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# **FRUIT FARM BUSINESS SUMMARY**

## **LAKE ONTARIO REGION NEW YORK 1989**

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LAKE ONTARIO REGION

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ABSTRACT

This report is a summary of 1989 farm business data collected from 19 fruit farm businesses located in Western New York State. Apples are the predominant fruit crop. The data are presented as averages for all 19 farms and the same 12 farms summarized for 1988. 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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# 1989 LAKE ONTARIO FRUIT FARM BUSINESS SUMMARY

## INTRODUCTION

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

The primary objective of the fruit farm business summary, FFBS, program is to help farm managers improve the financial management of their business through appropriate use of historical farm data and the application of modern farm business analysis techniques. The FFBS identifies the business and financial information farmers need and provides a framework for use in identifying and evaluating the strengths and weaknesses of the farm business.

A computer program is used in the field to process the data collected from fruit farmers. This program enables an analysis to be produced on the farm as soon as the farmer's data are entered. This provides rapid processing of the information provided for timely use in the management of the farm business.

The farms in this study are primarily apple farms. An average of 79 percent of the receipts in 1989 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

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This report provides a set of tables which comprise a comprehensive analysis of the participating fruit farms. Worksheets are included to give fruit farmers an opportunity to summarize their business. The analysis tables have a blank column or section labeled "My Farm". It may be used to compare an individual farm business with the average performance of the 19 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, and
  - (7) a TWO YEAR SAME FARM COMPARISON.
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# Apple Production and Prices in Recent Years

Apple production for the State was 22.9 million bushels in 1989. Western New York growers produced 16.2 million bushels or about 71 percent of the total State crop. Statewide, production was up nearly six percent and in Western New York it was up about 19 percent compared to 1988.

Thirty two percent of the 1989 apple crop produced in Western New York was sold fresh. This was up from 26 percent of the crop for 1988 and about the same as in 1986 and 1987. The 1989 fresh crop was over five million bushels - highest in the past five years. Processing

Table 1. APPLE PRODUCTION AND PRICES  
New York State, 1986 - 1989

Item	1986	1987	1988	1989
Production: ----- million bushels -----				
Fresh apples				
Western New York	4.8	4.5	3.5	5.2
New York State	8.6	9.0	9.6	10.5
Processing apples				
Western New York	9.5	10.0	10.1	11.0
New York State	12.9	11.9	12.0	12.4
All varieties				
Western New York	14.3	14.5	13.6	16.2
New York State	21.4	21.0	21.7	22.9
Average Price Received per Bushel: ----- dollars -----				
Fresh Apples				
Western New York				
F.O.B. less pkg, stg, etc	6.89	5.92	6.09	6.03
Bulk price	4.83	4.37	4.62	4.83
New York State				
F.O.B. less pkg, stg, etc	7.21	6.19	6.43	6.22
Bulk price	4.83	4.37	4.62	4.83
Processing apples				
Western New York	2.52	2.42	3.15	2.87
New York State	2.48	2.39	3.02	2.81

Source: New York Agricultural Statistics Service, FRUIT series,  
Seasonal releases for July 1987, 1988, 1989, and 1990

apple production in Western New York increased nine percent over 1988 to 11 million bushels for 1989 or 68 percent of the crop.

Net F.O.B. prices received per bushel for fresh apples in Western New York were down slightly from 1988 while the bulk price increased four and one-half percent. Western New York processing apple prices averaged \$2.87 per bushel or 6.8 cents per pound in 1989 - nine percent below the \$3.15 per bushel received in 1988.

Statewide, fresh apple prices received by growers averaged \$6.22 per bushel net F.O.B. - down 21 cents from \$6.43 received in 1988. Processing apples, produced mostly in Western counties, averaged \$2.81 per bushel or 6.7 cents per pound for 1989.

## SUMMARY AND ANALYSIS OF THE FARM BUSINESS

### Business Characteristics

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Finding the right management strategies is an important part of operating a successful farm business. Various combinations of farm resources, enterprises, business arrangements, and management techniques are used by the fruit farmers in Western New York. The following table shows important farm business characteristics and the number of farmers reporting these characteristics.

Table 2. BUSINESS CHARACTERISTICS  
19 Western New York Fruit Farms, 1989

Type of Business:	No.	Business Record System:	No.
	---		---
Proprietors	5	ELFAC	0
Partnerships	6	Account Book	6
Corporations	8	Agrifax (mail-in)	2
		On-Farm Computer	10
		Other	1

Business Composition:	No.
	---
Fruit production only	3
Fruit with storage	3
Fruit & other enterprises	5
Fruit w/storage & other enterprises	8

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## 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 that occurred during the year.

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

Table 3. FARM BUSINESS BALANCE SHEET  
19 Western New York Fruit Farms, December 31

Farm Assets			Farm Liabilities & Net Worth		
	1988	1989		1988	1989
<b>Current</b>			<b>Current: =&lt; 1 yr</b>		
	\$	\$		\$	\$
Cash, checking, sav	16,266	16,542	Accounts payable	17,178	19,716
Accounts receivable	74,410	58,772	Operating debt	29,185	35,564
Prepaid expenses	3,350	3,532	Short term	53	295
Fruit, other crops	74,876	71,130	Advanced govt recpts	1,390	5,636
Production supplies	5,276	5,744	Accrued interest	0	0
Packing supplies	963	1,517			
Total current	175,141	157,237	Total current	47,806	61,211
<b>Intermediate</b>			<b>Intermediate: &gt; 1 to &lt; 10 yr</b>		
Livestock	758	3,000	Structured debt	56,934	48,028
Livestock leased	0	0	Fin lease- Lvstk, Eq	3,593	2,637
Equipment owned	158,470	164,276	FLB/PCA stock	6,749	4,518
Equipment leased	3,593	2,637			
FLB/PCA stock	6,749	4,518	Total intermediate	67,276	55,183
Other stock, certs	36,349	40,026			
Total intermediate	205,919	214,457			
<b>Long Term</b>			<b>Long Term: =&gt; 10 yr</b>		
Land/buildings:			Structured debt	107,955	124,228
Owned	351,050	365,901	Fin lease-structures	0	0
Structures leased	0	0			
Total long term	351,050	365,901	Total long term	107,955	124,228
<b>Total Farm:</b>			<b>Total Farm:</b>		
Assets	732,110	737,595	Liabilities	223,037	240,622
			Net Worth	509,073	496,973
			Liab & Net Worth	732,110	737,595

the item has to the business.

Table 3 presents the balance sheet data for the 19 fruit farm cooperators. It lists the average value of assets and liabilities for December 31, 1988 and December 31, 1989 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. Carefull attention to asset values is important for a meaningful calculation of change in net worth, a measure of financial progress.

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

Table 4. FARM BUSINESS BALANCE SHEET  
My Farm, December 31

Farm Assets			Farm Liabilities & Net Worth		
	1988	1989		1988	1989
Current			Current: =< 1 yr		
-----	\$	\$	-----	\$	\$
Cash, checking, sav	_____	_____	Accounts payable	_____	_____
Accounts receivable	_____	_____	Operating debt	_____	_____
Prepaid expenses	_____	_____	Short term	_____	_____
Fruit, other crops	_____	_____	Advanced govt recpts	_____	_____
Production supplies	_____	_____	Accrued interest	_____	_____
Packing supplies	_____	_____			
Total current	_____	_____	Total current	_____	_____
Intermediate			Intermediate: > 1 to < 10 yr		
-----			-----		
Livestock	_____	_____	Structured debt	_____	_____
Livestock leased	_____	_____	Fin lease- Lvstk, Eq	_____	_____
Equipment owned	_____	_____		_____	_____
Equipment leased	_____	_____	FLB/PCA stock	_____	_____
FLB/PCA stock	_____	_____			
Other stock, certs	_____	_____			
Total intermediate	_____	_____	Total intermediate	_____	_____
Long Term			Long Term: => 10 yr		
-----			-----		
Land/buildings:			Structured debt	_____	_____
Owned	_____	_____	Fin lease-structures	_____	_____
Structures leased	_____	_____			
Total long term	_____	_____	Total long term	_____	_____
Total Farm:			Total Farm:		
Assets	_____	_____	Liabilities	_____	_____
			Net Worth	_____	_____
			Liab & 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  
Western New York Fruit Farms, December 31

Item	Same 12 farms 1988	1989	All 19 farms 1989	My farm
Financial Ratios - end of year	-----	For the farm business only	-----	
Percent equity	65%	65%	67%	_____ %
Debt to asset ratios				
Total debt	0.35	0.35	0.33	_____
Long term	0.42	0.41	0.34	_____
Current & intermediate	0.29	0.29	0.31	_____
Change in Net Worth				
Without appreciation	\$46,746	(\$59,764)	(\$32,882)	\$ _____
With appreciation	\$59,480	(\$41,926)	\$12,099	\$ _____
Debt Analysis - end of year				
Percent of total farm debt that is:				
Long term	55%	60%	52%	_____ %
Current & intermediate	45%	40%	48%	_____ %
Accounts payable only	14%	9%	8%	_____ %
Debt Levels - end of year				
Per bearing fruit acre:				
Total farm debt	\$1,130	\$1,229	\$1,117	\$ _____
Long term	621	741	577	_____
Current & intermediate	509	488	540	_____

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  
19 Western New York Fruit Farms, 1989

Item	Average		My Farm	
Inventory Balance	Real Estate	Equipment	Real Estate	Equipment
Value- beginning of year (1) \$	351,050	\$ 158,470	\$	\$
Purchases \$	18,428 a	\$ 21,499	\$	\$
+ Nonfarm noncash transfers	0	0		
- Lost capital	2,509			
- Sales	184	1,197		
- Depreciation	12,008	19,042		
= Net investment (2) \$	3,725	\$ 1,260	\$	\$
Appreciation (3-1-2)	11,126 b	4,546		
Value- end of year (3) \$	365,901	\$ 164,276	\$	\$
a Purchase includes \$846 for land and \$17,580 for buildings.				
b RE apprec excludes \$3,079 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 thus 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 and receipts with the group averages in the corresponding tables.

Table 7.

CASH AND ACCRUAL FARM EXPENSES  
19 Western New York Fruit Farms, 1989

EXPENSES	Cash amount paid	+	Change in inventory or prepaid expense	+	Change in accounts payable	=	Accrual expenses
Hired Labor							
Wages- regular	\$ 25,668		\$ 0		\$ 0		\$ 25,668
picking	46,309		0		0		46,309
other parttime, seasonal	21,921		22		0		21,943
Other labor costs	18,656		(17)		0		18,639
Picker travel	572		0		0		572
Labor camp expenses	2,134		0		0		2,134
Equipment							
Machine hire, rent, lease	5,570		0		(270)		5,300
Repairs & parts	15,366		26		(26)		15,366
Auto expense - farm share	96		0		0		96
Fuel, oil & grease	10,035		(281)		21		9,775
Livestock							
All livestock expenses	522		66		0		588
Crops							
Fertilizer & lime	11,783		87		0		11,870
Replacement trees & plants	640		0		0		640
Spray	38,642		(368)		(227)		38,047
Supplies, other production exp	8,535		360		(16)		8,879
Packing supplies	1,524		(553)		0		971
Storage	7,253		0		0		7,253
Marketing, selling expenses	1,995		0		117		2,112
Real Estate							
Repair- land, bldg, fences	2,082		(63)		0		2,019
Taxes	5,104		(26)		0		5,078
Rent & lease	7,537		0		(144)		7,393
Other Expenses							
Insurance	6,781		11		0		6,792
Telephone- farm share	789		0		0		789
Electricity- farm share	4,724		0		0		4,724
Fruit purchased for resale	11,783		0		1,319		13,102
Interest paid	19,654		0		0		19,654
Miscellaneous	10,659		(294)		1,764		12,129
TOTAL OPERATING EXPENSES	\$ 286,334		\$ (1,030)		\$ 2,538		\$ 287,842
Expansion orchard	\$ 7,018		(171)		0		6,847
Depreciation - Equipment							19,042
Buildings							6,493
Bearing trees & vines							5,515
TOTAL ACCRUAL EXPENSES						\$	325,739

Table 8.

CASH AND ACCRUAL FARM EXPENSES  
My Farm, 1989

EXPENSES	Cash amount paid +	Change in inventory or prepaid expense +	Change in accounts payable	Accrual expenses
Hired Labor				
Wages- regular	\$ _____	\$ _____	\$ _____	\$ _____
picking	_____	_____	_____	_____
other parttime, 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	_____	_____	_____	_____
Other crop production expenses	_____	_____	_____	_____
Packing supplies	_____	_____	_____	_____
Storage	_____	_____	_____	_____
Marketing, selling expenses	_____	_____	_____	_____
Real Estate				
Repair- land, bldg, fences	_____	_____	_____	_____
Taxes	_____	_____	_____	_____
Rent & lease	_____	_____	_____	_____
Other Expenses				
Insurance	_____	_____	_____	_____
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.

CASH AND ACCRUAL FARM RECEIPTS  
19 Western New York Fruit Farms, 1989

RECEIPTS	Cash receipts	+ Change in inventory	+ Change in accts/rec	= Accrual receipts
Apples- Fresh	\$ 152,928	\$ (3,962)	\$ 223	\$ 149,189
Processing	138,188	319	(4,078)	134,429
Cherries - sweet	4,674		366	5,040
tart	12,337		235	12,572
Grapes	834		489	1,323
Peaches	1,281		(158)	1,123
Pears	7,709		0	7,709
Plums & prunes	823		0	823
All other fruit	136	18	0	154
Other crops, livestock & prod	8,269	(121)	(31)	8,117
Custom work, storage, rent	21,985		(354)	21,631
Other- incl govt recpts, refunds	20,524	0 a	(2,773)	17,751
- Nonfarm noncash capital		(-) 0 b		(-) 0
TOTAL OPERATING RECEIPTS	\$ 369,688	\$ (3,746)	\$ (6,081)	\$ 359,861

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

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

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

CHANGES IN ACCOUNTS RECEIVABLE are calculated by subtracting beginning year balances from end year balances.

ACCRUAL RECEIPTS represent the value of all farm commodities and services generated by the farm business during the year.

Table 10.

CASH AND ACCRUAL FARM RECEIPTS - My Farm

RECEIPTS	Cash receipts	+ Change in inventory	+ Change in accts/rec	= Accrual receipts
Apples- Fresh	\$ _____	\$ _____	\$ _____	\$ _____
Processing	_____	_____	_____	_____
Cherries - sweet	_____	_____	_____	_____
tart	_____	_____	_____	_____
Grapes	_____	_____	_____	_____
Peaches	_____	_____	_____	_____
Pears	_____	_____	_____	_____
Plums & prunes	_____	_____	_____	_____
All other fruit	_____	_____	_____	_____
Other crops, livestock & prod	_____	_____	_____	_____
Custom work, storage, rent	_____	_____	_____	_____
Other- incl govt recpts, refunds	_____	_____	_____	_____
- Nonfarm noncash capital		(-) _____		(-) _____
TOTAL OPERATING RECEIPTS	\$ _____	\$ _____	\$ _____	\$ _____

## Profitability Analysis

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

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

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

Table 11. NET FARM INCOME  
Western New York Fruit Farms

Item	Same 12 farms 1988	12 farms 1989	19 farms 1989	My Farm
Total accrual receipts	\$ 421,765	\$ 404,248	\$ 359,861	\$ _____
+ Appreciation:				
Livestock	0	0	121	_____
Equipment	7,980	5,138	4,546	_____
Real estate	17,938	10,123	14,206	_____
Other- Stock & cert	+ (13,184)	+ 2,577	+ 1,909	+ _____
= Total accrual receipts with appreciation	\$ 434,499	\$ 422,086	\$ 380,643	\$ _____
- Total accrual expenses	- 324,737	- 377,466	- 325,737	- _____
= Net Farm Income				
with appreciation	\$ 109,762	\$ 44,620	\$ 54,906	\$ _____
Net Farm Income without appreciation	\$ 97,028	\$ 26,782	\$ 34,124	\$ _____

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  
Western New York Fruit Farms

Item	Same 12 farms 1988	12 farms 1989	19 farms 1989	My farm
With appreciation:				
Net farm income	\$ 109,763	\$ 44,621	\$ 54,906	\$ _____
- Family unpaid labor @ \$750 per month	- 1,575	- 1,156	- 947	- _____
= Return to operators' labor management, & equity	\$ 108,188	\$ 43,465	\$ 53,959	\$ _____
Without appreciation:				
Net farm income	\$ 97,028	\$ 26,782	\$ 34,124	\$ _____
- Family unpaid labor @ \$750 per month	- 1,575	- 1,156	- 947	- _____
= Return to operators' labor management, & equity	\$ 95,453	\$ 25,626	\$ 33,177	\$ _____

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 AND MANAGEMENT INCOME  
Western New York Fruit Farms

Item	Same 12 farms 1988	12 farms 1989	19 farms 1989	My Farm
Without appreciation:				
Return to operators' labor, management, & equity	\$ 95,453	\$ 25,626	\$ 33,177	\$ _____
- Real interest @ 5% on average equity capital	- 24,557	- 28,251	- 25,151	- _____
= Labor & Management Income per farm	\$ 70,896	\$ (2,625)	\$ 8,026	\$ _____
Labor & Management Income per operator	\$ 36,592	\$ (1,374)	\$ 4,341	\$ _____

RETURN ON EQUITY CAPITAL measures the net return remaining for the farmer's equity or owned capital after a charge has been made for the owner-operator's labor and management. The earnings or amount of net farm income allocated to labor and management is the opportunity cost of operators' labor and management estimated by the cooperators. Return on

equity capital is calculated with and without appreciation. The rate of return on equity capital is determined by dividing the amount returned by the average farm net worth or equity capital.

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

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

Item	Same 12 farms 1988	12 farms 1989	19 farms 1989	My farm
Average number of bearing acres	246	242	215	
Average EQUITY capital	\$ 491,138	\$ 565,019	\$ 503,022	\$
Average TOTAL capital	\$ 769,206	\$ 844,958	\$ 734,853	\$
Returns WITH appreciation:				
Return to operators' labor, management & equity capital	\$ 108,188	\$ 43,465	\$ 53,959	\$
- Value of ops' labor & mgmt	47,133	52,021	46,043	
= Return on avg. EQUITY capital	\$ 61,055	\$ (8,556)	\$ 7,916	\$
+ Interest paid	21,738	23,850	19,654	
= Return on avg. TOTAL capital	\$ 82,793	\$ 15,294	\$ 27,570	\$
Rates of return on:				
Average EQUITY capital	12.4%	-1.5%	1.6%	%
Average TOTAL capital	10.8%	1.8%	3.8%	%
Returns WITHOUT appreciation:				
Return on avg. equity capital WITH appreciation	\$ 61,055	\$ (8,556)	\$ 7,916	\$
- Total appreciation	12,734	17,838	20,782	
= Return on avg. EQUITY capital	\$ 48,321	\$ (26,394)	\$ (12,866)	\$
+ Interest paid	21,738	23,850	19,654	
= Return on avg. TOTAL capital	\$ 70,059	\$ (2,544)	\$ 6,788	\$
Rates of return on:				
Average EQUITY capital	9.8%	-4.7%	-2.6%	%
Average TOTAL capital	9.1%	-0.3%	0.9%	%

#### Cash Flow Statement

Completing an annual cash flow statement is an important step in understanding the sources and uses of funds for the business. Understanding last year's cash flow is the first step toward planning and managing cash flow for the current and future years.

The ANNUAL CASH FLOW STATEMENT is structured to compare all the cash inflows with all the cash outflows for the year. A complete list

of cash inflows and cash outflows is included in the following table. By definition, total cash inflows must equal total cash outflows when beginning and end balances are included. Any imbalance is, therefore, the error from incorrect accounting of cash inflows and cash outflows.

Table 15. ANNUAL CASH FLOW STATEMENT  
19 Western New York Fruit Farms, 1989

Item	Average	My Farm
Cash Inflows		
Beginning farm cash, checking & savings	\$ 16,266	\$ _____
Cash farm receipts	369,688	_____
Sale of assets:		
Equipment	1,197	_____
Real estate	2,660	_____
Other stock & certificates	694	_____
Money borrowed:		
Increase in operating debt	6,622	_____
Short term	6,144	_____
Intermediate	11,284	_____
Long term	20,739	_____
Refinanced debt	0	_____
Nonfarm:		
Income	589	_____
Capital used in business	253	_____
Money borrowed	0	_____
Total Cash Inflows	(1) \$ 436,136	\$ _____
Cash Outflows		
Cash farm expenses (excluding interest paid)	\$ 266,681	\$ _____
Capital purchases:		
Expansion orchard	7,018	_____
Equipment	21,499	_____
Real estate	18,426	_____
Other stock & certificates	2,462	_____
Debt payments:		
Principal payments for:		
Decrease in operating debt	0	_____
Short term	1,897	_____
Intermediate	20,191	_____
Long term	4,466	_____
Refinanced debt	0	_____
Interest paid	19,654	_____
Personal withdrawals and family expenditures including nonfarm debt payments and corporation operator labor costs	51,271	_____
Ending farm cash, checking & savings	16,542	_____
Total Cash Outflows	(2) \$ 430,106	\$ _____
Imbalance (error)	(1-2) \$ 6,030	\$ _____



# 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  
19 Western New York Fruit Farms, 1989

Debt Payments	Average		Planned 1990	My farm		Planned 1990
	1989 Planned	Payments Made a		1989 Planned	Payments Made a	
Accts payable (net reduction)	\$3,053	\$0	\$1,846	\$_____	\$_____	\$_____
Operating (net reduction)	11,019	0	14,833	_____	_____	_____
Short term (prin & interest)	526	2,131	3,925	_____	_____	_____
Intermediate (prin & interest)	16,834	25,515	12,249	_____	_____	_____
Long term (prin & interest)	14,050	14,114	12,046	_____	_____	_____
Total debt payments	\$45,482	\$41,760	\$44,899	\$_____	\$_____	\$_____
Payments as a % of:						
Total accrual receipts	13%	12%		____%	____%	
Total accrual fruit receipts	15%	13%		____%	____%	
Payments per acre of bearing fruit	\$211	\$194		\$_____	\$_____	
Payments per bushel of apples sold	\$0.60	\$0.55		\$_____	\$_____	

a Actual payments excluding refinanced debt.

The CASH FLOW COVERAGE RATIO measures the ability of the farm business to meet its planned debt payment schedule. The ratio shows the percentage of planned payments that could have been made with this year's available cash flow. However, the critical question to many farmers and lenders is whether planned payments can be made in 1990. The worksheet provided in Table 18 can be used to estimate repayment ability, which can then be compared to planned 1990 debt payments shown in Table 16 above.

Table 17. CASH FLOW COVERAGE RATIO  
19 Western New York Fruit Farms, 1989

Item	Average		My farm
Cash farm receipts		\$369,688	\$_____
- Cash farm expenses		286,334	_____
+ Interest paid		19,654	_____
- Net personal withdrawals from farm a		50,682	_____
= Amount available for debt service (1)		\$52,326	\$_____
Debt payments planned for 1989	(2)	\$45,482	\$_____
Cash Flow Coverage Ratio	(1/2)	1.15	_____

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

Table 18. ANNUAL CASH FLOW WORKSHEET - 1989 AND 1990 PROJECTION

Item	Average of 19 farms	My farm, 1989 Total	Per brng acre	Expected change	1990 Projection
Average bearing acres of fruit	215				
Accrual Operating Receipts					
	(/brng ac)				
Apples - Fresh	\$ 693	\$	\$		\$
Processing	624				
All other fruit	133				
Other crops, livestock & products	38				
Custom work, storage & rent	100				
Other - incl govt recpts, refunds	82				
Total operating receipts	\$ 1,671	\$	\$		\$
Accrual Operating Expenses					
Labor- Wages - regular	\$ 119	\$	\$		\$
picking	215				
other ptime, seasnl	102				
Other labor costs	87				
Picker travel, Labor camp exp	13				
Equip- Machine hire, rent, lease	25				
Repairs, parts & auto expense	72				
Fuel, oil & grease	45				
Lvstk- All livestock expense	3				
Crops- Fertilizer & lime	55				
Replacement trees & plants	3				
Spray	177				
Other crop production expense	41				
Packing supplies, storage	38				
Marketing, selling expense	10				
R Est- Repair- land, bldg, fences	9				
Taxes	24				
Rent & lease	34				
Other- Insurance	32				
Utilities- telephone, elect	26				
Fruit purchased for resale	61				
Miscellaneous	56				
Total excluding interest paid	\$ 1,245	\$	\$		\$
Repayment Analysis:	(total)				
Net accrual oper income excl int	\$ 91,674	\$			\$
- Change in livestock & crop inv	(3,746)				
- Change in accounts receivable	(6,080)				
+ Change in crop & supply inv	(1,031)				
+ Change in accounts payable a	2,537				
NET CASH FLOW	\$103,007	\$			\$
- Net personal withdrawals	50,682				
Available for debt pymnts, investmnt	\$ 52,325	\$			\$
- Farm debt payments: prin & int	41,760 b				
Available for farm investment	\$ 10,565	\$			\$
Capital purchases	\$ 49,405	\$			\$
Additional capital needed	\$ 38,840	\$			\$

a Less change in accounts payable for interest.

b See previous page.

### Capital Efficiency Analysis

Capital efficiency factors measure how intensively capital is being used in the farm business. As capital needs grow, capital management becomes more important.

Capital turnover is a measure of capital efficiency as it shows the numbers of years of farm receipts required to equal or "turnover" the capital investment. It is computed by dividing the average farm asset value by the year's total farm accrual receipts and appreciation.

Table 19. CAPITAL EFFICIENCY ANALYSIS  
19 Western New York Fruit Farms, 1989

Item	Average Capital Investment			
	Per worker equiv	Per bearing ac: Owned	Operated	Per all fruit acres
Average: Total farm capital	\$83,373	\$4,567	\$3,412	\$3,071
----- Real estate	40,671	2,228	n/a	1,498
All equipment	9,139	n/a	374	337
Capital turnover, years	1.93			
My Farm: Total farm capital	\$ _____	\$ _____	\$ _____	\$ _____
----- Real estate	_____	_____	n/a	_____
All equipment	_____	n/a	_____	_____
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  
19 Western New York Fruit Farms, 1989

Item	Total equip cost	Average Equipment cost per fruit acre operated:		Total equip cost	My Farm Equipment cost per fruit acre operated:	
		Bearing	All fruit		Bearing	All fruit
Annual Accrual Cost:						
Mach hire, rent, lease	\$5,300	\$25	\$22	\$ _____	\$ _____	\$ _____
Repair & parts	15,366	71	64	_____	_____	_____
Auto exp - farm share	96	0	0	_____	_____	_____
Fuel, oil & grease	9,775	45	41	_____	_____	_____
Interest - (5%)	8,069	37	34	_____	_____	_____
Depreciation	19,042	88	80	_____	_____	_____
Total equipment cost	\$57,648	\$268	\$241	\$ _____	\$ _____	\$ _____

# 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  
19 Western New York Fruit Farms, 1989

Labor Force	Full time months	Age yrs	Years of Education	Value of lab/mgt
Average: Operator number 1	11.3	43	15	\$23,764
number 2	6.3	38	14	\$12,666
number 3	3.5	32	15	\$6,763
number 4	1.2	36	13	\$2,851
Family unpaid	1.3			
Family paid	1.8			
Hired-regular	21.7			
-picking	35.9			
-parttime, seasonal	22.8			
Total	105.7	mo / 12 =	8.81 worker equivalent 1.85 operator/manager equiv	
My Farm: Total		mo / 12 =	worker equivalent	
Operators		mo / 12 =	operator/manager equiv	

Labor Efficiency	Average		My Farm	
	Total	Per worker	Total	Per worker
Bearing fruit, acres	215.4	24.4		
Total fruit, acres	239.3	27.2		
Apples sold, bushels	75,983	8,621		
Accrual receipts	\$359,861	\$40,828	\$	\$
Accrual fruit receipts	\$312,362	\$35,439	\$	\$

## Labor Cost or Value

## Annual accrual cost

Type	Average			My Farm		
	Total	Per worker equiv	Per brng ac	Total	Per wkr equiv	Per brng ac
Value of operator(s)						
labor @ \$1050 /mo	\$23,293	\$12,600	\$108	\$	\$	\$
Family unpaid @ \$ 750 /mo	947	9,000	4			
Family paid (excl oper)	3,123	20,347	14			
Hired - regular (excl oper)	29,399	16,246	136			
- picking	57,867	19,325	269			
- other parttime, seasonal	24,880	13,078	116			
All labor (incl non-cash)	\$139,510	\$15,828	\$648	\$	\$	\$
All equipment cost	57,648	6,540	268			
Total labor and equipment cost	\$197,158	\$22,369	\$915	\$	\$	\$

# 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  
19 Western New York Fruit Farms, 1989

Item	Average			My Farm		
Land class (End of year)	Owned	Rented	Total	Owned	Rented	Total
Bearing fruit, acres	161	55	215			
Non-bearing fruit, acres	21	3	24			
Other crops, open, acres	20	9	29			
Nontillable pasture, acres	16	1	16			
Other nontillable, acres	29	10	39			
Total land operated	246	77	323			
Crop Production						
	No. of farms	Average acres	Yield per acre	Total acres	Yield per acre	
Bearing Fruit:						
Apples - fresh	18	87.7	346 bu			bu
- processing	17	106.4	481 bu			bu
Cherries - sweet	7	6.0	4,726 lb			lb
- tart	13	36.3	4,544 lb			lb
Grapes	2	7.9	5.6 tn			tn
Peaches	6	5.5	45 bu			bu
Pears	10	9.4	300 bu			bu
Plums, prunes	5	5.3	128 bu			bu
Other fruit	2	10.5				
Total bearing fruit ac	19	215.4				
Non-bearing Fruit:						
Apples - fresh	15	20.8				
- processing	2	27.0				
Cherries - sweet	1	1.8				
- tart	4	15.4				
Other non-bearing	6	4.6				
Total non-brng fruit acres	17	26.9				
Other crops, open:						
Other	13	42.5				

## 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 60 percent of total production costs on fruit farms, it is important to know and control these and other costs on a production unit basis.

Table 23. COST CONTROL FACTORS  
19 Western New York Fruit Farms, 1989

Item	Cost per fruit acre operated	
	Bearing acres	All fruit acres
All labor - including operators	\$ 672	610
Picking labor only	279	253
Other hired labor	289	263
All equipment cost	270	245
Spray	176	159

Type of Paid Labor	---- Average annual labor costs per worker ----				Average accrual total cost per month	
	Cash gross wage	Other cash costs Cost	% of gross	Accr'l adjust- ment		
Family paid	\$16,593	\$4,233	26%	\$ 0	\$20,826	\$1,736
Hired:						
Career regular	12,818	3,442	27%		16,260	1,355
Picking	15,479	2,971	19%	0	18,450	1,538
Parttime, seasonal	11,537	1,532	13%	20	13,089	1,091
All paid labor	13,708	3,119	23%	1	16,828	1,402

## PROGRESS OF THE FARM BUSINESS

Comparing your business with average data from other fruit farms can be a helpful part of a business checkup. While a wide variation in business size and composition exists in this group of fruit farms, many of the factors will provide a meaningful indication of how you compare with other fruit farms. It is, perhaps, even more important for you to determine the progress your business has made over the past two or three years and to set goals for the future.

The tables on the following pages provide the opportunity for you to compare your business factors with averages for the participating farms for the past three years. It also encourages you to set some goals toward which to strive as you measure the progress of your farm business over the years.

Table 24.

PROGRESS OF THE FRUIT FARM BUSINESS  
Western New York State, 1987-1989

Selected Factors	Average per Farm		
	11 farms in: 1987	12 farms in: 1988	19 farms in: 1989
<b>Size of Business</b>			
All cropland incl fruit, ac	175	293	268
All fruit incl non-brng, ac	173	270	239
Bearing fruit, acres	151	246	215
Bearing apples, acres	123	208	178
Fresh- % of all apple acres	n/a	47%	47%
Apples produced, bushels	55,122	83,246	74,602
Accrual apples sold, bushels	n/a	85,730	78,341
Worker equivalents	6.80	9.54	8.81
Total accrual operating recpts	\$ 246,402	\$ 421,765	\$ 359,861
<b>Rates of Production</b>			
All apples, bu per bearing ac	449	400	418
Fresh- % of apples harvested	n/a	45%	39%
Cherries- tart, lb / brng ac	n/a	4,803	4,544
Pears, bu per bearing acre	356	249	300
Nonbearing to brng acre ratio	14%	10%	11%
<b>Labor Efficiency</b>			
Brng fruit, acres per worker	22	26	24
All fruit, acres per worker	25	28	27
Accrual receipts per worker	\$ 36,236	\$ 44,199	\$ 40,828
<b>Cost Control - accrual</b>			
Cost / brng acre: All labor	\$ 660	\$ 582	\$ 648
All equip	\$ 328	\$ 267	\$ 268
Spray	\$ 198	\$ 141	\$ 177
Hired labor - % of oper exp	41%	43%	40%
<b>Capital Efficiency- avg for yr</b>			
Total farm capital /brng ac	\$ 3,437	\$ 3,123	\$ 3,412
Total farm capital /fruit ac	\$ 3,017	\$ 2,845	\$ 3,071
Capital turnover, years	2.1	1.8	1.9
<b>Profitability</b>			
Net farm income: w/o apprec	\$ 14,355	\$ 97,028	\$ 34,124
w/ apprec	\$ 26,322	\$ 109,763	\$ 54,906
Labor & mgmt income / oper	\$ (5,821)	\$ 36,592	\$ 4,341
Rate of return to avg capital			
w/apprec: Equity capital	-2.2%	12.4%	1.6%
Total capital	0.1%	10.8%	3.8%
<b>Financial Summary - end of yr</b>			
Farm: Net worth	\$ 404,049	\$ 520,878	\$ 496,972
Debt to asset ratio	0.22	0.35	0.33
Debt per bearing ac	\$ 769	\$ 1,130	\$ 1,117

Table 25.

PROGRESS OF THE FRUIT FARM BUSINESS  
All Summary Farms, New York State, 1988-1989

Selected Factors	Average per Farm		All 19 farms in 1989
	Same 12 farms in:		
	1988	1989	
<b>Size of Business</b>			
All cropland incl fruit, ac	293	285	268
All fruit incl non-brng, ac	270	266	239
Bearing fruit, acres	246	242	215
Bearing apples, acres	208	208	178
Fresh- % of all apple acres	47%	47%	47%
Apples produced, bushels	83,246	86,886	74,602
Accrual apples sold, bushels	85,730	93,946	78,341
Worker equivalents	9.54	10.06	8.81
Total accrual operating recpts	\$ 421,765	\$ 404,248	\$ 359,861
<b>Rates of Production</b>			
All apples, bu per bearing ac	400	417	418
Fresh- % of apples harvested	45%	39%	39%
Cherries- tart, lb / brng ac	4,803	4,120	4,544
Pears, bu per bearing acre	249	331	300
Nonbearing to brng acre ratio	10%	10%	11%
<b>Labor Efficiency</b>			
Brng fruit, acres per worker	26	24	24
All fruit, acres per worker	28	26	27
Accrual receipts per worker	\$ 44,199	\$ 40,202	\$ 40,828
<b>Cost Control - accrual</b>			
Cost / brng acre: All labor	\$ 582	\$ 672	\$ 648
All equip	\$ 267	\$ 270	\$ 268
Spray	\$ 141	\$ 176	\$ 177
Hired labor - % of oper exp	43%	41%	40%
<b>Capital Efficiency- avg for yr</b>			
Total farm capital /brng ac	\$ 3,123	\$ 3,493	\$ 3,412
Total farm capital /fruit ac	\$ 2,845	\$ 3,172	\$ 3,071
Capital turnover, years	1.8	2.0	1.9
<b>Profitability</b>			
Net farm income: w/o apprec	\$ 97,028	\$ 26,782	\$ 34,124
w/ apprec	\$ 109,763	\$ 44,621	\$ 54,906
Labor & mgmt income / oper	\$ 36,592	\$ (1,374)	\$ 4,341
Rate of return to avg capital			
w/apprec: Equity capital	12.4%	-1.5%	1.6%
Total capital	10.8%	1.8%	3.8%
<b>Financial Summary - end of yr</b>			
Farm: Net worth	\$ 520,878	\$ 544,056	\$ 496,972
Debt to asset ratio	0.35	0.35	0.33
Debt per bearing ac	\$ 1,130	\$ 1,229	\$ 1,117



Table 26.

PROGRESS OF THE FRUIT FARM BUSINESS  
Western New York State, 1987-1989

Selected Factors	My Farm			
	1987	1988	1989	Goal
<b>Size of Business</b>				
All cropland incl fruit, ac	_____	_____	_____	_____
All fruit incl non-brng, ac	_____	_____	_____	_____
Bearing fruit, acres	_____	_____	_____	_____
Bearing apples, acres	_____	_____	_____	_____
Fresh- % of all apple acres	_____%	_____%	_____%	_____%
Apples produced, bushels	_____	_____	_____	_____
Accrual apples sold, bushels	_____	_____	_____	_____
Worker equivalents	_____	_____	_____	_____
Total accrl operating recpts	\$_____	\$_____	\$_____	\$_____
<b>Rates of Production</b>				
All apples, bu per bearing ac	_____	_____	_____	_____
Fresh- % of apples harvested	_____%	_____%	_____%	_____%
Cherries- tart, lb / brng ac	_____	_____	_____	_____
Pears, bu per bearing acre	_____	_____	_____	_____
Nonbearing to brng acre ratio	_____%	_____%	_____%	_____%
<b>Labor Efficiency</b>				
Brng fruit, acres per worker	_____	_____	_____	_____
All fruit, acres per worker	_____	_____	_____	_____
Accrual receipts per worker	\$_____	\$_____	\$_____	\$_____
<b>Cost Control - accrual</b>				
Cost / brng acre: All labor	\$_____	\$_____	\$_____	\$_____
All equip	\$_____	\$_____	\$_____	\$_____
Spray	\$_____	\$_____	\$_____	\$_____
Hired labor - % of oper exp	_____%	_____%	_____%	_____%
<b>Capital Efficiency- avg for yr</b>				
Total farm capital /brng ac	\$_____	\$_____	\$_____	\$_____
Total farm capital /fruit ac	\$_____	\$_____	\$_____	\$_____
Capital turnover, years	_____	_____	_____	_____
<b>Profitability</b>				
Net farm income: w/o apprec	\$_____	\$_____	\$_____	\$_____
w/ apprec	\$_____	\$_____	\$_____	\$_____
Labor & mgmt income / oper	\$_____	\$_____	\$_____	\$_____
Rate of return to avg capital	_____%	_____%	_____%	_____%
w/apprec: Equity capital	_____%	_____%	_____%	_____%
Total capital	_____%	_____%	_____%	_____%
<b>Financial Summary - end of yr</b>				
Farm: Net worth	\$_____	\$_____	\$_____	\$_____
Debt to asset ratio	_____	_____	_____	_____
Debt per bearing ac	\$_____	\$_____	\$_____	\$_____

Other Agricultural Economics Extension Publications

No. 90-10	Dairy Farm Business Summary, Central New York and Central Plain Regions, 1989	Wayne A. Knoblauch Linda D. Putnam
No. 90-11	Dairy Farm Business Summary, Eastern Plateau Region, 1989	Robert A. Milligan Linda D. Putnam Carl A. Crispell William H. Gengenbach Gerald A. LeClar
No. 90-12	National and State Trends in Milk Production	Andrew Novakovic Kevin Jack Maura Keniston
No. 90-13	Dairy Farm Business Summary, Oneida-Mohawk Region, 1989	Eddy L. LaDue Mark E. Anibal Jacqueline M. Mierek
No. 90-14	Dairy Farm Business Summary, Western Plateau Region, 1989	George L. Casler
No. 90-15	Dairy Farm Business Summary, Northern Hudson Region, 1989	Stuart F. Smith Linda D. Putnam
No. 90-16	Dairy Farm Business Summary, Southeastern New York, 1989	Stuart F. Smith
No. 90-17	Present Value, Future Value and Amortization Formulas and Tables	Eddy L. LaDue
No. 90-18	The Milkfat Issue: Production, Processing, and Marketing	Tom Cosgrove Andrew Novakovic
No. 90-19	Dairy Farm Business Summary, Eastern New York Renter Summary, 1989	Linda D. Putnam Stuart F. Smith
No. 90-20	Improving Communication About Risks Associated With Residues of Agricultural Chemicals on Produce	Nancy Ostiguy Enrique E. Figueroa Carole Bisogni
No. 90-21	Cornell Cooperative Extension Farm Business Management Program Guidelines, Suggestions, and Resources	Stuart F. Smith Wayne A. Knoblauch Gerald B. White