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# LAKE ONTARIO REGION NEW YORK 1989 

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1989 FRUIT FARM BUSINESS SUMMARY LAKE ONTARIO REGION
Table of Contents Page
INTRODUCTION ..... 1
Format Features ..... 1
Apple Production and Prices in Recent Years ..... 2
SUMMARY AND ANALYSIS OF THE FARM BUSINESS ..... 3
Business Characteristics ..... 3
Farm Financial Status ..... 4
Income Statement ..... 7
Profitability Analysis ..... 11
Cash Flow Statement ..... 13
Repayment Analysis ..... 15
Capital Efficiency Analysis ..... 17
Equipment Analysis ..... 17
Labor Analysis ..... 18
Cropping Program Analysis ..... 19
Cost Control Factors ..... 20
PROGRESS OF THE FARM BUSINESS ..... 20

## 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.

Acknowledgements - The authors are research associate and regional fruit specialist respectively. Appreciation is expressed to the cooperating fruit farmers who provided the data summarized in this report. Also, the authors appreciate reviews of this report and helpful comments by Professors G. B. White and E. L. LaDue of the Department of Agricultural Economics.

## 1989 LaKE ONTARIO FRUIT FARM <br> 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

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.

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 Weatern 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


[^0]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 Weatern 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


#### Abstract

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. |
| :---: | :---: | :---: | ---: |
|  | $-\quad 5$ | ELFAC | 0 |
| Proprietors | 5 | Account Book | 6 |
| Partnerships | 6 | Agrifax (mail-in) | 2 |
| Corporations | 8 | 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

## Farm Financial Status

-------------- first step in evaluating the financial status of the farm business is to construct a balance sheet which identifies all the asaets 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

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
Hy Farm, December 31

| Farm Assets | 1988 | 1989 | Farm Liabilities \& Net Worth | 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 |  |  |
| Livestock |  |  | Structured debt |  |  |
| Livestock leased |  |  |  |  |  |
| Equipment owned |  |  | Fin lease- Lvstk, Eq |  |  |
| Equipment leased |  |  |  |  |  |
| FLB/PCA stock |  |  | FLB/PCA stock |  |  |
| Other stock, certs |  |  |  |  |  |
| Total intermediate |  |  | Total intermediate |  |  |
| Long Term |  |  | Long Term: $\Rightarrow 10 \mathrm{yr}$ |  |  |
| Land/buildinge: |  |  | Structured debt |  |  |
| Owned <br> Structures leased |  |  | Fin lease-stmuctures |  |  |
| Total long term |  |  | Total long term |  |  |
|  |  |  | Total Farm: Liabilities |  |  |
| Total Farm: Assets |  |  | 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


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


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 gubtracted 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 RXPENSES 19 Western New York Fruit Farms, 1989

| RXPENSES |  | Cash amount paid + |  | Change in inventory or prepaid expense | + | $\begin{aligned} & \text { Change } \\ & \text { in } \\ & \text { accounts } \\ & \text { payable } \end{aligned}$ | $=$ | 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 - Bquipment |  |  |  |  |  |  |  | 19,042 |
| Buildings |  |  |  |  |  |  |  | 6,493 |
| Bearing trees \& v | ines |  |  |  |  |  |  | 5,515 |
| TOTAL ACCRUAL EXPENSES |  |  |  |  |  |  | \$ | 325,739 |

Table 8.
CASH AND ACCRUAL FARM EXPENSES My Farm, 1989
EXPENSES

Table 9.
CASH AND ACCRUAL FARM RRCEIPTS 19 Western New York Fruit Farms, 1989

| RECEIPTS | Cash receipts | + | Change in inventory |  | Change in accts/rec | $=$ | $\begin{aligned} & \text { Accrual } \\ & \text { receipts } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 ale 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.


## 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. WET FARM INCOME $\quad$ Western New York Fruit Farms |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item |  | $\begin{aligned} & \text { Same } \\ & 1988 \end{aligned}$ | 12 | farms 1989 |  | $\begin{aligned} & 19 \text { farms } \\ & 1989 \end{aligned}$ | My Farm |
| Total accrual receipts | \$ | 421,765 | \$ | 404,248 | \$ | 359,861 | \$ |
| + Appreciation: |  | 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 |  | $\begin{gathered} \text { Same } \\ 1988 \end{gathered}$ | 12 | $\begin{aligned} & \text { farms } \\ & 1989 \end{aligned}$ |  | $\begin{gathered} 19 \begin{array}{c} \text { farms } \\ 1989 \end{array} \end{gathered}$ |  | $\underset{\text { farm }}{\text { farm }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| With appreciation: |  |  |  |  |  |  |  |  |
| Net farm income | \$ | 109,763 | \$ | 44,621 | \$ | 54,906 | \$ |  |
| - Family unpaid labor <br> (3) $\$ 750$ per month |  | 1,575 | - | 1,156 | - | 947 |  |  |
| $=$ Return to operators labor management, \& equity | \$ | 108,188 | \$ | 43,465 | \$ | 53,959 | \$ |  |
| Without appreciation: $\quad \$ 97,028$ \$ 26,782 \$ 34.124 \$ |  |  |  |  |  |  |  |  |
| Net farm income Family unpaid la | \$ | 97,028 | \$ | 26,782 | \$ | 34,124 | \$ |  |
| @ $\$ 750$ 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 ${ }^{\text {a }}$ 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


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 | $\begin{aligned} & \text { Same } \\ & 1988 \end{aligned}$ | $\begin{gathered} 12 \underset{1989}{\text { farms }} \\ 1989 \end{gathered}$ | 19 | $\begin{aligned} & \text { farms } \\ & 1989 \end{aligned}$ | $\begin{aligned} & \text { My } \\ & \text { farm } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Average number of bearing acres | 246 | 242 |  | 215 |  |
| Average EQUITY capital | \$ 491,138 | \$ 565,019 |  | 3,022 |  |
| Average TOTAL capital | \$ 769,206 | \$ 844,958 | 73 | ,853 |  |

Returns WITH appreciation:
Return to operators' labor, management \& equity capital

- Value of opers labor \& mgmt
$=$ Return on avg. EQUITY capital
+ Interest paid
$=$ Return on avg. TOTAL capital
\$ 108,188 \$ 43,465 \$ 53,959 $\qquad$
47,133 52,021 46,043
\$ 61,055 \$ $(8,556) \$ \quad 7,916$
21,738 23,850 19,654
\$ 82,793 \$ $15,294 \$ 27,570$ $\qquad$
Rates of return on:

| Average EQUITY capital | $12.4 \%$ | $-1.5 \%$ | $1.6 \%$ | $-\infty$ |
| :--- | :--- | :--- | :--- | :--- |
| Average TOTAL capital | $10.8 \%$ | $1.8 \%$ | $3.8 \%$ | $-\quad \%$ |

Returns WITHOUT appreciation:
Return on avg. equity capital
WITH appreciation

- Total appreciation


Cash Flow Statement

[^1]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.

| ANNUAL CASH FLOW STATEMENT <br> 19 Western New York Fruit Farms, 1989 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Item |  | Average |  | y 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: |  |  |  |  |
|  |  |  |  |  |
| 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 paymenta 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 | $\begin{array}{r} 1989 \\ \text { Planned } \end{array}$ | Average Payments Made a | $\begin{gathered} \text { Planned } \\ 1990 \end{gathered}$ | $\begin{array}{r} 1989 \\ \text { Planned } \end{array}$ | My farm Payments Made a | Planned <br> 1990 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 |  |

[^2]- 16 -

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

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 be Owned | aring ac: Operated | Per all fruit acres |
| Average: | Total farm capital | 1.93 | $\begin{array}{r} \$ 83,373 \\ 40,671 \\ 9,139 \end{array}$ | $\begin{array}{r} \$ 4,567 \\ 2,228 \\ \mathrm{n} / \mathrm{a} \end{array}$ | $\begin{array}{r} \$ 3,412 \\ n / a \\ 374 \end{array}$ | $\begin{array}{r} \$ 3,071 \\ 1,498 \\ 337 \end{array}$ |
|  | Real estate |  |  |  |  |  |
|  | All equipment |  |  |  |  |  |
|  | Capital turnover, years |  |  |  |  |  |
| My Farm: | Total farm capital <br> Real estate <br> All equipment <br> Capital turnover, years |  | \$ | \$ | $\$-\frac{n / a}{}$ | $\$$ |
|  |  |  |  |  |  |  |
|  |  |  |  | n/a |  |  |
|  |  |  |  |  |  |  |

## 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 costa.

Table 20.
ACCRUAL EQUIPMENT EXPENSES
19 Western New York Fruit Farms, 1989

| Item | Total equip cost | - Average Equipmen fruit acre Bearing | cost per operated: All fruit | Total equip cost | My Farm Equipment fruit acre Bearing | cost per operated: 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 Cost or Value

| Type | Total | - Average Per worker equiv | $\begin{aligned} & \text { Per } \\ & \text { brng ac } \end{aligned}$ | Total | My Farm Per wkr equiv | Per brng ac |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Value of operator(s) |  |  |  |  |  |  |
| labor e \$1050/mo | \$23,293 | \$12,600 | \$108 | \$ | \$ | \$ |
| Family unpaid e \$ $750 / \mathrm{mo}$ | 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 |  |  |  |  |  |  |
| Bearing Fruit: | No. of farms | Average acres | Yield per acre | Total acres |  |  |
| Apples - fresh | 18 | 87.7 | 346 bu |  |  | bu |
| - processing | 17 | 106.4 | 481 bu |  |  | bu |
| Cherries - sweet | 7 | 6.0 | 4,726 lb |  |  | 1 b |
| - 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

|  | Cost per fruit acre operated <br> Item <br> Bearing acres | All fruit acres |
| :--- | :---: | :---: |
| All labor - including operators | $\$ 1072$ | 610 |
| Picking labor only | 679 | 253 |
| Other hired labor | 289 | 263 |
| All equipment cost | 270 | 245 |
| Spray | 176 | 159 |


| Type of Paid Labor | $\qquad$ Aver <br> Cash gross wage | annual <br> ther cas <br> Cost | labor co costs \% of gross | sts Acc adju me | er | rker $\qquad$ Accrual total costs | Average accrual total cost per month |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 |  | $\begin{array}{r} \text { farms in: } \\ 1987 \end{array}$ |  | $\begin{gathered} \text { rage per } \\ \text { arms in: } \\ 1988 \end{gathered}$ |  | $---\cdots$ in: 1989 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Size of Business |  |  |  |  |  |  |
| 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 accrl operating recpts | \$ | 246,402 | \$ | 421,765 | \$ | 359,861 |
| Rates of Production |  |  |  |  |  |  |
| All apples, bu per bearing ac |  | 449 |  | 400 |  | 418 |
| Fresh- \% of apples harvested |  | n/a |  | 45\% |  | 39\% |
| Cherries- tart, lb/ brig ac |  | n/a |  | 4,803 |  | 4,544 |
| Pears, bu per bearing acre |  | 356 |  | 249 |  | 300 |
| Nonbearing to brng acre ratio |  | 14\% |  | 10\% |  | 11\% |
| Labor Efficiency |  |  |  |  |  |  |
| Bring 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 |
| Cost Control - accrual |  |  |  |  |  |  |
| Cost / brig acre: All labor | \$ | 660 | \$ | 582 | \$ | 648 |
| All equip | \$ | 328 | \$ | 267 | \$ | 268 |
| Spray | \$ | 198 | \$ | 141 | \$ | 177 |
| Hired labor - \% of oper exp |  | 41\% |  | 43\% |  | 40\% |
| Capital Efficiency- avg for yr |  |  |  |  |  |  |
| 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 |
| Profitability |  |  |  |  |  |  |
| 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 |
| w/apprec: Equity capital |  | -2.2\% |  | 12.4\% |  | 1.6\% |
| Total capital |  | 0.1\% |  | 10.8\% |  | 3.8\% |
| FinancialFarm:Summary - end of yrNorth |  |  |  |  |  |  |
| Debt to asset ratio |  | +0.22 | \$ | 0,35 | + | 496, 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 |  | $\qquad$ Average per Farm <br> Same 12 farms in: |  |  |  | $\begin{gathered} \text { All } 19 \\ \text { farms in } \\ 1989 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1988 |  | 1989 |  |  |
| Size of Business |  |  |  |  |  |  |
| 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 accrl operating recpts | \$ | 421,765 | \$ | 404,248 | \$ | 359,861 |
| Rates of Production |  |  |  |  |  |  |
| All apples, bu per bearing ac |  | 400 |  | 417 |  | 418 |
| Fresh- \% of apples harvested |  | 45\% |  | 39\% |  | 39\% |
| Cherries-tart, lb/ bring ac |  | 4,803 |  | 4,120 |  | 4,544 |
| Pears, bu per bearing acre |  | 249 |  | 331 |  | 300 |
| Nonbearing to brng acre ratio |  | 10\% |  | 10\% |  | 11\% |
| Labor Efficiency |  |  |  |  |  |  |
| 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 |
| Cost Control - accrual |  |  |  |  |  |  |
| Cost / bring acre: All labor | \$ | 582 | \$ | 672 | \$ | 648 |
| All equip | \$ | 267 | \$ | 270 | \$ | 268 |
| Spray | \$ | 141 | \$ | 176 | \$ | 177 |
| Hired labor - \% of oper exp |  | 43\% |  | 41\% |  | 40\% |
| Capital Efficiency- avg for yr |  |  |  |  |  |  |
| Total farm capital /orng 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 |
| Profitability |  |  |  |  |  |  |
| Net farm income: w/o apprec | \$ | 97,028 | \$ | 26,782 | \$ | 34,124 |
| w/ apprec | \$ | 109,763 | \$ | 44,621 | \$ | 54,906 |
| Labor \& mgmt income / oper Rate of return to avg capital | \$ | 36,592 | \$ | $(1,374)$ | \$ | 4,341 |
| w/apprec: Equity capital |  | 12.4\% |  | -1.5\% |  | 1.6\% |
| Total capital |  | 10.8\% |  | 1.8\% |  | 3.8\% |
| Financial Summary - end of yr |  |  |  |  |  |  |
|  | \$ | -20, 35 | \$ | 544,056 | \$ | 496,972 |
| Debt per bearing ac | \$ | 1,130 | \$ | 1,229 | \$ | 1,117 |

Table 26.
PROGRESS OF THE FRUIT FARM BUSINESS Western New York State, 1987-1989


## Other Agricultural Economics Extension Publications

| No. 90-10 | Dairy Farm Business Summary, Central New York and Central Plain Regions, 1989 | Wayne A. Knoblauch <br> Linda D. Putnam |
| :---: | :---: | :---: |
| No. 90-11 | Dairy Farm Business Summary, Eastern Plateau Region, 1989 | Robert A. Milligan <br> Linda D. Putnam <br> Carl A. Crispell <br> William H. Gengenbach <br> Gerald A. LeClar |
| No. 90-12 | National and State Trends in Milk Production | Andrew Novakovic <br> Kevin Jack <br> Maura Keniston |
| No. 90-13 | Dairy Farm Business Summary, Oneida-Mohawk Region, 1989 | Eddy L. LaDue <br> Mark E. Anibal <br> 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 |


[^0]:    Source: New York Agricultural Statiatics Service, FRUIT series, Seasonal releasea for July 1987. 1988, 1989, and 1990

[^1]:    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

[^2]:    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.

