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FRUIT FARM BUSINESS SUMMARY

January 1994

A.E. Ext. 94-1

LAKE ONTARIO REGION NEW YORK 1992

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ABSTRACT

This report is a summary of 1992 farm business data collected from 22 fruit farm businesses located in Western New York State. Apples are the predominant fruit crop. The data are presented as averages for all 22 farms. The business analysis includes a balance sheet, income statement, cash flow statement, and several financial and production analyses for the farms. Also included are blank columns for the user to enter his or her own farm data for comparison purposes.

ACKNOWLEDGEMENTS

The authors are Gerald B. White, Professor; Alison M. DeMarree, Regional Fruit Specialist; and Linda D. Putnam, Research Support Specialist. Appreciation is expressed to the cooperating fruit farmers who provided the data summarized in this report.

1992 FRUIT FARM BUSINESS SUMMARY
LAKE ONTARIO REGION

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1992 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 1992.

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 1992 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 22 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 27.9 million bushels in 1992. Western New York growers produced 18.1 million bushels or about 65 percent of the total State crop. Statewide, production was up 11 percent and in Western New York it was up about six percent compared to 1991.

Twenty-eight percent of the 1992 apple crop produced in Western New York was sold fresh. This was up from 25 percent of the crop for 1991. The 1992 fresh crop was 5.0 million bushels - up 16 percent from 1991. Processing apple production in Western New York increased two percent from 1991 to 13.1 million bushels for 1992. Seventy-two 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 $6.68 per bushel, 22 percent lower than in 1991. The bulk price for fresh apples was $4.70 per bushel. Western New York processing apple prices averaged $2.79 per bushel or 6.6 cents per pound in 1992, 15 percent below 1991.

Statewide, fresh apple prices received by growers averaged $5.96 per bushel net F.O.B., $2.48 per bushel lower than the average 1991 price. Processing apples, produced mostly in Western counties, averaged $2.70 per bushel or 6.5¢ per pound for 1992.

Table 1. Apple Production and Prices, New York State, 1988-1992

Item	1988	1989	1990	1991	1992
Production			-------- million bushels -------		
Fresh Apples					
Western New York	3.5	5.2	5.5	4.3	5.0
New York State	9.6	10.5	12.4	10.0	12.4
Processing Apples					
Western New York	10.1	11.0	9.8	12.9	13.1
New York State	12.0	12.4	11.2	15.0	15.5
All Varieties					
Western New York	13.6	16.2	15.2	17.1	18.1
New York State	21.7	22.9	23.6	25.0	27.9
Average Price Received Per Bushel			-------- dollars -------		
Fresh Apples					
Western New York					
F.O.B. less pkg., stg., etc.	6.09	6.03	8.65	8.61	6.68
Bulk price	4.62	4.83	4.83	4.90	4.70
Fruit Farm Business Sum.	5.07	4.96	5.50	6.07	4.59
New York State					
F.O.B. less pkg., stg., etc.	6.43	6.22	7.48	8.44	5.96
Bulk price	4.62	4.83	4.83	4.90	4.70
Processing Apples					
Western New York	3.15	2.87	3.25	3.27	2.79
Fruit Farm Business Sum.	2.86	2.93	3.34	3.01	2.88
New York State	3.02	2.81	3.15	3 19	2.70

Source: New York Agricultural Statistics Service, FRUIT series, Seasonal releases for July 1989, 1990, 1991, 1992, and 1993 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, 22 Western New York Fruit Farms, 1992

Type of Business	Number	Business Record System	Number
Proprietors	6	Account Book	6
Partnerships	7	Agrifax (mail-in)	0
Corporations	9	On-Farm Computer	16
		Other	0

Business Composition	Number
Fruit production only	8
Fruit with storage	3
Fruit & other enterprises	5
Fruit with storage & other enterprises	6

Farm Financial Status

The first step in evaluating the financial status of the farm business is to construct a balance sheet which identifies all the assets and liabilities of the business. The second step is to evaluate the relationships between assets, liabilities, and net worth at the end of the year and the changes that occurred during the year.

Financial lease obligations are included in the balance sheet. The present value of all future payments is listed as a liability since the farmer is committed to make the payments by signing the lease. The present value is also listed as an asset, representing the future value the item has to the business.

Table 3 presents the balance sheet data for the 22 fruit farm cooperators. It lists the average value of assets and liabilities for December 31, 1991 and December 31, 1992 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, 22 Western New York Fruit Farms, December 31, 1991 & 1992

Farm Assets	1991	1992	Farm Liabilities & Net Worth	1991	1992
Current	$	$	Current = < 1 year	$	$
Cash, checking, sav.	21,973	14,934	Accounts payable	9,879	21,658
Accounts receivable	175,522	137,885	Operating debt	59,698	96,819
Prepaid expenses	8,329	6,833	Short-term	4,860	7,449
Fruit, other crops	114,895	92,808	Advanced gov't receipts	0	0
Production supplies	10,673	12,016	Accrued interest	0	272
Packing supplies	1,199	1,028			
Total Current	332,592	265,504	Total Current	74,437	126,197
Intermediate			Intermediate = > 1 to < 10 years		
Livestock	0	0	Structured debt	41,799	39,762
Livestock leased	0	0	Financial lease-livestock		
Equipment owned	180,344	192,698	equipment	10,647	13,952
Equipment leased	10,647	13,952	FLB/PCA stock	5,430	6,252
Farm Credit stock	5,430	6,252			
Other stock, cert.	51,489	56,680			
Total Intermediate	247,910	269,582	Total Intermediate	57,876	59,966
Long-Term			Long-Term = > 10 years		
Land/Buildings:			Structured debt	118,492	114,595
Owned	410,885	422,364	Financial lease -		
Structures leased	0	0	structures	0	0
Total Long-Term	410,885	422,364	Total Long-Term	118,492	114,595
			Total Farm:		
			Liabilities	250,805	300,759
Total Farm:			Net Worth	740,582	656,692
Assets	991,387	957,451	Liabilities & Net Worth	991,387	957,451

Table 3a. Nonfarm Assets & Liabilities

NonFarm Assets	1991	1992	NonFarm Liabilities	1991	1992
Cash, checking, sav.	5,262	5,536		3,773	3,273
Life ins.-cash value	8,665	9,456			
Real estate	1,818	1,818			
Auto (pers. share)	1,727	1,591			
Stocks & bonds	11,970	11,827			
Household furn.	909	977			
All other	15,115	8,289			
Total NonFarm			Total Nonfarm: Liab.	3,773	3,273
Assets	45,566	39,494	Net Worth	41,694	36,221
Assets			Liabilities & Net Worth	45,466	39,494
			Farm and Nonfarm		
Assets	1,036,853	996,944	Liabilities	254,577	304,032
			Net Worth	782,276	692,912
			Liabilities & Net Worth	1,036,853	996,944

Table 4. Farm Business Balance Sheet, My Farm, December 31, 1991 & 1992

Farm Assets	1991	1992	Farm Liabilities & Net Worth	1991	1992
Current	$	$	Current = < 1 year	$	$
Cash, checking, sav.			Accounts payable		
Accounts receivable			Operating debt		
Prepaid expenses			Short-term		
Fruit, other crops					
Production supplies					
Packing supplies			Advanced gov't receipts		
			Accrual interest		
Total Current			Total Current		
Intermediate			Intermediate = > 1 to < 10 years		
Livestock			Structured debt		
Livestock leased					
Equipment owned					
Equipment leased					
Farm Credit stock					
Other stock, cert.			Financial lease-livestock, equipment		
			Farm Credit stock		
Total Intermediate			Total Intermediate		
Long-Term			Long-Term = > 10 years		
Land/Buildings:			Structured debt		
Owned					
Structures leased					
			Fianacial lease-struc.		
Total Long-Term			Total Long-Term		
			Total Farm:		
			Liabilities		
			Net Worth		
Total Farm Assets			Liabilities & Net Worth		

The balance sheet analysis involves an examination of financial and debt ratios. Percent equity is calculated by dividing end of year net worth by end of year assets. The debt to asset ratio is compiled by dividing liabilities by assets. Low debt to asset ratios reflect strength in solvency and the potential capacity to borrow. Debt levels per unit of production include some old standards that are still useful if used with measures of cash flow and repayment ability. The change in farm net worth without appreciation is an excellent indicator of financial progress from operating the business.

Table 5. Farm Business Balance Sheet Analysis, 22 Western New York Fruit Farms, December 31, 1992

Item	22 Farms 1992	My Farm
	------- For the Farm Business Only --------	
Financial Ratios - end of year		
Percent equity	69%	_____%
Debt to asset ratios:		
Total debt	0.31	_____
Long-term	0.27	_____
Current & intermediate	0.35	_____
Change in Net Worth		
Without appreciation	$(89,406)	$_____
With appreciation	$(83,891)	$_____
Debt Analysis - end of year		
Percent of total farm debt that is:		
Long-term	38%	_____%
Current & intermediate	62%	_____%
Accounts payable only	7%	_____%
Debt Levels - end of year		
Per bearing fruit acre:		
Total farm debt	$1,290	$_____
Long-term	$492	$_____
Current & intermediate	$799	$_____

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).

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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, 22 Western New York Fruit Farms, 1992

Inventory Balance	22 Fruit Farms Real Estate	22 Fruit Farms Equipment	My Farm Real Estate	My Farm Equipment
Beginning of year (1)	$410,885	$180,344	$_____	$_____
Purchases	$20,449[1]	$35,319	_____	_____
+ Noncash transfer to farm	2,786	0	_____	_____
- Lost capital	2,064	0	_____	_____
- Sales	2,409	2,378	_____	_____
- Depreciation	10,241	21,012	_____	_____
= Net investment (2)	$8,521	$11,929	_____	_____
Appreciation (3 - 1 - 2)	2,958[2]	425	_____	_____
End of year (3)	$422,364	$192,698	_____	_____

[1]Purchase includes $3,612 for land and $16,837 for buildings.
[2]Real estate appreciation excludes $0 of appreciation on assets sold during the year.

Income Statement

On the following pages the accrual adjusted income statement begins with an accounting of all farm business expenses.

Cash Paid is the actual amount of money paid out during the year and does not necessarily represent the cost of goods and services actually used.

Change in Inventory: An increase in inventory is subtracted in computing accrual expenses; it represents inputs that were purchased but not actually used during the year. A decrease in inventory is added to expenses because it represents the cost of inputs purchased in a prior year and used this year.

Changes in Prepaid Expenses apply to non-inventory categories. Included are expenses that have been paid in advance of their use, for example, next year's rent paid this year. An increase in a prepaid expense is an amount paid this year that is an expense for a future year and, thus, is subtracted from expenses; a decrease in a prepaid expense indicates an amount paid in a prior year that is an expense for this year and added to cash expenses.

Change in Accounts Payable: An increase in payables is an expense chargeable to this year but not paid by the end of the year. A decrease in payables is an expense for a previous year that was paid this year.

Accrual Expenses are the costs of inputs actually used for this year's production.

The worksheet on page 9 is provided to enable any fruit farmer to compare his or her expenses with the group averages in the corresponding table.

Table 7. Income Statement - Farm Expenses, 22 Western New York Fruit Farms, 1992

Expenses	Cash amount paid +	Change in inventory or prepaid expenses +	Change in accounts payable =	Accrual expenses
Hired Labor				
Wages: regular	$ 42,270	$ 0	$ 0	$ 42,270
picking	83,628	0	(3)	83,625
other part-time, seasonal	35,299	0	0	35,299
Other labor costs	34,155	0	234	34,389
Picker travel	1,198	0	0	1,198
Labor camp expenses	4,249	0	(5)	4,244
Equipment				
Machine hire, rent, lease	14,846	0	(71)	14,776
Repairs & parts	26,100	233	37	26,370
Auto expense - farm share	654	0	0	654
Fuel, oil & grease	13,355	220	25	13,599
Livestock				
All livestock expenses	0	(155)	0	(155)
Crops				
Fertilizer & lime	12,729	295	0	13,023
Replacement trees & plants	935	0	0	935
Spray	68,106	(1,865)	727	66,968
Supplies, other prod. expense	12,735	(71)	4	12,669
Processing & packing supplies	936	171	0	1,107
Storage	11,803	0	42	11,845
Marketing, selling expenses	1,022	0	0	1,022
Real Estate				
Repair - land, bldg., fences	6,418	0	0	6,418
Taxes	9,196	0	10	9,206
Rent & lease	12,669	0	(1,704)	10,965
Other Expenses				
Insurance:				
fire, liability	7,704	(124)	0	7,580
crop	470	0	0	470
Telephone - farm share	1,172	0	1	1,173
Electricity - farm share	5,968	0	20	5,988
Fruit purchased for resale	3,846	0	225	4,071
Interest paid	14,906	0	0	14,906
Miscellaneous	13,038	0	6,279	19,317
TOTAL OPERATING EXP.	$439,406	$(1,296)	$ 5,822	$443,932
Expansion orchard	12,247	(359)	(171)	11,718
Depreciation:				
equipment				21,012
buildings				4,759
bearing trees & vines				5,482
TOTAL ACCRUAL EXPENSES				$486,903

Table 8. Income Statement, Farm Expenses, My Farm, 1992

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

Table 9. Income Statement, Farm Receipts, 22 Western New York Fruit Farms, 1992

Receipts	Cash receipts +	Change in inventory[1] +	Change in accounts receivable =	Accrual receipts
Apples: fresh	$206,029	$(20,375)	$21,342	$206,996
processing	219,825	(1,396)	(9,811)	208,619
Cherries: sweet	4,017		0	4,017
tart	43,035		(20,229)	22,806
Grapes	611		27	638
Peaches	5,748		(23)	5,725
Pears	9,053		504	9,556
Plums & prunes	762		990	1,752
All other fruit	3,281	173	0	3,453
Other crops, livestock & prod.	1,254	(489)	0	765
Custom work, storage, rent	20,069		2,217	22,286
Other - including government receipts, refunds	13,036	0[2]	302	13,337
- Non-farm non-cash capital		(430)[3]		(430)
TOTAL OPERATING RECEIPTS	$526,718	$(22,517)	$(4,680)	$499,521

[1]Change in crop and livestock products inventory.
[2]Change in advanced government receipts.
[3]Gifts and inheritances of livestock and crops to the farm business.

Cash Receipts include the amount received during the year from the sale of farm products and services, and government programs.

Changes in Inventory are calculated by subtracting beginning of year values from end of year values excluding appreciation. Changes in crop and livestock inventories are calculated. Changes in advanced government receipts are calculated by subtracting the end of year balance from the beginning year balance.

Changes in Accounts Receivable are calculated by subtracting beginning year balances from end year balances.

Accrual Receipts represent the value of all farm commodities and services generated by the farm business during the year.

Table 10. Income Statement, Farm Receipts, My Farm, 1992

Receipts	Cash receipts +	Change in inventory +	Change in accounts receivable =	Accrual receipts
Apples: fresh	$_____	$_____	$_____	$_____
processing	_____	_____	_____	_____
Cherries: sweet	_____	_____	_____	_____
tart	_____	_____	_____	_____
Grapes	_____	_____	_____	_____
Peaches	_____	_____	_____	_____
Pears	_____	_____	_____	_____
Plums & prunes	_____	_____	_____	_____
All other fruit	_____	_____	_____	_____
Other crops, livestock & prod.	_____	_____	_____	_____
Custom work, storage, rent	_____		_____	_____
Other - including government receipts, refunds	_____	(-)_____	_____	(-)_____
- Non-farm non-cash capital				
TOTAL OPER. RECEIPTS	$_____	$_____	$_____	$_____

Profitability Analysis

Farm owner-operators contribute labor, management, and capital to their businesses and the best combination of these resources maximizes profits. Farm profitability can be measured as the return to all family resources or as the return to one or more individual resources such as labor and management.

Net Farm Income is the total combined return to the farm operators and other unpaid family members for their labor, management, and equity capital. It is the farm family's annual net return from working, managing, financing, and owning the farm business. This is not a measure of cash available from the year's business operation. Cash flow is measured later in this report.

Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, equipment, real estate inventory, and stocks and certificates (other than Farm credit). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.

Table 11. Net Farm Income, 22 Western New York Fruit Farms, 1992

Item	24 Farms 1991	My Farm
Total accrual receipts	$499,521	$_____
+ Appreciation:		
Livestock	(489)	_____
Equipment	425	_____
Real estate	2,958	_____
Other - Stocks & certificates	+1,644	+_____
= Total accrual receipts with appreciation	$505,037	$_____
- Total accrual expenses	-486,903	-_____
= Net farm income with appreciation	$18,134	$_____
Net farm income without appreciation	$12,618	$_____

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
22 Western New York Fruit Farms, 1992

Item	22 Farms 1992	My Farm
With appreciation:		
Net farm income	$18,134	$_____
- Family unpaid labor @ $1,350 per month	-245	-_____
= Return to operators' labor, management, & equity	$17,889	$_____
Without appreciation:		
Net farm income	$12,618	$_____
- Family unpaid labor @ $1,350 per month	-245	-_____
= Return to operators' labor, management, & equity	$12,373	$_____

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, 22 Western New York Fruit Farms, 1992

Item	22 Farms 1992	My Farm
Without appreciation:		
Return to operators' labor, management, & equity	$12,373	$_____
- Real interest @ 5% on average equity capital	-34,932	_____
= Labor & management income per farm	$(22,559)	$_____
Labor & management income per operator	$(12,400)	$_____

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, 22 Western New York Fruit Farms, 1992

Item	22 Farms 1992	My Farm
Average equity capital	$698,637	$_____
Average total capital	$974,419	$_____
Returns with appreciation:		
Return to operators' labor, management & equity capital	$17,889	$_____
- Value of operators' labor & management	-56,999	-_____
= Return on average equity capital	$(39,111)	$_____
+ Interest paid	+14,906	+_____
= Return on average total capital	$(24,205)	$_____
Rates of return on:		
Average equity capital	-5.6%	_____%
Average total capital	-2.5%	_____%
Returns without appreciation:		
Return on average equity capital with appreciation	$(39,111)	$_____
- Total appreciation	-5,515	-_____
= Return on average equity capital	$(44,626)	$_____
+ Interest paid	14,906	+_____
= Return on average total capital	$(29,721)	$_____
Rates of return on:		
Average equity capital	-6.4%	_____%
Average total capital	-3.1%	_____%

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, 22 Western New York Fruit Farms, 1992

Item	22 Farms 1992	My Farm
Cash Inflows		
Beginning farm cash, checking, & savings	$ 21,973	$_____
Cash farm receipts	527,471	_____
Sale of assets:		
Equipment	2,378	_____
Real estate	2,306	_____
Other stocks & certificates	2,327	_____
Money borrowed:		
Increase in operating debt	34,030	_____
Short-term	8,464	_____
Intermediate	4,778	_____
Long-term	10,999	_____
Refinanced debt	0	_____
Non-farm:		
Income	1,576	_____
Capital used in business	9,896	_____
Money borrowed	45	_____
Total Cash Inflows	$626,243	$_____
Cash Outflows		
Cash farm expenses (excluding interest paid)	$424,501	$_____
Capital purchases:		
Expansion orchard	12,247	_____
Equipment	35,319	_____
Real estate	20,449	_____
Other stocks & certificates	5,875	_____
Debt payments:		
Principal payments for -		
Decrease in operating debt	0	_____
Short-term	2,783	_____
Intermediate	6,814	_____
Long-term	14,895	_____
Refinanced	0	_____
Interest paid	14,906	_____
Personal withdrawals & family expenditures including non-farm debt payments & crop operator labor costs	71,788	_____
Ending farm cash, checking & savings	14,934	_____
Total Cash Outflows	$624,511	$_____
Imbalance (error)	$1,731	$_____

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, 22 Western New York Fruit Farms, 1992

Debt Payments	22 Fruit Farms Planned for 1992[1]	22 Fruit Farms Actual Payments in 1992[2]	22 Fruit Farms Planned for 1993	My Farm Planned for 1992	My Farm Actual payments 1992	My Farm Planned for 1993
Accts. payable (net reduction)	$ 1,864	$ 0	$ 727	_____	$ _____	$_____
Operating (net reduction)	8,204	0	9,090	_____	_____	
Short-term (principal & int.)	1,723	2,845	682	_____	_____	
Intermediate (principal & int.)	6,188	9,310	6,507	_____	_____	
Long-term (principal & int.)	17,726	21,997	15,438	_____	_____	
Total debt payments	$35,704	$34,152	$32,444	$_____	$_____	
Payments as a percent of:						
Total accrual receipts	7%	7%		_____%	_____%	
Total accrual fruit receipts	8%	7%				
Payments per acre of:						
bearing fruit	$153	$146		$_____	$_____	
all fruit	$138	$132		$_____	$_____	
Payments/bushel of apples sold	$0.29	$0.28		$_____	$_____	

[1]If on the Fruit Farm Business Summary the previous year.
[2]Actual payments excluding refinanced debt.

The **Cash Flow Coverage Ratio** measures the ability of the farm business to meet its planned debt payment schedule. The ratio shows the percentage of planned payments that could have been made with this year's available cash flow. However, the critical question to many farmers and lenders is whether planned payments can be made in 1993. The worksheet provided in Table 18 can be used to estimate repayment ability which can then be compared to planned 1993 debt payments shown in Table 16.

Table 17. Cash Flow Coverage Ratio, 22 Western New York Fruit Farms, 1992

Item	22 Farms 1992	My Farm
Cash farm receipts	$527,471	$_____
- Cash farm expenses	439,406	_____
+ Interest paid	14,906	_____
- Net personal withdrawals from farm[1]	70,167	_____
= Amount available for debt service (1)	$32,803	$_____
Debt payments planned (2)	$35,704	$_____
Cash Flow Coverage Ratio (1 ÷ 2)	0.92	_____

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

Table 18. Annual Cash Flow Worksheet, 1992 and 1993 Projection

Item	Average 22 Farms	My Farm, 1992 Total	My Farm, 1992 Per bearing acre	Expected change	1993 projection
Average bearing acres of fruit	233				
Accrual Operating Receipts					
Apples: Fresh	$ 888	$	$	$	$
Processing	895				
All other fruit	206				
Other crops, livestock & products	3				
Custom work, storage & rent	96				
Other - including government receipts, refunds	55				
Total Operating Receipts	$2,143	$	$	$	$
Accrual Operating Expenses					
Labor: Wages -- regular	181				
picking	359				
other part-time, seasonal	151				
Other labor costs	148				
Picker travel, labor camp exp.	23				
Equip: Machine hire, rent, lease	63				
Repairs, parts & auto exp.	116				
Fuel, oil & grease	58				
Livestock: All livestock expense	(1)				
Crops: Fertilizer & lime	56				
Replacement trees & plants	4				
Spray	287				
Supplies, other prod. exp.	54				
Storage	51				
Packing supplies, marketing, selling exp.	9				
Real Est.: Repair - land, bldg., fences	28				
Taxes	39				
Rent & lease	47				
Other: Insurance - fire, liab., crop	35				
Utilities - phone, elec.	31				
Resale items - fruit, etc.	17				
Miscellaneous	83				
Total Operating Expenses Excluding Interest	$1,840	$	$	$	$
Repayment Analysis					
Net accrual operating income excluding interest	$70,494	$			$
- Change in livestock & crop inv.	(22,517)				
- Change in accounts receivable	(4,680)				
+ Change in crop & supply inv.	(1,296)				
+ Change in accounts payable excluding interest	5,822				
Net Operating Cash Flow	$102,217	$			$
- Net personal withdrawals	70,167				
Available for debt payments, invest.	$32,051	$			$
- Farm debt payments: principal & interest	34,152				
Available for farm investment	$(2,102)	$			$
Capital purchases	$73,890	$			$
Additional capital needed	$75,992	$			$

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, 22 Western New York Fruit Farms, 1992

Item	Average Capital Investment: Per worker equivalent	Per Bearing Acre: Owned	Per Bearing Acre: Operated	Per all fruit acres
Assets				
Total farm capital	$86,962	$6,205	4,180	$3,768
Real estate	37,182	2,653	n/a	1,611
All equipment	8,670	n/a	417	376
Capital turnover, years 1.93				
My Farm:				
Total farm capital	$_____	$_____	$_____	$_____
Real estate	_____	_____	_____	_____
All equipment	_____	_____	_____	_____
Capital turnover, years ____				

Equipment Analysis

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

Table 20. Accrual Equipment Expenses, 22 Western New York Fruit Farms, 1992

Item	Average 22 Fruit Farms: Total equip. cost	Equipment cost per fruit acre operated: Bearing	All fruit	My Farm: Total equip. cost	Equipment cost per fruit acre operated: Bearing	All fruit
Annual Accrual Cost						
Machine hire, equip. rent, lease	$14,776	$ 63	$ 57	$_____	$_____	$_____
Repair & parts	26,370	113	102	_____	_____	_____
Auto exp. - farm share	654	3	3	_____	_____	_____
Fuel, oil & grease	13,599	58	53	_____	_____	_____
Interest - avg. cap. @5%	9,326	40	36	_____	_____	_____
Depreciation	21,012	90	81	_____	_____	_____
Total Equipment Cost	$85,737	$368	$332	$_____	$_____	$_____

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, 22 Western New York Fruit Farms, 1992

Labor Force	Full-time months	Age, years	Years of Education	Value of labor/mgmt.
Average:				
Operator -				
number 1	11.0	45	15	$28,934
number 2	5.9	41	13	15,064
number 3	4.3	38	14	10,833
number 4	0.7	46	15	2,169
Family unpaid	0.2		Total	$57,000
Family paid	2.4		Avg./oper.	$26,125
Hired -				
regular	28.2			
picking	50.5			
other part-time, seasonal	31.4			
Total	134.5	mo./12 =	11.21 worker equivalent 1.82 oper./manager equiv.	
My Farm:				
Total	____	mo./12 =	____ worker equivalent	
Operators	____	mo./12 =	____ oper./manager equiv.	

	Average		My Farm	
Labor Efficiency	Total	Per Worker	Total	Per worker
Bearing fruit, acres	233.1	20.8	_____	_____
Total fruit, acres	258.6	23.1	_____	_____
Apples sold, bushels	114,655	10,232	_____	_____
Accrual receipts	499,521	44,580	$_____	$_____
Accrual fruit receipts	463,562	41,370	$_____	$_____

Labor Cost or Value	Annual Accrual Cost					
	Average 22 Farms			My Farm		
Type	Total	Per worker equiv.	Per bearing acre	Total	Per worker equiv.	Per bearing acre
Value of operator(s) labor @ $1,350/mo.	$ 29,473	$16,200	$ 126	$____	$____	$____
Family unpaid @ $1,350/mo.	245	16,200	1	_____	_____	_____
Family paid (excl. operator)	4,029	20,069	17	_____	_____	_____
Hired -						
regular (excluding operator)	51,250	21,802	220	_____	_____	_____
picking	104,785	24,916	449	_____	_____	_____
other part-time, seasonal	41,235	15,777	177	_____	_____	_____
All labor (incl. non-cash)	$231,018	$20,617	$ 991	$____	$____	$____
All equipment cost	85,737	7,652	368	_____	_____	_____
Total labor & equip. cost	$316,755	$28,269	$1,359	$____	$____	$____

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, 22 Western New York Fruit Farms, 1992

Item	Average 22 Farms Owned	Rented	Total	My Farm Owned	Rented	Total
Land Class (end of year)						
Bearing fruit, acres	157.0	76.1	233.1			
Non-bearing fruit, acres	18.6	6.8	25.5			
Other crops, open, acres	25.9	5.7	31.7			
Non-tillable pasture, acres	7.4	0.5	7.9			
Other non-tillable, acres	35.7	11.0	46.7			
Total land operated	244.7	100.2	344.9			

Crop Production	For farms having the fruit: No. of farms	Average acres	Yield per acre	Total acres	Yield per acre
Bearing Fruit:					
Apples -					
fresh	22	89.5	501 bu.		bu.
processing	22	99.9	765 bu.		bu.
all apples	22	189.4	640 bu.		bu.
Cherries					
sweet	7	8.4	2,300 lb.		lb.
tart	12	48.9	7,330 lb.		lb.
Grapes	2	7.8	4.6 tn.		tn.
Peaches	9	9.5	194 bu.		bu.
Pears	12	12.1	279 bu.		bu.
Plums, prunes	7	5.9	124 bu.		bu.
Other fruit	4	6.5			
Total bearing fruit	22	233.1			
Non-Bearing Fruit:					
Apples					
fresh	20	22.6			
processing	1	50.0			
Cherries					
sweet	3	7.2			
tart	2	7.9			
Other non-bearing	7	2.9			
Total non-bearing fruit acres	22	25.4			
Other Crops, Open:					
Other	16	43.5			

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, 22 Western New York Fruit Farms, 1992

Item	Cost Per Fruit Acre Operated	
	Bearing acres	All fruit acres
All labor - including operators' labor	$991	$893
Picking labor	449	405
Other hired labor	414	373
All equipment cost	368	332
Spray	287	259

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, 1990-1992

Selected Factors	1990	1991	1992
Number of farms	22	24	22
Size of Business			
All cropland including fruit, acres	257	257	290
All fruit including non-bearing, acres	222	233	259
Bearing fruit, acres	199	209	233
Bearing apples, acres	163	171	189
Fresh - percent of all apple acres	47%	48%	47%
Apples produced, bushels	80,510	98,244	121,305
Apples sold, bushels	77,045	99,713	114,655
Worker equivalent	8.50	9.42	11.21
Total accrual operating receipts	$409,840	$557,217	449,521
Rates of Production			
All apples, bushels per bearing acre	495	575	640
Fresh - percent of apples harvested	43%	37%	37%
Cherries - tart, pounds per bearing acre	3,987	8,867	7,330
Pears, bushels per bearing acre	259	237	279
Non-bearing to bearing acre ratio	11%	11%	11%
Labor Efficiency			
Bearing fruit, acres per worker	23	22	21
All fruit, acres per worker	26	25	23
Accrual receipts per worker	$48,231	$59,125	$44,580
Cost Control - Accrual			
Cost per bearing acre:			
All labor	$756	$888	$991
All equipment	$288	$351	$368
Spray	$230	$272	$287
Hired labor as percent of operating expenses	41%	42%	45%
Capital Efficiency - Average for the Year			
Total farm capital per bearing acre	$3,735	$4,009	$4,180
Total farm capital per fruit acre	$3,350	$3,596	$3,768
Capital turnover, years	1.7	1.4	1.9
Profitability			
Net farm income:			
Without appreciation	$81,153	$148,708	$12,618
With appreciation	$97,817	$168,666	$18,134
Labor & management income per operator	$30,349	$70,454	$(12,400)
Rate of return to average capital with appreciation:			
Equity capital	10.0%	19.4%	-5.6%
Total capital	9.4%	16.2%	-2.5%
Financial Summary - End of Year			
Farm:			
Net worth	$538,101	$672,684	$656,692
Debt to asset ratio	0.31	0.25	0.31
Debt per bearing acre	$1,220	$1,059	$1,290
Cash flow coverage ratio	0.93	1.91	0.92

Table 25. Progress of the Fruit Farm Business, Same Summary Farms, Western New York, 1990-1992

Selected Factors	Average per Farm, Same 16 Farms in: 1990	1991	1992
Size of Business			
All cropland including fruit, acres	301	308	325
All fruit including non-bearing, acres	268	279	287
Bearing fruit, acres	241	249	260
Bearing apples, acres	197	207	213
Fresh - percent of all apple acres	45%	45%	46%
Apples produced, bushels	98,353	121,246	137,367
Apples sold, bushels	95,410	124,595	130,135
Worker equivalent	9.97	10.83	12.48
Total accrual operating receipts	$495,330	$681,921	$568,537
Rates of Production			
All apples, bushels per bearing acre	501	585	644
Fresh - percent of apples harvested	43%	38%	37%
Cherries - tart, pounds per bearing acre	4,151	8,912	6,992
Pears, bushels per bearing acre	279	233	257
Non-bearing to bearing acre ratio	12%	12%	11%
Labor Efficiency			
Bearing fruit, acres per worker	24	23	21
All fruit, acres per worker	27	26	23
Accrual receipts per worker	$49,693	$62,976	$45,571
Cost Control - Accrual			
Cost per bearing acre:			
All labor	$743	$875	$975
All equipment	$286	$367	$372
Spray	$234	$266	$279
Hired labor as percent of operating expenses	42%	41%	45%
Capital Efficiency - Average for the Year			
Total farm capital per bearing acre	$3,742	$4,246	$4,298
Total farm capital per fruit acre	$3,355	$3,789	$3,887
Capital turnover, years	1.7	1.5	1.9
Profitability			
Net farm income:			
Without appreciation	$100,973	$182,830	$26,118
With appreciation	$121,621	$207,817	$30,772
Labor & management income per operator	$36,700	$76,963	$-7,334
Rate of return to average capital with appreciation:			
Equity capital	11.5%	20.1%	-3.9%
Total capital	10.4%	16.8%	-1.2%
Financial Summary - End of Year			
Farm:			
Net worth	$657,736	$830,241	$751,563
Debt to asset ratio	0.31	0.25	0.31
Debt per bearing acre	$1,200	$1,133	$1,326
Cash flow coverage ratio	0.97	1.83	1.25

Table 26. Progress of the Fruit Farm Business, My Farm, 1990-1992

Selected Factors	1990	1991	1992	Goal
Size of Business				
All cropland incl. fruit, acres				
All fruit incl. non-bearing, acres				
Bearing fruit, acres				
Bearing apples, acres				
Fresh - % of all apple acres	%	%	%	%
Apples produced, bushels				
Apples sold, bushels				
Worker equivalents				
Total accrual oper. receipts	$	$	$	$
Rates of Production				
All apples, bushels/bearing acre				
Fresh - % of apples harvested	%	%	%	%
Cherries - tart, lbs./bearing acre				
Pears, bushels/bearing acre				
Non-bearing to bearing acre ratio	%	%	%	%
Labor Efficiency				
Bearing fruit, acres/worker				
All fruit, acres/worker				
Accrual receipts/worker	$	$	$	$
Cost Control - Accrual				
Cost/bearing acre:	$	$	$	$
All labor	$	$	$	$
All equipment	$	$	$	$
Spray	$	$	$	$
Hired labor as % of oper. exp.	%	%	%	%
Capital Efficiency - Average for the Year				
Total farm capital/bearing acre	$	$	$	$
Total farm capital/fruit acre	$	$	$	$
Capital turnover, years				
Profitability				
Net farm income:				
Without appreciation	$	$	$	$
With appreciation	$	$	$	$
Labor & mgmt. income/oper.	$	$	$	$
Rate of return to average capital w/apprec.:				
Equity capital	%	%	%	%
Total capital	%	%	%	%
Financial Summary - End of Year				
Farm:				
Net worth	$	$	$	$
Debt to asset ratio				
Debt/bearing acre	$	$	$	$
Cash flow coverage ratio				

OTHER AGRICULTURAL ECONOMICS EXTENSION PUBLICATIONS

No. 93-09	Dairy Farm Business Summary Northern Hudson Region 1992	Stuart F. Smith Linda D. Putnam Cathy S. Wickswat John M. Thurgood
No. 93-10	Dairy Farm Business Summary Southeastern New York Region 1992	Stuart F. Smith Linda D. Putnam Alan S. White Gerald J. Skoda Stephen E. Hadcock Larry R. Hulle
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