpts	\$ 245,835	\$ 246,402	\$ 421,765
<b>Rates of Production</b>			
All apples, bu per bearing ac	406	449	400
Fresh- % of apples harvested	n/a	n/a	45%
Cherries- tart, lb / brng ac	n/a	n/a	4,803
Pears, bu per bearing acre	358	356	249
Nonbearing to brng acre ratio	16%	14%	10%
<b>Labor Efficiency</b>			
Brng fruit, acres per worker	21	22	26
All fruit, acres per worker	24	25	28
Accrual receipts per worker	\$ 39,651	\$ 36,236	\$ 44,199
<b>Cost Control - accrual</b>			
Cost / brng acre: All labor	\$ 710	\$ 660	\$ 582
All equip	\$ 372	\$ 328	\$ 267
Spray	\$ 183	\$ 198	\$ 141
Hired labor - % of oper exp	44%	41%	43%
<b>Capital Efficiency- avg for yr</b>			
Total farm capital /brng ac	\$ 3,557	\$ 3,437	\$ 3,123
Total farm capital /fruit ac	\$ 3,065	\$ 3,017	\$ 2,845
Capital turnover, years	1.9	2.1	1.8
<b>Profitability</b>			
Net farm income: w/o apprec	\$ 35,942	\$ 14,355	\$ 97,028
w/ apprec	\$ 49,703	\$ 26,322	\$ 109,763
Labor & mgmt income / oper	\$ 12,616	\$ (5,821)	\$ 36,592
Rate of return to avg capital			
w/apprec: Equity capital	6.6%	-2.2%	12.4%
Total capital	7.1%	0.1%	10.8%
<b>Financial Summary - end of yr</b>			
Farm: Net worth	\$ 355,002	\$ 404,049	\$ 520,878
Debt to asset ratio	0.23	0.22	0.35
Debt per bearing ac	\$ 818	\$ 769	\$ 1,130

Table 25.

PROGRESS OF THE FRUIT FARM BUSINESS  
Western New York State, 1986-1988

Selected Factors	My Farm			Goal
	1986	1987	1988	
<b>Size of Business</b>				
All cropland incl fruit, ac	_____	_____	_____	_____
All fruit incl non-brng, ac	_____	_____	_____	_____
Bearing fruit, acres	_____	_____	_____	_____
Bearing apples, acres	_____	_____	_____	_____
Fresh- % of all apple acres	_____%	_____%	_____%	_____%
Apples produced, bushels	_____	_____	_____	_____
Accrual apples sold, bushels	_____	_____	_____	_____
Worker equivalents	_____	_____	_____	_____
Total accr'l operating recpts	\$ _____	\$ _____	\$ _____	\$ _____
<b>Rates of Production</b>				
All apples, bu per bearing ac	_____	_____	_____	_____
Fresh- % of apples harvested	_____%	_____%	_____%	_____%
Cherries- tart, lb / brng ac	_____	_____	_____	_____
Pears, bu per bearing acre	_____	_____	_____	_____
Nonbearing to brng acre ratio	_____%	_____%	_____%	_____%
<b>Labor Efficiency</b>				
Brng fruit, acres per worker	_____	_____	_____	_____
All fruit, acres per worker	_____	_____	_____	_____
Accrual receipts per worker	\$ _____	\$ _____	\$ _____	\$ _____
<b>Cost Control - accrual</b>				
Cost / brng acre: All labor	\$ _____	\$ _____	\$ _____	\$ _____
All equip	\$ _____	\$ _____	\$ _____	\$ _____
Spray	\$ _____	\$ _____	\$ _____	\$ _____
Hired labor - % of oper exp	_____%	_____%	_____%	_____%
<b>Capital Efficiency- avg for yr</b>				
Total farm capital /brng ac	\$ _____	\$ _____	\$ _____	\$ _____
Total farm capital /fruit ac	\$ _____	\$ _____	\$ _____	\$ _____
Capital turnover, years	_____	_____	_____	_____
<b>Profitability</b>				
Net farm income: w/o apprec	\$ _____	\$ _____	\$ _____	\$ _____
w/ apprec	\$ _____	\$ _____	\$ _____	\$ _____
Labor & mgmt income / oper	\$ _____	\$ _____	\$ _____	\$ _____
Rate of return to avg capital	_____%	_____%	_____%	_____%
w/apprec: Equity capital	_____%	_____%	_____%	_____%
Total capital	_____%	_____%	_____%	_____%
<b>Financial Summary - end of yr</b>				
Farm: Net worth	\$ _____	\$ _____	\$ _____	\$ _____
Debt to asset ratio	_____	_____	_____	_____
Debt per bearing ac	\$ _____	\$ _____	\$ _____	\$ _____

Other Agricultural Economics Extension Publications

No. 89-25	Management Control Clinic	G. Hutt J. Kauffman III R. Milligan
No. 89-26	Cornell Cooperative Extension Farm Business Management Program Guidelines, Suggestions and Resources	S. Smith W. Knoblauch G. White
No. 89-27	Budgeting Data for Limited Resource Dairy Farms, New York	R. Murray-Prior B. F. Stanton
No. 89-28	Milk Quality, A Pro-Dairy Management Focus Workshop for Farm Managers -- A Facilitator's Manual	R. A. Milligan
No. 89-29	Milk Quality, A Pro-Dairy Management Focus Workshop for Farm Managers -- A Participant's Guide	R. A. Milligan
No. 89-30	The Economics of Yard Waste Composting in Westchester County, New York	S. Sherman
No. 89-31	Feeding Management: A Pro-Dairy Management Focus Workshop for Dairy Farm Managers, Teacher's Manual	L. Chase G. Bigger J. Conway
No. 89-32	Feeding Management: A Pro-Dairy Management Focus Workshop for Dairy Farm Managers, Participant's Manual	L. Chase G. Bigger J. Conway
No. 89-33	1988 Northeast Beef Farm Business Summary	C. Rasmussen S. Smith D. G. Fox
No. 89-34	Farm Income Tax Management and Reporting Reference Manual	G. Casler S. Smith
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