

# **FRUIT FARM BUSINESS SUMMARY**

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## **LAKE ONTARIO REGION 1984**

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LAKE ONTARIO FRUIT FARM  
BUSINESS SUMMARY  
1984  
13 Fruit Farms

This is a summary and analysis of the 1984 farm business records from 13 commercial fruit farms in Western New York State. The records were collected and checked by Alison Wolanyk, Cooperative Extension Fruit Economics Specialist for the Lake Ontario Region.

The main objectives of this study were to assist cooperators in this project and other fruit growers to: (1) develop skills in summarizing and analyzing data from their farm businesses; and (2) use the analysis to improve managerial decision-making. The purpose of the study was to provide a useful framework for analysis of the farm business. A grower may use the data to compare the farm operation with other similar farm businesses.

The farms in this study are primarily apple farms. An average of 75 percent of the cash receipts in 1984 was from the sale of apples. The data were not obtained by using a random or representative sample of all fruit farms in Western New York. The analysis should not be used to represent the Western New York fruit industry.

This report was prepared in workbook form by Alison Wolanyk for use in a systematic study of individual farm business operations.

The 1982, 1983, and 1984 Crop Years

Apple production in New York State was 24.3 million bushels in 1984. This was down about seven percent from the 1983 crop of 26.2. Prices for fresh apples were about 19 percent higher than in 1983, but the average price of processing apples declined for the second year. The average price for all apples was \$4.70 per bushel compared with \$4.12 in 1983.

The 1982, 1983, and 1984 Crop Years

	<u>1982</u>	<u>1983</u>	<u>1984</u>
Bushels of apples produced, all varieties, million bushels			
Western New York	17.3	17.4	15.7
State of New York	26.9	26.2	24.3
Average price received per bushel			
All apples	3.74	4.12	4.70
Fresh apples	6.09	7.10	8.44
Processing apples	2.39	2.44	2.27
F.O.B. fresh price less packing, storage costs, etc., Western New York			4.18
Bulk price, fresh apples, Western New York			4.77

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SOURCE: New York Crop Reporting Service, Fruit series, selected reports from 1983, 1984, and 1985.

A comparison of selected measures from the fruit farm business summaries is shown below. Labor and management income was \$6,206 in 1984. Apple yields per acre decreased by 16 percent from 1983 for the growers in this study.

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Number of farms	18	14	16	13
Acres of bearing apples	75.7	84.7	90.6	96.0
Worker equivalents	5.0	5.2	5.8	6.0
Total farm investment (\$)	353,571	392,690	411,468	412,558
Investment per bearing acre (\$)	3,426	3,433	3,348	3,216
Bushels of apples harvested per worker	6,614	8,008	8,771	7,513
Apple yield per bearing acre (bushels)	437	492	562	470
Fruit receipts per bearing acre (\$)	1,324	1,429	1,490	1,464
Average price per bushel of apples (\$)	3.17	3.08	2.77	3.42*
Cash expenses per bearing acre (\$)	1,087	1,172	1,182	1,111
Labor & management income per farm (\$)	3,076	-7,230	14,891	6,206
Rate of return on equity capital (%)	9.7	0.1	9.9	10.6
Percent of acreage in nonbearing fruit	19.2	18.6	18.3	13.2

\*Calculated as calendar year receipts divided by total bushels of apples.

Fifty-six percent of the calendar year receipts in 1984 were from the 1983 crop.

### Summary of The Farm Business

The first part of this publication summarizes the fruit business in a systematic, orderly manner. It provides an opportunity to study physical resources, capital investments, receipts, and expenses.

### Physical Resources

Knowledge of what resources are employed and how they are combined is fundamental to sound business planning. This includes both the physical and financial resources of the business. The physical resources for this group of fruit farms are listed on the following table.

FARM ORGANIZATION  
13 Western New York Fruit Farms, 1984

Item	My Farm	Average	Range
<u>Land &amp; crops (acres)*</u>			
Bearing fruit:			
Apples	_____	96.0 (13)	11 - 190
Tart Cherries	_____	8.7 (9)	0 - 29
Peaches	_____	4.2 (6)	0 - 37
Pears	_____	9.4 (8)	0 - 32
Plums & prunes	_____	1.9 (5)	0 - 11
Grapes	_____	5.2 (3)	0 - 55
Sweet Cherries	_____	2.9 (6)	0 - 18
Total bearing	_____	128.3	44.5 - 216
Nonbearing	_____	19.5	1.0 - 60
TOTAL FRUIT	=====	147.8	52.3 - 258
Other crops	_____	0.96	0 - 8
TOTAL CROP ACRES	_____	148.8	52.3 - 258
Total acres owned	_____	181.2	58.5 - 300
Crop acres rented	_____	32.3	0 - 101
<u>Labor:</u>			
Number of operators	_____	1.4	1 - 3
Operator's age	_____	45.2	21 - 84
Months of: Operator's	_____	15.3	10 - 34
Family paid	_____	3.8	0 - 13
Family unpaid	_____	0.8	0 - 9
Regular hired	_____	22.3	6 - 50
Seasonal hired	_____	29.6	4.3 - 60
Total	_____	71.6	22.3 - 116
Worker equivalent (total months - 12)	_____	6.0	1.9 - 9.7

\*Number of growers that reported each crop are in parentheses; average acreage is for all growers.

### Capital Investment

Management of the capital resources of a farm business is becoming increasingly important. To measure the complete financial progress of a farm, year to year changes in the capital structure must be considered. In this report, borrowed as well as owned capital is included and the end-of-year farm inventory is used as the measure of capital investment.

#### FARM INVENTORY VALUES 13 Western New York Fruit Farms, 1984

Item	My Farm	Average per Farm		Percent of Total, 1/85
		1/84	1/85	
Land & buildings	\$ _____	\$219,310	\$231,816	56.2
Machinery & equipment	_____	131,216	152,270	36.9
Fruit	_____	31,605	24,980	6.1
Production supplies	_____	2,860	2,949	0.7
Packing supplies	_____	424	543	0.1
TOTAL FARM INVENTORIES	\$ _____	\$385,415	\$412,558	100.0

### Machinery and Real Estate Inventory Calculations

Capital outlays for machinery, buildings, land, and land improvements usually occur in large uneven amounts, but depreciate gradually over a period of time. Machinery depreciation is a charge for use of the machinery complement in production. Appreciation in the value of the machinery complement results from inflation in the value of used machinery; it is calculated as a residual.

#### MACHINERY & EQUIPMENT INVENTORY 13 Western New York Fruit Farms, 1984

Item	My Farm	Average
End of year market value	(1)\$ _____	\$152,270
Beginning market value	\$ _____	\$131,216
Plus machinery purchased	+ _____	+ 19,466
Less machinery sold	- _____	- 2,039
Less depreciation	- _____	- 20,786
Net end investment	(2)\$ _____	\$127,857
APPRECIATION (1 minus 2)	\$ _____	\$ 24,413

The end of year market value of real estate can be verified by starting with the beginning of year value, making adjustments for purchases and sales, depreciation of buildings, and any appreciation in land. Lost capital is the difference between the cost of new buildings or land improvements and the amount these improvements added to the value of the farm. It is not included in farm expenses since building depreciation is based on the full cost of new buildings and will account for lost capital over the life of the investments. Building depreciation was taken from the farm depreciation schedule and is included as a farm expense. Real estate appreciation was estimated by each farm operator. It is the increase in value of real estate caused by demand and inflation.

REAL ESTATE INVENTORY CALCULATIONS  
13 Western New York Fruit Farms, 1984

Item	My Farm	Average
Beginning market value	\$ _____	\$219,310
Cost of new real estate	\$ _____	\$ 8,939
Less lost capital	- _____	- <u>469</u>
Value of new added	+ _____	+ 8,470
Less real estate depreciation	- _____	- 7,146
Less real estate sold	- _____	- <u>2631</u>
Total without appreciation	\$ _____	\$218,003
Appreciation of beginning real estate	+ _____	<u>+13,813</u>
End of Year Market Value	\$ <u>_____</u>	<u>\$231,816</u>



Farm Family Financial Situation

The financial situation is an important part of the fruit farm business summary. It has a direct effect on current cash outflow and future capital investment decisions. A fruit grower may have a good labor income, but a high debt payment schedule may seriously restrict his management flexibility.

FARM FAMILY FINANCIAL SITUATION  
13 Western New York Fruit Farms, 1984

<u>Item</u>	<u>My Farm</u>	<u>Average per Farm</u>
<u>Assets</u>		
Total farm inventory	\$ _____	\$412,558
Accounts receivable	_____	44,824
Cash & checking account	_____	34,892
Co-op stocks	_____	8,483
Total Farm Assets	\$ _____	\$500,757
Total Non-Farm Assets	_____	38,433
TOTAL ASSETS	\$ _____	\$539,190
<u>Liabilities</u>		
Real estate mortgage	\$ _____	\$ 22,362
Liens & secured notes	_____	2,418
Installment contracts	_____	2,615
Other farm debt	_____	21,109
Total Farm Liabilities	\$ _____	\$48,504
Non-Farm Liabilities	_____	0
TOTAL LIABILITIES	\$ _____	\$ 48,504
Farm Net Worth (farm assets less farm liabilities)	\$ _____	\$452,253
Family Net Worth (total assets less total liabilities)	\$ _____	\$490,686
Percent Equity (family net worth ÷ total assets)	_____ %	91%
<u>Payment Ability</u>		
Cash for investment, principal payments, & family living expenses	\$ _____	\$ 63,553
Interest paid	_____	2,685
CASH AVAILABLE FOR DEBT PAYMENT, CAPITAL INVESTMENT, & FAMILY LIVING EXPENSES	\$ _____	\$ 66,238
Debt Payments Planned this Year	\$ _____	\$ 14,680

Payment ability is the most important consideration in determining if and how proposed investments should be financed. The farm business must produce enough cash income to meet operating expenses, to cover family or personal living expenses, and to make debt payments.

### Sources of Income

A successful farm business requires a level of gross earnings great enough to pay all costs, both operating and overhead, and leave a margin for the operator's labor and management. Here we examine the sources of receipts for this group of fruit farms.

#### FARM RECEIPTS 13 Western New York Fruit Farms, 1984

<u>Item</u>	<u>My Farm</u>	<u>Average per Farm</u>	<u>Percent of Total</u>
Apples	\$_____	\$154,344	74.9
Tart cherries	_____	9,520	4.6
Peaches	_____	1,528	0.7
Pears	_____	12,440	6.0
Plums & prunes	_____	1,828	0.9
Grapes	_____	2,640	1.3
Sweet cherries	_____	5,525	2.7
Other fruits	_____	0	0.0
TOTAL FRUITS	\$_____	\$187,825	91.1
Miscellaneous	_____	18,319	8.9
TOTAL CASH RECEIPTS	\$_____	\$206,144	100.0
Increase in fruit inventory	_____	0	
Increase in supply & other inventory	_____	208	
TOTAL FARM RECEIPTS	\$_____	\$206,352	

The apple crop is by far the most important commodity produced on these farms. Total apple sales averaged 75 percent of total cash receipts.

The increases in fruit and supply inventories are included as farm receipts when measuring total farm income. The expenses associated with increasing fruit and supply inventories are included on the next page. The increase in supplies includes both production and packing supplies. Decreases in fruit and supply inventories are charged as overhead expenses.

#### Where The Money Went

With the large amount of cash flowing through a farm business today, it is important that the farm operator study expenses closely.

#### Financial Summary

The net returns for any business can be measured in several different ways. Each measure calculates the net return to a selected resource or group of resources such as labor or capital. Some of the common farm business measures are given below.

Net cash farm income reflects the cash available from the year's operation of the farm business for family living, payments on debt principal, and new purchases or investments. A family may have had additional cash available if members had non-farm income.

FARM EXPENSES  
13 Western new York Fruit Farms, 1984

Item	My Farm	Average per Farm	Percent of Total
<u>Gross Wages</u>			
Hired labor (other than picking)	\$ _____	\$ 22,813	16.0
Picking labor	_____	31,926	22.4
Other labor costs (soc. sec., unemp. ins, health benefits, workers comp., etc.)	_____	13,237	9.3
Machine hire	_____	1,672	1.2
Machine repair & farm share of auto expenses	_____	8,362	5.9
Gasoline & oil	_____	6,431	4.5
Trucking	_____	491	0.3
Spray	_____	18,476	13.0
Fertilizer	_____	4,171	2.9
Trees & plants (replacements)	_____	761	0.5
Other crop expense	_____	2,497	1.8
Harvest supplies	_____	213	0.1
Labor camp expenses	_____	128	0.1
Packing supplies	_____	660	0.5
Storage	_____	6,537	4.6
Marketing	_____	1,729	1.2
Products bought for resale	_____	3,475	2.4
Real estate repairs	_____	1,775	1.2
Taxes	_____	3,855	2.7
Insurance	_____	2,674	1.9
Rent	_____	3,698	2.6
Electric	_____	1,448	1.0
Telephone	_____	598	0.4
Interest paid	_____	2,685	1.9
Miscellaneous	_____	2,279	1.6
TOTAL CASH OPERATING EXPENSES	\$ _____	\$142,591	100.0
Machinery depreciation	_____	20,786	
Building depreciation	_____	2,807	
Orchard depreciation	_____	4,339	
Decrease in fruit inventory	_____	6,625	
Decrease in supply & other inventory	_____	0	
Unpaid family labor @ \$500/month	_____	385	
Interest on equity capital @ 5%*	_____	22,613	
TOTAL FARM EXPENSES	\$ _____	\$200,146	

\*Calculated as follows: Total farm assets at the end of the year less farm liabilities @ 5% interest.

NET CASH FARM INCOME  
13 Western New York Fruit Farms, 1984

Item	My Farm	Average per Farm
Total Cash Receipts	\$ _____	\$206,144
Total Cash Operating Expenses	_____	<u>142,591</u>
NET CASH FARM INCOME	\$ _____	\$ 63,553

Labor and management income is the return to the farm operator for labor and management. It is the measure most commonly used when comparing the profitability of farm businesses. Labor and management income is the amount left after paying all cash operating expenses and deducting charges for depreciation, unpaid labor, interest on equity capital, and losses in fruit and supply inventories. The business is charged a five percent real rate of interest or opportunity cost for the use of equity capital. This real rate of interest represents the long-term average rate of return that a grower could expect to earn on investments with comparable risks to farming, in an economy with little or no inflation.

LABOR AND MANAGEMENT INCOME  
13 Western New York Fruit Farms, 1984

Item	My Farm	Average per Farm
Total Farm Receipts	\$ _____	\$206,352
Total Farm Expenses	_____	<u>200,146</u>
LABOR & MANAGEMENT INCOME PER FARM	\$ _____	\$ 6,206
Number of Operators	_____	1.4
LABOR & MANAGEMENT INCOME PER OPERATOR	\$ _____	\$ 4,433

In addition to labor and management income, the owner-operator of a farm business should receive income from the capital investment in the business. This income is received in the form of interest on equity in the business and real estate and machinery appreciation. These three "ownership income" items are added to labor and management income to determine labor, management, and ownership income. This indicates the total return the owner-operator receives for owning and operating the business.

LABOR, MANAGEMENT, AND OWNERSHIP INCOME  
13 Western New York Fruit Farms, 1984

Item	My Farm	Average per Farm
Labor & Management Income per Farm	\$ _____	\$ 6,206
Add: Real Estate Appreciation	_____	13,813
Add: Machinery Appreciation	_____	24,413
Add: Interest on Equity Capital @ 5%	_____	<u>22,613</u>
LABOR, MANAGEMENT & OWNERSHIP INCOME PER FARM	\$ _____	\$67,045
Number of Operators	_____	1.4
LABOR, MANAGEMENT & OWNERSHIP INCOME PER OPERATOR	\$ _____	\$47,889

Return on equity capital can be computed with or without real estate appreciation. To calculate return on equity capital (including real estate appreciation), the value of the operator's labor and management is deducted from labor, management, and ownership income. This return to equity capital is divided by the owner's equity investment in the business to compute the rate of return on equity capital. Owner's equity investment used here is total end of year farm assets less total farm liabilities.

RETURN ON EQUITY CAPITAL  
13 Western New York Fruit Farms, 1984

Item	My Farm	Average per Farm
	<u>Including Appreciation</u>	
Labor, Management & Ownership Income	\$ _____	\$67,045
Less: Value of Operator's Labor & Management*	_____	<u>19,043</u>
Return on Equity Capital	\$ _____	\$48,002
Rate of Return on Equity Capital (equity capital = \$452,253)	_____ %	10.6%

\*Values estimated by farmers.

Analysis of The Farm Business

Size and Efficiency

In analyzing a farm business, size is usually the first factor to be examined. Size of farm can have an important effect on many of the other factors such as labor efficiency, cost control, and capital efficiency. The prices received and paid by a farmer are often affected by the volume involved which is a function of the size factor.

In general, larger farm businesses make larger incomes. There are at least two basic reasons for this. Larger businesses make possible more efficient use of inputs such as equipment, the regular labor force, and other overhead items. Secondly, there are more units of production on which to make a profit. However, some small farms make greater incomes than larger farms. This happens when management ability is not in balance with the size of the business.

High rates of crop production are very important to the success of a farm business. However, when high crop yields are achieved without regard to quality or cost, net income can be reduced.

Labor is one of the limiting resources on many farms. Efficient use of labor tends to add to the profitability of a farm business. The productivity of labor can be increased by use of modern equipment, buildings, and materials. However, one must be careful not to invest in technology that adds little to productivity in relation to cost.

In many businesses, poor capital efficiency is a major cause of low profits. The measures of capital efficiency shown in the following table include owned as well as borrowed capital. It is possible for the business to be under-capitalized, but investing too much capital per production unit is a more common problem.

SELECTED FARM BUSINESS MEASURES  
13 Western New York Fruit Farms, 1984

Item	My Farm	Average per Farm
<u>Measures of Size</u>		
Acres in crops	_____	148.8
Acres in fruit	_____	147.8
Total bearing acres	_____	128.3
Worker equivalents	_____	6.0
Bushels of apples produced	_____	45,078
Fruit receipts (\$)	_____	187,825
<u>Production Efficiency</u>		
Fruit receipts per bearing acre (\$)	_____	1,464
Bushels of apples per bearing acre	_____	470
Bushels of peaches per bearing acre	_____	34
Bushels of pears per bearing acre	_____	275
Bushels of plums & prunes per bearing acre	_____	122
<u>Labor Efficiency</u>		
Acres in fruit per worker equivalent	_____	24.6
Fruit receipts per worker equivalent (\$)	_____	31,304
Bushels of apples harvested per worker equivalent	_____	7,513
<u>Capital Efficiency</u>		
Capital turnover	_____	2.1 years
Total investment per acre of bearing fruit (\$)	_____	3,216
Total investment per worker equivalent (\$)	_____	68,760
Total investment per crop acre (\$)	_____	2,773
Land & buildings per crop acre (\$)	_____	1,558
Land & buildings per acre owned (\$)	_____	1,279



Cost Control

The control of costs is a big factor in the success of modern commercial fruit operations. The exact level of production items to be used to obtain the greatest net return is difficult to determine.

Successful farm managers have substituted power and machinery for labor to a large degree. As this process continues, it is vitally important to retain control of the costs associated with owning and operating farm equipment.

MACHINERY COSTS  
13 Western New York Fruit Farms, 1984

<u>Item</u>	<u>My Farm</u>	<u>Average per Farm</u>	<u>Percent</u>
Depreciation	\$ _____	\$20,786	46.9
Interest @ 5% on average inventory	_____	7,087	16.0
Machine hire	_____	1,672	3.7
Machine repairs & auto	_____	8,362	18.9
Gasoline & oil	_____	<u>6,431</u>	<u>14.5</u>
TOTAL MACHINERY COSTS	\$ _____	\$44,338	100.0
Machinery Cost:			
Per crop acre	\$ _____	\$298	
Per acre of bearing fruit	\$ _____	\$345	
Machinery investment per fruit acre	\$ _____	\$1,030	
Per dollar of fruit sold	\$ _____	0.24	

Most farm operators justify major machinery purchases as a way to save labor and increase productivity. How well labor and machinery are combined has an important bearing on farm profits.

LABOR AND MACHINERY COSTS  
13 Western New York Fruit Farms, 1984

<u>Item</u>	<u>My Farm</u>	<u>Average per Farm</u>
Value of operator's labor*	\$ _____	\$ 12,600
Hired labor	_____	67,976
Unpaid family labor	_____	385
TOTAL LABOR COSTS	\$ _____	\$ 80,961
Total machinery cost	_____	44,338
TOTAL LABOR & MACHINERY COSTS	\$ _____	\$125,299

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Labor cost:

Per crop acre	\$ _____	\$544
Per acre of bearing fruit	\$ _____	\$631
Per dollar of fruit sold	\$ _____	\$0.43

Labor & machinery costs:

Per crop acre	\$ _____	\$842
Per acre of bearing fruit	\$ _____	\$976
Per dollar of fruit sold	\$ _____	\$0.67

\*Valued at \$9,000 per operator. Operator's labor does not include management and capital contributed.

Miscellaneous Cost Control Measures

MISCELLANEOUS COST MEASURES  
13 Western New York Fruit Farms, 1984

<u>Item</u>	<u>My Farm</u>	<u>Average per Farm</u>
Spray materials per fruit acre	\$ _____	\$125
Taxes per crop acre owned	_____	26
Taxes per \$1,000 of end real estate inventory	_____	17
Taxes & insurance per \$1,000 of real estate inventory	_____	28