

# FRUIT FARM BUSINESS SUMMARY

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## EASTERN NEW YORK 1979

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EASTERN NEW YORK  
FRUIT FARM  
BUSINESS SUMMARY  
1979  
Thirteen Fruit Farms

This is a summary and analysis of the 1979 farm business records from thirteen commercial fruit farms in Eastern New York State. The records were collected and checked in cooperation with the Farm Credit Service and William D. Gerling, Fruit Management and Marketing Specialist, Eastern New York.

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 91 percent of the cash receipts in 1979 was from the sale of apples. The data were not obtained by using a random or representative sample of all fruit farms in Eastern New York. Therefore, the analysis should not be used to represent the Eastern New York fruit industry.

This report was prepared in workbook form by Gerald B. White, Department of Agricultural Economics, Cornell University, for use in a systematic study of individual farm business operations.

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. Below are listed the physical resources for this group of Eastern New York fruit farms.

FARM ORGANIZATION  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average	Range
<u>Land and crops (acres)*</u>			
Bearing fruit:			
Apples	_____	165.7(13)	
Peaches	_____	.8( 3)	
Pears	_____	5.3(10)	
Plums and prunes	_____	.5( 2)	
Other fruit	_____	.8( 1)	
Total bearing	_____	173.1	
Non-bearing	_____	44.2	
TOTAL FRUIT	_____	217.3	
Other crops	_____	0.0	
TOTAL CROP ACRES	_____	217.3	
Total acres owned	_____	280.0	
Crop acres rented	_____	31.0	
<u>Labor:</u>			
Number of operators	_____	1.7	1 - 5
Operator's age	_____	41.0	23 - 57
Months of: Operator's	_____	19.8	6 - 60
Family paid	_____	4.9	0 - 12
Family unpaid	_____	4.9	0 - 12
Regular hired	_____	92.7	2 - 308
Seasonal hired	_____	46.7	12 - 107
Total	_____	169.0	34 - 445
Man equivalent (total months ÷ 12)	_____	14.1	2.8 - 37.1

\* 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  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average per farm		Percent of total 1/80
		1/79	1/80	
Land & buildings	\$ _____	\$486,604	\$551,831	59.2
Machinery & equipment	_____	162,587	189,266	20.3
Fruit	_____	173,986	169,981	18.2
Production supplies	_____	5,849	5,979	.6
Packing supplies	_____	12,708	14,673	1.6
Other	_____	0	345	0.0
<b>TOTAL FARM INVENTORIES</b>	<b>\$ _____</b>	<b>\$841,734</b>	<b>\$932,075</b>	<b>99.9</b>

Depreciation Calculations

Capital outlays for machinery and buildings usually occur in large uneven amounts, but assets depreciate gradually over a period of time. Different accounting methods may be used to even-out capital expenditures. Including the capital outlay as a farm expense and the increase in inventory as a farm receipt tends to inflate total farm expenses as well as total farm receipts.

In the following table the net change in inventory value is calculated using beginning and end of year market values as well as the actual

cost of capital purchases and the amount received for capital sales. The beginning machinery inventory plus new purchases, will almost always be larger than the end inventory plus sales. The residue is machinery depreciation. However, the value of land and/or fruit trees may increase in value more than buildings depreciate during the year. This is called real estate appreciation.

MACHINERY DEPRECIATION AND REAL ESTATE BALANCE  
Thirteen Eastern New York Farms, 1979

	Machinery		Real Estate	
	My Farm	Average	My Farm	Average
Beginning inventory	\$ _____	\$162,587	\$ _____	\$486,604
Purchases	\$ _____	32,625	\$ _____	56,486
Total (A)	\$ _____	\$195,213	\$ _____	\$543,090
End inventory	\$ _____	189,266	\$ _____	551,831
Sales	\$ _____	1,248	\$ _____	0
Total (B)	\$ _____	\$190,514	\$ _____	\$551,831
DEPRECIATION (A minus B) or	\$ _____	4,699		
APPRECIATION on Land			\$ _____	\$8,742
DEPRECIATION on Buildings			\$ _____	0
Lost Capital			\$ _____	0

The average machinery depreciation of \$4,699 is 2.4 percent of the beginning inventory plus machinery purchased.

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



FARM FAMILY FINANCIAL SITUATION  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average per Farm
<u>Assets</u>		
Total farm inventory	\$ _____	\$ 932,075
Accounts receivable	_____	44,581
Cash and checking account	_____	10,633
Co-op stocks	_____	8,501
Total Farm Assets	\$ _____	\$ 995,790
Total Non-farm Assets	\$ _____	\$ 28,923
TOTAL ASSETS	\$ _____	\$1,024,713
<u>Liabilities</u>		
Real estate mortgage	\$ _____	\$ 133,126
Liens and secured notes	_____	94,151
Installment contracts	_____	10,817
Other farm debt	_____	12,682
Total Farm Liabilities	\$ _____	\$ 250,776
Non-farm Liabilities	\$ _____	1,423
TOTAL LIABILITIES	\$ _____	\$ 252,199
Farm Net Worth (Farm assets less farm liabilities)	\$ _____	\$ 745,014
Family Net Worth (Total assets less total liabilities)	\$ _____	\$ 772,514
Percent Equity (Family net worth ÷ total assets)	_____ %	75%
<u>Payment Ability</u>		
Cash for investment, principle pay- ments, and family living expenses	\$ _____	\$ 79,697
Interest paid	_____	12,071
CASH AVAILABLE FOR DEBT PAYMENT, CAPITAL INVESTMENT, & FAMILY LIVING EXPENSES	\$ _____	\$ 91,768
Debt Payments Planned this year	\$ _____	\$ 32,615

income, but a high debt payment schedule may seriously restrict his management flexibility.

Payment Ability is the most important consideration in determining if and how proposed investment 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  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average per Farm	Percent of Total
Apples	\$ _____	\$380,714	90.8
Cherries	_____	211	0.0
Peaches	_____	403	0.0
Pears	_____	1,926	0.5
Plums and prunes	_____	0	0.0
Other fruits	_____	0	0.0
TOTAL FRUITS	\$ _____	\$383,254	91.3
Miscellaneous	_____	36,107	8.6
TOTAL CASH RECEIPTS	\$ _____	\$419,361	99.9
Increase in fruit inventory	_____	0	
Increase in supply inventory	_____	2,095	
TOTAL FARM RECEIPTS	\$ _____	\$421,456	

The apple crop is by far the most important commodity produced on these farms. Total apple sales averaged 91 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  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average Per Farm	Percent of Total
Hired Labor (other than picking)	\$ _____	\$121,531	35.8
Picking labor	_____		
Machine hire	_____	4,397	1.3
Machine repair & farm share of auto expense	_____	16,070	4.7
Gasoline and oil	_____	11,730	3.5
Spray	_____	24,431	7.2
Fertilizer	_____	5,164	1.5
Trees and plants (replacements)	_____	2,778	.8
Other crop expense	_____	14,238	4.2
Packing supplies	_____	47,540	14.0
Marketing and storage	_____	5,768	1.7
Products bought for resale	_____	5,593	1.6
Real estate repairs	_____	12,004	3.5
Taxes	_____	9,080	2.7
Insurance	_____	15,847	4.7
Rent	_____	7,549	2.2
Utilities	_____	11,941	3.5
Interest paid	_____	12,071	3.6
Miscellaneous	_____	11,932	3.5
TOTAL CASH OPERATING EXPENSES	\$ _____	\$339,664	100.0
Machinery depreciation*	_____	4,699	
Building depreciation	_____	0	
Decrease in fruit inventory	_____	4,005	
Decrease in supply inventory	_____	0	
Unpaid family labor @ \$450/mo.	_____	2,181	
Interest in equity capital @ 9%**	_____	67,051	
TOTAL FARM EXPENSES	\$ _____	\$417,600	

\* Machinery and building depreciation are calculated on page five.

\*\* Calculated as follows: Total Farm Assets at the end of the year less farm liabilities on 1/80 x 9% interest.

NET CASH FARM INCOME  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average per Farm
Total Cash Receipts	\$ _____	\$419,361
Total Cash Operating Expenses	_____	<u>339,664</u>
NET CASH FARM INCOME	\$ _____	\$ 79,697

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 nine percent interest rate, or opportunity cost, for the use of equity capital, assuming an alternative investment would return as much.

LABOR AND MANAGEMENT INCOME  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average per Farm
Total Farm Receipts	\$ _____	\$421,456
Total Farm Expenses	_____	<u>417,600</u>
LABOR & MANAGEMENT INCOME PER FARM	\$ _____	\$ 3,856
Number of Operators	_____	1.7
LABOR & MANAGEMENT INCOME/ OPERATOR	\$ _____	\$ 2,268

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 appreciation. These two "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  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average per Farm
Labor & Management Income per Farm	\$ _____	\$ 3,856
Add: Real Estate Appreciation	_____	8,742
Add: Interest on Equity Capital @ 9%	_____	67,051
LABOR, MANAGEMENT & OWNERSHIP INCOME PER FARM	\$ _____	\$79,649
Number of Operators	_____	1.7
LABOR, MANAGEMENT & OWNERSHIP INCOME PER OPERATOR	\$ _____	\$46,852

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  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average per Farm
Labor, Management & Ownership Income	\$ _____	\$79,649
Less: Value of Operator's Labor & Management*	_____	<u>19,064</u>
Return on Equity Capital	\$ _____	\$60,585
Rate of Return on Equity Capital (equity capital = \$745,014)	_____ %	8.1%

\* 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  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average per Farm
<u>Measures of size</u>		
Acres in crops	_____	217.3
Acres in fruit	_____	217.3
Total bearing acres	_____	173.1
Man equivalents	_____	14.1
Bushels of apples produced	_____	67,470
Bushels of other fruit produced	_____	1,154
Total bushels of fruit sold	_____	68,624
Fruit receipts	_____	383,254
<u>Production efficiency</u>		
Bushels of apples per bearing acre	_____	407
Bushels of peaches per bearing acre	_____	183
Bushels of pears per bearing acre	_____	176
Bushels of plums & prunes per bearing acre	_____	156
<u>Labor efficiency</u>		
Acres in fruit/man equivalent	_____	15.4
Fruit receipts/man equivalent	_____	27,181
Bushels of apples produced per man equivalent	_____	4,785
<u>Capital efficiency</u>		
Capital turnover	_____	2.22 yrs.
Total investment per acre of bearing fruit	_____	5,385
Total investment/man equivalent	_____	66,105
Total investment/crop acre	_____	4,289
Land and buildings/crop acre	_____	2,539
Land and buildings/acre owned	_____	1,971



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  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average per Farm	Percent
Depreciation	\$ _____	\$ 4,698	8.7
Interest @ 9% on average inventory	_____	17,034	31.6
Machine hire	_____	4,397	8.2
Machine repairs and auto	_____	16,070	29.8
Gasoline and oil	_____	11,730	21.8
TOTAL MACHINERY COSTS	\$ _____	\$53,920	100.0
Machinery cost:			
Per crop acre	\$ _____	\$248	
Per acre of bearing fruit	\$ _____	311	
Per dollar of fruit sold	\$ _____	.14	
Per bushel of fruit sold	\$ _____	.79	

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  
Thirteen Eastern New York Farms, 1979

Item	My Farm	Average per Farm
Value of operator's labor*	_____	\$ 13,260
Hired labor	_____	121,531
Unpaid family labor	_____	2,181
TOTAL LABOR COSTS	_____	\$136,972
Total machinery cost	_____	53,920
TOTAL LABOR & MACHINERY COSTS	_____	\$190,892
<hr style="border-top: 1px dashed black;"/>		
Labor cost:		
Per crop acre	_____	\$ 630
Per acre of bearing fruit	_____	791
Per dollar of fruit sold	_____	.36
Per bushel of fruit sold	_____	2.00
Labor and machinery costs:		
Per crop acre	_____	\$ 878
Per acre of bearing fruit	_____	1,103
Per dollar of fruit sold	_____	.50
Per bushel of fruit sold	_____	2.78

\* Valued at \$7,800 per operator. Operator's labor does not include management and capital contributed.

Miscellaneous Cost Control Measures

MISCELLANEOUS COST MEASURES  
Comparison of Eastern York York vs. Lake Ontario Region

Item	Average of 13 Eastern New York Fruit Farms, 1979	Average of 10 Lake Ontario New York Fruit Farms, 1979
Spray expense per fruit acre	\$131	\$102
Taxes per crop acre owned	49	25
Taxes per \$1,000 of end real estate inventory	16	21
Taxes and insurance per \$1,000 real estate inventory	45	38