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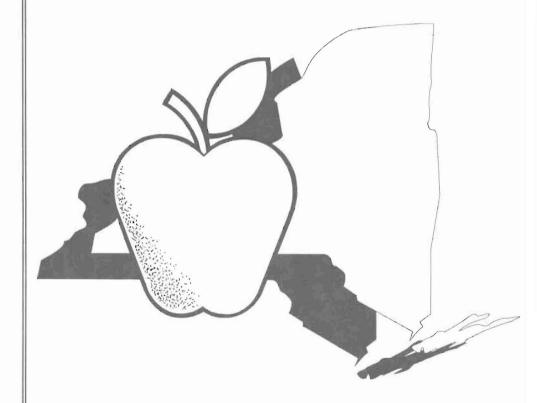
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LAKE ONTARIO REGION NEW YORK 1996



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ABSTRACT

This report is a summary of 1996 farm business data collected from 21 fruit farm businesses located in Western New York State. Apples are the predominant fruit crop. The data are presented as averages for all 21 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.

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1996 FRUIT FARM BUSINESS SUMMARY LAKE ONTARIO REGION

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1996 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 1996.

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 87 percent of the receipts in 1996 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 21 farms.

This report features:

- 1) A complete Balance Sheet and analysis including financial ratios.
- 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.
- 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 24.5 million bushels in 1996. Statewide production was down about 1 percent from the two previous years. The 21 farms in this summary produced a total of 2,159,556 bushels, or about 8.8 percent of the state's total production.

The average price of apples (both fresh and processing) for the Fruit Farm Business Summary farms was \$5.08 per bushel, the highest since 1991. The price for fresh apples and processing apples were both exceptionally strong. In fact, processing prices for the overall state were the highest on record, and the utilized value of the New York apple crop was \$138.9 million, even higher than the banner year of 1991. Of course, costs were higher due to inflation, so financial performance in terms of net income and return on assets were not as impressive as for the 1991 season.

Table 1.

Apple Production and Prices, New York State, 1992-1996

Item	1992	1993	1994	1995	1996
Production		n	nillion bushe	ls	
Fresh Apples					
Western New York	5.0	3.8	5.5	NA	NA
New York State	12.4	9.5	11.7	11.4	11.9
Processing Apples					
Western New York	13.1	9.3	12.4	NA	NA
New York State	15.5	11.2	14.5	15.0	12.6
All Varieties					
Western New York	18.1	13.1	17.9	NA	NA
New York State	27.9	20.7	26.2	26.4	24.5
Average Price Received Per Bushel			dollars		
All Apples					
New York State	4.16	4.87	4.95	5.09	5.66
Fruit Farm Business Summary	3.62	3.77	3.68	4.36	5.08
Fresh Apples					
New York State	5.96	7.31	7.56	7.85	7.43
Fruit Farm Business Summary	4.59	4.94	5.05	5.81	6.15
Processing Apples					
New York State	2.71	2.79	2.84	2.96	3.99
Fruit Farm Business Summary	2.88	3.14	2.81	3.09	4.29

NA = Not Available.

Source: New York Agricultural Statistics Service, FRUIT series, Seasonal releases for July 1993, 1994, 1995, 1996 and 1997 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, 21 Western New York Fruit Farms, 1996

Type of Business	Number	Business Record System	Number
Proprietors	6	Account Book	3
Partnerships	7	Agrifax (mail-in)	0
Corporations	8	On-Farm Computer	18
•		Other	0
Rusiness (Composition	Number	
	Composition	Number	
Fruit prod	luction only	Number 5	
Fruit prod Fruit with	uction only storage	Number 5 7	
Fruit prod Fruit with	luction only	<u>Number</u> 5 7 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 21 fruit farm cooperators. It lists the average value of assets and liabilities for December 31, 1995 and December 31, 1996 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, 21 Western New York Fruit Farms, December 31, 1995 & 1996

			Farm Liabilities		
Farm Assets	1995	1996	& Net Worth	1995	1996
Current	\$	\$	Current =<1 year	\$	\$
Cash, checking, sav.	20,139	13,133	Accounts payable	21,938	27,868
Accounts receivable	141,737	181,121	Operating debt	120,857	139,104
Prepaid expenses	1,689	1,985	Short-term	4,070	2,463
Fruit, other crops	109,650	114,309	Advanced gov't receipts	0	0
Production supplies	8,423	15,326	Accrued interest	2,944	3,453
Packing supplies	935	1,192			
Total Current	\$ 282,573	\$ 327,066	Total Current	\$ 149,810	\$ 172,887
Intermediate			Intermediate =>1 to <10 year	irs	
Livestock	0	286	Structured debt	82,869	86,319
Livestock leased	0	0	Financial lease-livestock		
Equipment owned	217,084	225,660	& equipment	5,198	3,235
Equipment leased	5,198	3,235	Farm Credit stock	7,768	8,796
Farm Credit stock	7,768	8,796			
Other stock, cert.	60,444	61,812			
Total Intermediate	\$ 290,494	\$ 299,789	Total Intermediate	\$ 95,835	\$ 98,350
Long-Term			Long-Term =>10 years		
Land/Buildings:			Structured debt	154,521	146,646
Owned	496,790	509,765	Financial lease -		
Structures leased	0	0	structures	0	0
Total Long-Term	\$ 496,790	\$ 509,765	Total Long-Term Total Farm:	\$ 154,521	\$ 146,646
			Liabilities	400,165	417,882
Total Farm:			Net Worth	669,692	718,737
Assets	\$1,069,857	\$1,136,620	Liabilities & Net Worth	1,069,857	1,136,620
Table 3a.		Nonfarm Asse	ets & Liabilities		
NonFarm Assets	1995	1996	NonFarm Liabilities	1995	1996
Cash, checking, sav.	6,266	207		0	0
Life inscash value	2,780	2,346		U	U
Real estate	2,780	2,340			
Auto (pers. share)	429	333			
Stocks & bonds	4,597	15,827			
Household furn.	1,190	1,429			
All other	0	0			
Total NonFarm			Total Nonfarm: Liab.	0	0
Assets	15,262	20,141	Net Worth	15,262	20,141
110000	13,202	20,171	Liabilities & Net Worth	15,262	20,141
			Farm and Nonfarm		
Assets	1,085,119	1,156,761	Liabilities	400,165	417,882
	110 24 12 2	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Net Worth	684,954	738,879
			Liabilities & Net Worth	1,085,119	1,156,761

Table 4.

Farm Business Balance Sheet, My Farm, December 31, 1995 & 1996

Farm Assets	1995	1996	Farm Liabilities & Net Worth	1995	1996
Current Cash, checking, sav. Accounts receivable Prepaid expenses Fruit, other crops		\$	Current = < 1 year Accounts payable Operating debt Short-term	\$	\$
Production supplies Packing supplies			Advanced gov't receipts Accrual interest		
Total Current			Total Current		
Intermediate Livestock Livestock leased Equipment owned Equipment leased			<u>Intermediate</u> = > 1 to < 10 Structured debt	years	
Farm Credit stock Other stock, cert.			Financial lease-livestock, equipment Farm Credit stock		
Total Intermediate			Total Intermediate		
Long-Term			$\underline{\text{Long-Term}} = > 10 \text{ years}$		
Land/Buildings: Owned Structures leased			Structured debt Financial lease-struc.		
Total Long-Term			Total Long-Term		8
			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, 21 Western New York Fruit Farms, December 31, 1996

Item	21 Farms 1996	My Farm
	For the Farm	Business Only
Financial Ratios - end of year		
Percent equity	63%	%
Debt to asset ratios:		
Total debt	0.37	
Long-term	0.29	
Current & intermediate	0.43	
Change in Net Worth		
Without appreciation	\$ 37,121	\$
With Appreciation	\$ 49,045	\$
Debt Analysis - end of year		
Percent of total farm debt that is:		%
Long-term	35%	
Current & intermediate	65%	%
Accounts payable only	7%	
Debt Levels - end of year		
Per bearing fruit acre:		
Total farm debt	\$ 1,920	\$
Long-term	\$ 674	\$
Current & intermediate	\$ 1,246	\$

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, 21 Western New York Fruit Farms, 1996

21 Fr	uit Farm	My	Farm
Real Estate	Equipment	Real Estate	Equipment
\$ 496,790	\$ 217,084	\$	\$
\$ 18,054 ¹	\$ 27,565		
0	0		
2,261			
4,050	1,591		
9,097	27,526		
\$ 2,646	\$ (1,552)		
$10,329^2$	10,128		
\$ 509,765	\$ 225,660		
	Real Estate \$ 496,790 \$ 18,054 ¹ 0 2,261 4,050 9,097 \$ 2,646 10,329 ²	Estate Equipment \$ 496,790 \$ 217,084 \$ 18,054 ¹ \$ 27,565 0 0 2,261 4,050 1,591 9,097 27,526 \$ 2,646 \$ (1,552) 10,329 ² 10,128	Real Equipment Real \$ 496,790 \$ 217,084 \$

¹Purchase includes \$8,030 for land and \$10,024 for buildings.

Income Statement

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

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

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

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

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

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

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

²Real estate appreciation excludes \$-810 of appreciation on assets sold during the year.

Table 7.
Income Statement - Farm Expenses, 21 Western New York Fruit Farms, 1996

	Cash	Change in inventory or	Change in	
Expenses	amount paid	+ prepaid ex- penses	+ accounts payable	= Accrual expenses
Hired Labor Wages: regular	\$51,508	\$ 0	\$ 0	\$ 51,508
picking other part-time seas. Other labor costs Picker travel Labor camp expenses	73,246 44,740 39,314 1,654 2,082	(498) 0 0	0 0 (885) 0 0	73,246 44,740 37,930 1,654 2,082
Equipment Machine hire, rent, lease Repairs & parts Auto expense - farm share Fuel, oil & grease	12,275 26,771 325 13,543	0 (210) 0 (398)	1,631 (406) 0 2	13,906 26,156 325 13,147
Livestock All livestock expenses	226	0	0	226
Crops Fertilizer & lime Replacement trees & plants Spray Supplies, other production exp. Processing and packing supplies Storage Marketing, selling expenses	11,961 1,577 73,522 13,405 981 12,429 2,779	(719) 0 (5,277) 111 (257) 0 (115)	1,150 0 4,017 783 (2) 1,537 166	12,393 1,577 72,262 14,299 723 13,966 2,830
Real Estate Repair - land, building, fences Taxes Rent & lease	4,049 10,184 8,901	(19) (116) 0	287 719 3,571	4,317 10,788 12,472
Other Expenses Insurance: Fire, liability Crop Telephone - farm share Electricity - farm share Fruit purchased for resale Interest paid Miscellaneous	10,583 15 1,331 7,657 14,385 27,328 16,489	143 0 0 0 0 0 0 (391)	239 0 1 (4) 5,828 160 (2,318)	10,966 15 1,331 7,653 20,213 27,488 13,780
TOTAL OPERATING EXPENSES Expansion orchard Depreciation: Equipment Buildings Bearing trees & vines	\$ 483,260 \$ 10,186	\$ (7,744) 163	\$ 16,477 0	\$ 491,993 10,349 27,526 4,448 4,648
TOTAL ACCRUAL EXPENSES				\$ 538,965

Table 8.

Income Statement, Farm Expenses, My Farm, 1996

Expenses	Cash amount paid	Change in inventory or + prepaid expenses	Change in + accounts payable	= Accrual expenses
Hired Labor Wages: regular picking other part-time seas. Other labor costs Picker travel Labor camp expenses	\$	\$	\$	\$
Equipment Machine hire, rent, lease Repairs & parts Auto expense - farm share Fuel, oil & grease				
<u>Livestock</u> All livestock expenses Crops				··· ·
Fertilizer & lime Replacement trees & plants Spray Supplies, other production exp. Processing and packing supplies Storage Marketing, selling expenses				
Real Estate Repair - land, building, 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 EXPENSES Expansion orchard Depreciation: Equipment Buildings Bearing trees & vines	\$	\$	\$	\$
TOTAL ACCRUAL EXPENSES				\$

Table 9.

Income Statement, Farm Receipts
21 Western New York Fruit Farms, 1996

Receipts	Cash Receipts		nange in ventory ¹	acc	ange in counts ceivable	Accrual = receipts
		-				
Apples: fresh	\$ 249,675	\$	536193	\$	12,033	\$ 267,326
processing	235,196		(1,184)		21,759	255,772
Cherries: sweet	10,757				(789)	9,968
tart	12,820				1,562	14,382
Grapes	509				(32)	476
Peaches	5,827				223	6,050
Pears	4,621				5	4,625
Plums & prunes	786				0	786
All other fruit	2,773		344		0	3,117
Other crops, livestock & prod.	2,324		(119)		(28)	2,178
Custom work, storage, rent	28,063				3,711	31,774
Other - including government receipts, refunds - Non-farm non-cash capital	7,922		$0^2 \\ 0^3$		36	7,958 0
TOTAL OPERATING RECEIPTS	\$ 561,273	\$	4,660	\$	38,480	\$ 604,413

¹Change in crop and livestock products inventory.

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

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

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

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

²Change in advanced government receipts.

³Gifts and inheritances of livestock and crops to the farm business.

Table 10.

Income Statement, Farm Receipts My Farm, 1996

Receipts	Cash receipts +	Change in inventory		Change in accounts receivable	=	Accrual receipts
Apples: fresh	\$	\$	\$		\$	
processing						
Cherries: sweet						
tart					799	
Grapes			_		_	
Peaches					_	
Pears			=		_	
Plums & prunes					_	
All other fruit	7		_		-	
Other crops, livestock & prod.					_	
Custom work, storage, rent	<u> </u>		_		-	
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 21Western New York Fruit Farms, 1996

Item	21 Farms 1996	My Farm		
Total accrual receipts	\$604,413	\$		
+ Appreciation:				
Livestock	119			
Equipment	10,128			
Real estate	9,520			
Other - Stocks & certificates	+(7,842)	+		
= Total accrual receipts with appreciation	\$616,337	\$		
- Total accrual expenses	-538,965	-		
= Net farm income with appreciation	\$ 77,372	\$		
Net farm income without appreciation	\$ 65,448	\$		

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
21 Western New York Fruit Farms, 1996

Item	21 Farms 1996	My Farm
With appreciation:		
Net farm income	\$ 77,372	\$
- Family unpaid labor @ \$1,500 per month	393	-
= Return to operators' labor, management, & equity	\$ 76,979	\$
Without appreciation: Net farm income - Family unpaid labor @ \$1,500 per month	\$ 65,448 393	\$
= Return to operators' labor, management, & equity	\$ 65,055	\$

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
21 Western New York Fruit Farms, 1996

Item	21 Farms 1996	My Farm
Without appreciation:		
Return to operators' labor, management, & equity	\$ 65,055	\$
- Real interest @ 5% on average equity capital	<u>-34,711</u>	-
= Labor & management income per farm	\$ 30,345	\$
Labor & management income per operator	\$ 18,998	\$

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,
21 Western New York Fruit Farms, 1996

Item	21 Farms 1996	My Farm
Average equity capital	\$694,215	\$
Average total capital	\$1,103,238	\$
Returns with appreciation:		
Return to operators' labor, management		
& equity capital	\$ 76,979	\$
- Value of operators' labor & management	-53,361	7
= Return on average equity capital	\$ 23,618	\$
+ Interest paid	+27,488	+
= Return on average total capital	\$ 51,106	\$
Rates of return (with appreciation) on:		
Average equity capital	3.4%	%
Average total capital	4.6%	%
Returns without appreciation:		
Return on average equity capital		140
with appreciation	\$ 23,618	\$
- Total appreciation	-11,924	
= Return on average equity capital	\$ 11,694	\$
+ Interest paid	+27,488	+
= Return on average total capital	\$ 39,182	\$
Rates of return (without appreciation) on:		
Average equity capital	1.7%	%
Average total capital	3.6%	%

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, 21 Western New York Fruit Farms, 1996

Item	21 Farms 1996	My Farm
Cash Inflows		
Beginning farm cash, checking, & savings	\$ 20,139	\$
Cash farm receipts	580,816	
Sale of assets:		
Equipment	1,591	
Real estate	2,494	
Other stocks & certificates	3	
Money borrowed:		
Increase in operating debt	18,246	
Short-term	116	
Intermediate	21,172	
Long-term	5,053	
Refinanced debt	0	
Non-farm:		
Income	3,350	
Capital used in business	0	
Money borrowed	0	
Total Cash Inflows	\$652,980	\$
Cash Outflows		*
Cash farm expenses (excluding interest paid)	\$455,932	\$
Capital purchases:	Ψ455,552	9
Expansion orchard	10,186	
Equipment	27,565	
Real estate	18,054	
Other stocks & certificates	9,213	
Debt payments:	7,213	
Principal payments for -		
Decrease in operating debt	0	
Short-term	1,723	-
Intermediate	17,721	
Long-term	12,928	
Refinanced debt	0	
Interest paid	27,328	
Personal withdrawals & family expenditures incl	udina	
	uding	
non-farm debt payments & corporate operator labor costs	50 262	
TADUL CUSIS	59,263	
Ending farm cash, checking & savings	13,133	
Total Cash Outflows	\$653,047	\$
Imbalance (error)	\$(68)	\$

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
21 Western New York Fruit Farms, 1996

		21 Fruit Far	ms		My Farn	1
Debt Payments	Planned for 1996 ¹	Actual Payments in 1996 ²	Planned for 1997	Planned for 1996	Actual payments 1996	Planned for 1997
	a 0			Φ.		
Accts. payable (net reduction)		\$ 0	\$ 0	\$	\$	\$
Operating (net reduction)	2,229	0	2,809			
Short-term (principal & int.)	1,053	1,839	1,026			
Intermediate (principal & int.)	16,818	23,752	13,233			
Long-term (principal & int.)	20,646	24,532	20,997			
Total debt payments	\$40,745	\$50,123	\$38,065	\$	\$	\$
Payments as a percent of:						
Total accrual receipts	7%	8%		%	%	
Total accrual fruit receipts	7%	9%		, ,		
Payments per acre of:						
bearing fruit	\$ 187	\$ 230		\$	\$	
all fruit	\$ 161	\$ 198		\$	\$	
Payments/bushel of apples sold		\$0.49		\$	\$	

¹If on the Fruit Farm Business Summary the previous year.

²Actual 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 1997. The worksheet provided in Table 18 can be used to estimate repayment ability which can then be compared to planned 1997 debt payments shown in Table 16.

Table 17.

Cash Flow Coverage Ratio
21 Western New York Fruit Farms, 1996

W/W/W		
Item	21 Farms 1996	My Farm
Cash farm receipts	\$580,816	\$
- Cash farm expenses	483,260	
+ Interest paid	27,328	
- Net personal withdrawals from farm	55,912	-
= Amount available for debt service (1)	\$68,971	\$
Debt payments planned (2)	\$40,745	\$
Cash Flow Coverage Ratio (1 ÷ 2)	1.69	

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

Table 18.

Annual Cash Flow Worksheet, 1996 and 1996 Projection

			My Fai	m, 1996		
Item		Average 21 Farms	Total	Per bear- ing acre	Expected change	1997 projection
10111	9 .		20141	mg doto	change	projection
Average be	earing acres of fruit	218				
	perating Receipts (per bearing a					
Apples:	Fresh	\$1,228		\$	\$	\$
All other f	Processing	1,175 181	_			
	run s, livestock & products	101				
	ork, storage & rent	146			Carre	
	cluding government receipts, refun					
	perating Receipts	\$2,777	\$	\$	\$	\$
Accrual O	perating Expenses (per bearing	acre)				
Labor:	Wages					
	regular	\$ 237				
	picking	337			3	
	other part-time, seasonal	206			(-	
	Other labor costs	174	-			
T. C.	Picker travel, labor camp exp.	17	V 			
Equip:	Machine hire, rent, lease	64 122	8———			
	Repairs, parts & auto exp. Fuel, oil & grease	60	-		-	-
Livestock:	All livestock expense	1	0	·		
Crops:	Fertilizer & lime	57	-			
Crops.	Replacement trees & plants	7	-			
	Spray	332				
	Supplies, other prod. exp.	66				
	Storage	64			: ()	· ·
	Packing supplies, marketing,					
2 102	selling exp.	16				
Real Est.:	Repair - land, bldg., fences	20				
	Taxes	50	-			
Other:	Rent & lease	57 50		-		
Other.	Insurance - fire, liability crop Utilities - phone, electricity	41			-	
	Resale items - fruit, etc.	93	-			-
	Miscellaneous	63				
Total Open	rating Expenses Excluding Interes		\$	\$	\$	\$
Repayme	nt Analysis (Total)					
Net accrua	al operating income exc. interest	\$139,908	\$			\$
	in livestock & crop inv.	4,660				
	in accounts receivable	38,480				
	n crop & supply inv.	(7,744)				-
	in accounts payable exc. interest	16,317	\$			ф
	ating Cash Flow	\$105,341	a		*	· p
	onal withdrawals	\$55,912 \$49,428	\$			\$
	for debt payments, invest. bt payments: principal & interest	50,123				Φ
	for farm investment	\$ (694)	\$			\$
Capital pu		\$ 65,019	\$ \$			\$
	I capital needed	\$ 65,713	\$			\$
	active to the second se				-	

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
21 Western New York Fruit Farms, 1996

	Averag	e Capital Inve	stment	
	Per worker	Per Bear	ing Acre:	Per all
Item	equivalent	Owned	Operated	fruit acres
Assets				
Total farm capital	\$90,108	\$6,747	\$5,069	\$4,358
Real estate	41,106	3,078	N/A	1,988
All equipment	8,997	N/A	506	435
Capital turnover, years 1.79 My Farm:				
Total farm capital	\$	\$	\$	\$
Real estate				-
All equipment				
Capital turnover, years				

Equipment Analysis

Equipment costs comprised nearly 17 percent of the cost of fruit production in 1996. Total equipment expenses include the major fixed costs (interest and depreciation) as well as the accrual operating costs.

Table 20.

Accrual Equipment Expenses 21 Western New York Fruit Farms, 1996

Total equip. cost	fruit acre Bearing	operated: All fruit	Total equip. cost	Equipmen fruit acre Bearing	
cost 3,906	Bearing \$ 64	All fruit	cost	Bearing	All fruit
3,906	\$ 64				
	1.0	\$ 55	\$	\$	\$
	1.0	\$ 55	\$	\$	\$
	1.0	\$ 55	\$	\$	S
6 156	4 40 10				4
0,100	120	103			
325	1	1			
3,147	60	52	3		
1,069	51	44		<u> </u>	
7,526	126	109	-		
2,129	\$423	\$364	\$	\$	\$
1	,069 7,526	1,069 51 1,526 126	1,069 51 44 7,526 126 109	1,069 51 44 7,526 126 109	7,526 126 109

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. Labor is the largest single cost category on fruit farms.

Table 21.

Labor Force Inventory and Analysis, 21 Western New York Fruit Farms, 1996

Labor Force	Full-time months		Age, years	Years of Education	Value of labor/mgmt.
Average:					
Operator -					
number 1	10.1		46	15	\$27,005
number 2	5.0		44	14	14,781
number 3	3.1		45	14	8,859
number 4	1.0		46	15	2,716
Family unpaid	0.3				Total \$53,361
Family paid	4.7			Avg./o	
Hired -	90.200				port subject
regular	27.8				
picking	64.6				
other part-time, seasonal	30.4				
other part-time, seasonar	30.4				
Total	146.9	mo./12	= 12.24	4 worker equivalent	
Total	110.9	1110.712		oper./manager equi	
di para di sala		.	1,00	operamanager equi	7.3
My Farm:					
Total		mo./12	=	worker equivalent	
Operators		mo./12	=		iv

	F	Average	My Farm		
Labor Efficiency	Total	Per Worker	Total	Per Worker	
Bearing fruit, acres	217.6	17.8			
Total fruit, acres	253.2	20.7			
Apples sold, bushels	104,259	8,515			
Accrual receipts	\$604,413	\$49,366	\$	\$	
Accrual fruit receipts	\$562,503	\$45,943	\$	\$	

Labor Cost or Value			Annual A	ccrual Cost		
	Av	Average 21 Farms			My Farm	
Туре	Total	Per worker equiv.	Per bearing acre	Total	Per worker equiv.	Per bearing acre
Value of operator(s) labor @						
\$1,500/mo.	\$ 28,750	\$ 2,349	\$ 132	\$	\$	\$
Family unpaid @ \$1,500/mo.	393	32	2			
Family paid (excl. operator)	10,669	872	49		-	
Hired -	,					
regular (excluding operator)	55,000	4,493	253			
picking	92,547	7,561	425			
other part-time, seasonal	53,423	4,365	245			
All labor (incl. non-cash)	\$240,783	\$19,672	\$1,106	\$	\$	\$
All equipment cost	92,129	7,525	423			
Total labor & equip. cost	\$332,912	\$27,197	\$1,530	\$	\$	\$

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, 21 Western New York Fruit Farms, 1996

	A	Average 21 Farms			My Farm		
Item	Owned	Rented	Total	Owned	Rented	Total	
Land Class (end of year)							
Bearing fruit, acres	163.5	54.1	217.6				
Non-bearing fruit, acres	31.7	3.9	35.5				
Other crops, open, acres	32.3	5.5	37.8				
Non-tillable pasture, acres	3.5	0.0	3.5			-	
Other non-tillable, acres	30.5	3.4	34.0				
Total land operated	261.5	66.9	328.5				
	For farm	s having the	fruit:				
	No. of	Average	Yield	Tota	Y	ield	
Crop Production	farms	acres	per acre	acres	per	acre	
D							
Bearing Fruit:	2.1	04.5	458 bu.			Est	
Apples - fresh	21	94.5		-		bu	
processing	21	92.7	642 bu.		_	bu	
all apples	21	187.2	550 bu.	-		bu	
Cherries - sweet	9	8.1	3,269 lb.			lb.	
tart	8	42.8	5,527 lb.	-		lb.	
Grapes	1	7.8	7.4 tn.	-		tn	
Peaches	8	8.0	224 bu.	-	_	bu	
Pears	1.1	10.2	228 bu.			bu	
Plums, prunes	6	3.0	196 bu.			bu	
Other fruit	3	7.9					
Total bearing fruit	21	217.6					
Non-Bearing Fruit:							
Apples - fresh	20	25.0			_		
processing	5	36.3					
Cherries- sweet	4	5.7					
tart	2	9.1					
Other non-bearing	5	4.2					
Total non-bearing fruit acres	21	35.5					
Other Crops, Open:							
Other	19	41.8					

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
21 Western New York Fruit Farms, 1996

	Cost Per Fruit Acre Operated			
Item	Bearing acres	All fruit acres		
All labor - including operators' labor	\$1,106	\$951		
Picking labor	425	366		
Other hired labor	547	470		
All equipment cost	423	364		
Spray	332	285		

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, 1994-1996

Selected Factors	1994	1995	1996
Number of farms	20	21	21
Size of Business			
All cropland including fruit, acres	278	284	291
All fruit including non-bearing, acres	243	249	253
Bearing fruit, acres	213	219	218
Bearing apples, acres	179	185	187
Fresh - percent of all apple acres	50%	50%	50%
Apples produced, bushels	103,644	117,553	102,836
Apples sold, bushels	106,355	114,492	104,259
Worker equivalent	10.64	11.85	12.24
Total accrual operating receipts	\$480,820	\$575,127	\$604,413
Rates of Production			
All apples, bushels per bearing acre	581	634	550
Fresh - percent of apples harvested	39%	39%	42%
Cherries - tart, pounds per bearing acre	8,041	7,213	5,527
Pears, bushels per bearing acre	279	213	228
Non-bearing to bearing acre ratio	14%	14%	16%
Labor Efficiency			
Bearing fruit, acres per worker	20	18	18
All fruit, acres per worker	23	21	21
Accrual receipts per worker	\$45,184	\$48,544	\$49,366
Cost Control - Accrual			
Cost per bearing acre:			
All labor	\$992	\$1,098	\$1,106
All equipment	\$359	\$389	\$423
Spray	\$273	\$284	\$332
Hired labor as percent of operating expenses	46%	45%	43%
Capital Efficiency - Average for the Year			
Total farm capital per bearing acre	\$4,020	\$4,891	\$5,069
Total farm capital per fruit acre	\$3,528	\$4,292	\$4,358
Capital turnover, years	1.7	1.8	1.8
Profitability			
Net farm income:			
Without appreciation	\$38,941	\$57,905	\$65,448
With appreciation	\$63,080	\$90,918	\$77,372
Labor & management income per operator	\$8,836	\$13,267	\$18,998
Rate of return to average capital with appreciation			
Equity capital	2.8%	4.8%	3.4%
Total capital	4.8%	6.1%	4.6%
Financial Summary - End of Year			
Farm:			
Net worth	\$512,543	\$716,087	\$718,737
Debt to asset ratio	0.42	0.35	0.37
Debt per bearing acre	\$1,723	\$1,772	\$1,920
Cash flow coverage ratio	1.49	1.52	1.69

Table 25.

Progress of the Fruit Farm Business, Same Summary Farms, Western New York, 1994-1996

Frogress of the Fruit Farm Business, Same	Average per Farm, Same 18 Farms in:			
Selected Factors	1994	1995	1996	
Size of Business	1774	1993	1990	
All cropland including fruit, acres	283	286	293	
All fruit including non-bearing, acres	250	249	253	
Bearing fruit, acres	218	219	219	
	180	182	185	
Bearing apples, acres	47%	47%		
Fresh - percent of all apple acres			50%	
Apples produced, bushels	106,580	116,204	102,947	
Apples sold, bushels	109,593	111,431	104,875	
Worker equivalent	10.96	11.92	12.46	
Total accrual operating receipts	\$502,373	\$571,331	\$604,749	
Rates of Production	501	< 10		
All apples, bushels per bearing acre	591	640	555	
Fresh - percent of apples harvested	38%	38%	42%	
Cherries - tart, pounds per bearing acre	8,041	7,603	5,569	
Pears, bushels per bearing acre	282	222	238	
Non-bearing to bearing acre ratio	14%	14%	16%	
Labor Efficiency	-	3.23	5.0	
Bearing fruit, acres per worker	20	18	18	
All fruit, acres per worker	23	21	20	
Accrual receipts per worker	\$45,826	\$47,938	\$48,553	
Cost Control - Accrual				
Cost per bearing acre:	10.0			
All labor	\$984	\$1,092	\$1,097	
All equipment	\$367	\$389	\$438	
Spray	\$278	\$286	\$331	
Hired labor as percent of operating expenses	46%	46%	42%	
Capital Efficiency - Average for the Year				
Total farm capital per bearing acre	\$4,188	\$4,606	\$4,843	
Total farm capital per fruit acre	\$3,661	\$4,042	\$4,180	
Capital turnover, years	1.7	1.7	1.7	
Profitability				
Net farm income:				
Without appreciation	\$47,292	\$61,811	\$62,862	
With appreciation	\$73,479	\$91,917	\$73,652	
Labor & management income per operator	\$12,210	\$18,096	\$17,702	
Rate of return to average capital with				
appreciation:				
Equity capital	4.1%	5.6%	2.8%	
Total capital	5.6%	6.5%	4.3%	
Financial Summary - End of Year				
Farm:				
Net worth	\$568,544	\$652,647	\$677,937	
Debt to asset ratio	0.40	0.37	0.38	
Debt per bearing acre	\$1,702	\$1,787	\$1,894	
Cash flow coverage ratio	1.76	1.59	1.87	

Table 26.

Progress of the Fruit Farm Business, My Farm, 1994-1996

Selected Factors	1994	1995	1996	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	* <u> </u>	+	·	
Cost/bearing acre:	\$	\$	\$	\$
All labor	\$	\$	\$	\$
All equipment	\$	\$	\$	\$
Spray	\$	\$	\$	\$
Hired labor as % of oper. exp.	%	Ψ <u> </u>	——————————————————————————————————————	%
Capital Efficiency -				
Average for the Year				
Total farm capital/bearing acre	\$	\$	\$	\$
Total farm capital/fruit acre	\$	\$	\$	\$
Capital turnover, years	Ψ	Ψ	Ψ	Ψ
Profitability		-		-
Net farm income:				
Without appreciation	•	¢	\$	9
With appreciation	©	Φ	\$	\$
Labor & mgmt. income/oper.	Φ	Ф	\$ \$ \$	Φ
Rate of return to average	Φ	φ	Φ	φ
capital w/apprec.:				
	01.	07,	Of.	01,
Equity capital	%		%	
Total capital	%	70	70	70
Financial Summary - End of Year				
Farm: Net worth	\$	¢	\$	\$
	Φ	D	\$	٥
Debt/bassing age	4	<u> </u>	\$	\$
Debt/bearing acre	Φ	a	Φ	Φ
Cash flow coverage ratio				

NOTES

OTHER A.R.M.E. EXTENSION BULLETINS

EB No	Title	Author(s)
97-12	Dairy Farm Business Summary, Northern New York Region, 1996	Milligan, R.A., L.D. Putnam, P. Beyer, A. Deming, T. Teegerstrom, C. Trowbridge and G. Yarnall
97-11	Dairy Farm Business Summary, Central Valleys Region, 1996	LaDue, E.L., S.F. Smith, L.D. Putnam, D. Bowne, Z. Kurdich, C. Mentis, T. Wengert and C.Z. Radick
97-10	"Maximizing the Environmental Benefits per Dollar Expended": An Economic Interpretation and Review of Agricultural Environmental Benefits and Costs	Poe, G.
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