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OHIO GREENHOUSE TOMATO SUMMARY

1972 CROP YEAR

by

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Ohio Greenhouse Tomato Summary - 1972 Crop Year

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Introduction

Record summaries for fifteen Ohio greenhouse tomato growers provide an opportunity for all greenhouse tomato growers to improve the business management of their operation. Good records take time, even the ones required for income tax purposes. But when records are used for management purposes they can provide a very high rate of return for your time.

What should a business record analysis system do to help improve your business? It can clarify the return you are getting for your labor and capital investment. Efficiency factors serve as indicators of the strengths and weaknesses of your business. After two or more years have been analyzed, you can tell whether or not you are correcting previous weak points in the business. Comparison with summaries of other businesses can help you to see how your costs compare with other producers. If your costs are high, is it a result of overcommitment to new technology, poor management, inefficient labor, or what? Being able to compare your situation to others helps identify the areas where you need to concentrate your management abilities, so as to improve or maintain the desired level of income.

The Ohio Farm Business Analysis takes your records and summarizes them in two ways. First, how did your firm do overall? Is the firm making money, if not, does the problem appear to be related to volume or to profit margin? Second, how did individual enterprises within the firm do? Does it pay to grow fall tomatoes or should I let the greenhouse stay idle? What is my cost of production for spring tomatoes?

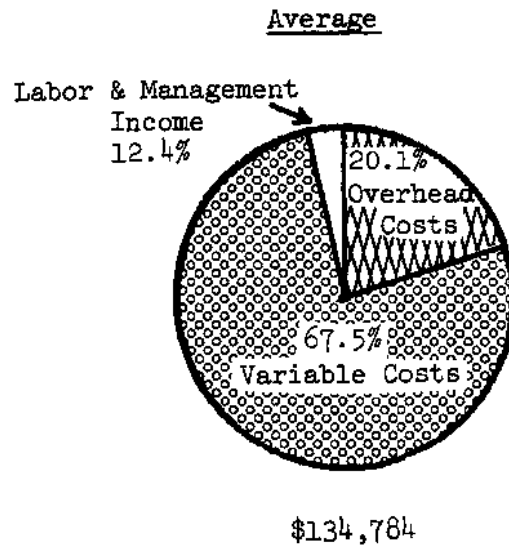
Looking only at total firm figures may cause you to overlook some of the key profit or loss figures. Similarly, looking only at per acre figures, it is easy to forget to examine the total package of investments, costs, and profits necessary for a viable operation.

Total Greenhouse Tomato Summary

Economic theory dictates that in the long run for any business total receipts must equal total expenses. The business analysis is built around this approach. Gross income measures all sources of income for the year: cash receipts, inventory change, and capital gains. This is the total income the firm has available to it over the period. What happens to gross income? Most of it is required to pay the expenses of the operation. Overhead costs are those that must be paid even if no production takes place; these costs are depreciation, interest, repairs, taxes and insurance. Variable costs, such as fuel, supplies and labor are necessary to produce tomatoes, but could be eliminated if no production took place. Any income remaining after these costs are met is the return to the operator for his labor and management. A return for equity capital or net worth is included in overhead costs so this remainder is strictly the amount earned by the operator(s) for his labor and management.

How did the greenhouse tomato growers do in 1972? (Figure 1 and Table 2). Ideally firms are summarized, ranked by return to labor and management income per hour and separated into 2 or more groups. This helps to demonstrate the differences in profitability of firms in the same business. However, due to the small number of participants, 15 firms, only group averages are shown here. The fifteen firms averaged \$172,132 in gross sales, which was \$5,835 per 1/10 acre. Overhead costs required about 20 percent of gross sales for each group. Variable costs of production required 67.5 percent of gross sales.

FIGURE 1
ALLOCATION OF GROSS INCOME
15 OHIO GREENHOUSE TOMATO GROWERS, 1972



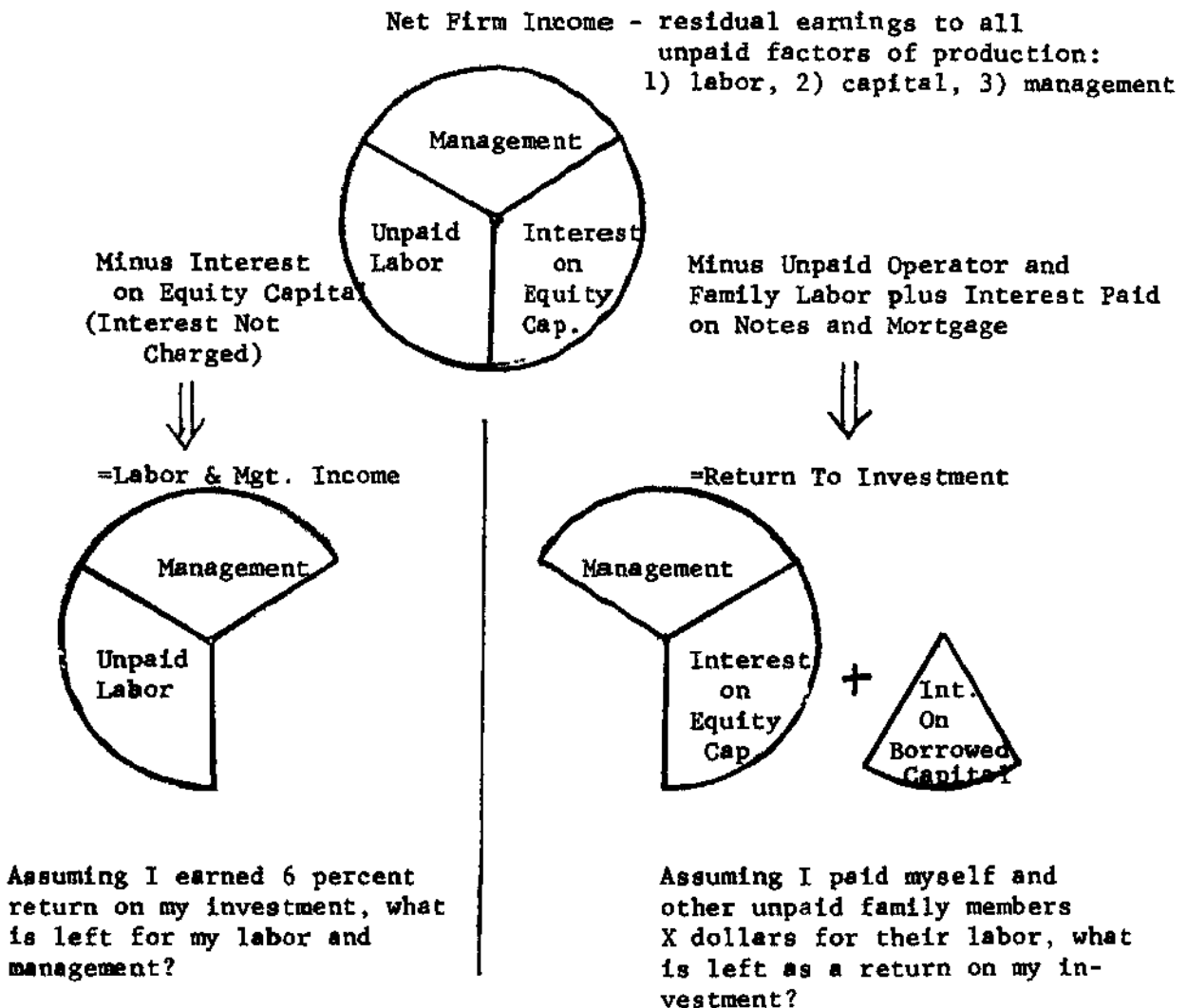
These firms netted only \$21,447 or 12.4 percent of gross sales, as a return for their unpaid labor and management income. For the number of hours worked, as estimated for the operator and other unpaid family members, the fifteen firms averaged \$5.06 return per hour.

Also of concern here is to distinguish between and compare the Return for Labor and Management Income with the amount operators felt they and other unpaid family members should receive for their labor. The item called Unpaid Operator and Family Labor is what operators felt should be earned for their labor. It is calculated by using their estimated hours worked multiplied by the rate per hour they felt they should earn. However, Total Unpaid Labor and Management Income shows the amount actually earned for labor and management. This is what's left for labor and management after subtracting cash costs, depreciation, and a charge for equity capital. The fifteen firms valued their unpaid labor at \$17,978, but earned \$21,447.

Thus, over \$3,000 additional income was generated for their management. Some firms in the analysis earned substantially more for their management. Other businesses were not profitable enough to even pay a competitive wage to unpaid family labor. However, most firms did show some return to unpaid labor.

Thus far we have concentrated on labor income, but firms are also interested in their return on investment. Net Firm Income summarizes the returns to all unpaid factors of production: labor, capital, and management (Figure 2). This shows the long run profitability of the firm since we

FIGURE 2
RELATIONSHIP OF NET FIRM INCOME, LABOR AND MANAGEMENT
INCOME AND RETURN TO INVESTMENT



have deducted not only cash costs, but also non-cash costs such as depreciation. If this amount is not positive over several years, the firm ceases to exist.

Firms organized as corporations pay all employees and officers a salary. Therefore, all of a corporation's net income is treated as return to investment. In our summary no firm is treated as a corporation. Our analysis shows Net Firm Income and the task is to estimate return to labor and to capital. Since we cannot clearly separate out these returns we set up proxies for one to estimate the other. To estimate labor income, we subtract Interest Not Charged, which is based on a six percent return on estimated equity capital.

The difference between this amount (Interest Not Charged) and Net Firm Income is Unpaid Labor and Management Income.

To estimate return to investment we begin by deducting the charge for Unpaid Operator and Family Labor from Net Firm Income. Then since we are looking at the return for the total investment rather than just the return to equity capital, we add Interest Paid On Notes and Mortgages (shown in Table 3). Thus Return to Investment is the return to management and capital.

Return to Investment can also be related to gross income and total investment to further analyze your business. The percent Return to Investment is of Gross Income is called Profit Margin (Table 1).

Table 1: PROFIT MARGIN, TURNOVER, AND RETURN ON INVESTMENT
FOR 15 OHIO GREENHOUSE TOMATO GROWERS, 1972

<u>Item</u>	<u>Unit</u>	<u>Average 15 Firms</u>
Profit Margin	Percent	5.7
Turnover	Gross Per \$1 Invested	1.62
Return on Investment	Percent	9.3

If a firm is to succeed, it must have a profit on each unit it sells. The fifteen firms averaged 5.7 percent profit margin or 5.7¢ profit out of each \$1.00 of sales.

Likewise firms must generate volume relative to their investment. Turnover relates gross sales per \$1.00 involved. Turnover varies from industry to industry and from year to year within the same industry. All firms in the summary showed high turnover.

The product of Profit Margin and Turnover is Return on Investment (R.O.I.). The total Return to Investment divided by the dollar investment gives R.O.I. The fifteen firms averaged 9.3 percent R.O.I. Since R.O.I. equals Profit Margin times Turnover it is affected by both. Low Profit Margins were more often the cause of poor Return On Investment than low Turnover.

Table 4 gives detailed breakdowns of Capital Gains, Inventory Changes, Depreciation, and Capital Investment.

Labor Use

Basic data on labor use by operator and hired labor and its value is shown in Table 5. The 7,100 hours of labor per acre averaged in 1972, compares with the 7,350 hours average reported by nine firms for 1971.

Enterprise Analysis

As with most other businesses, the greenhouse tomato operation can be broken down into enterprises. The obvious break is to separate out the spring and fall tomato crops from the total crops. Therefore the following sections provide a more detailed look at the business by per one-tenth acre produced, for the entire year, spring crop, and fall crop.

The basic terms and interpretation of these terms is the same as used in the total firm summary. Major differences are that these are put on a comparable production unit, and costs and returns have been allocated to spring or fall crops, where applicable.

Enterprise Analysis Per One-tenth Acre of Tomatoes

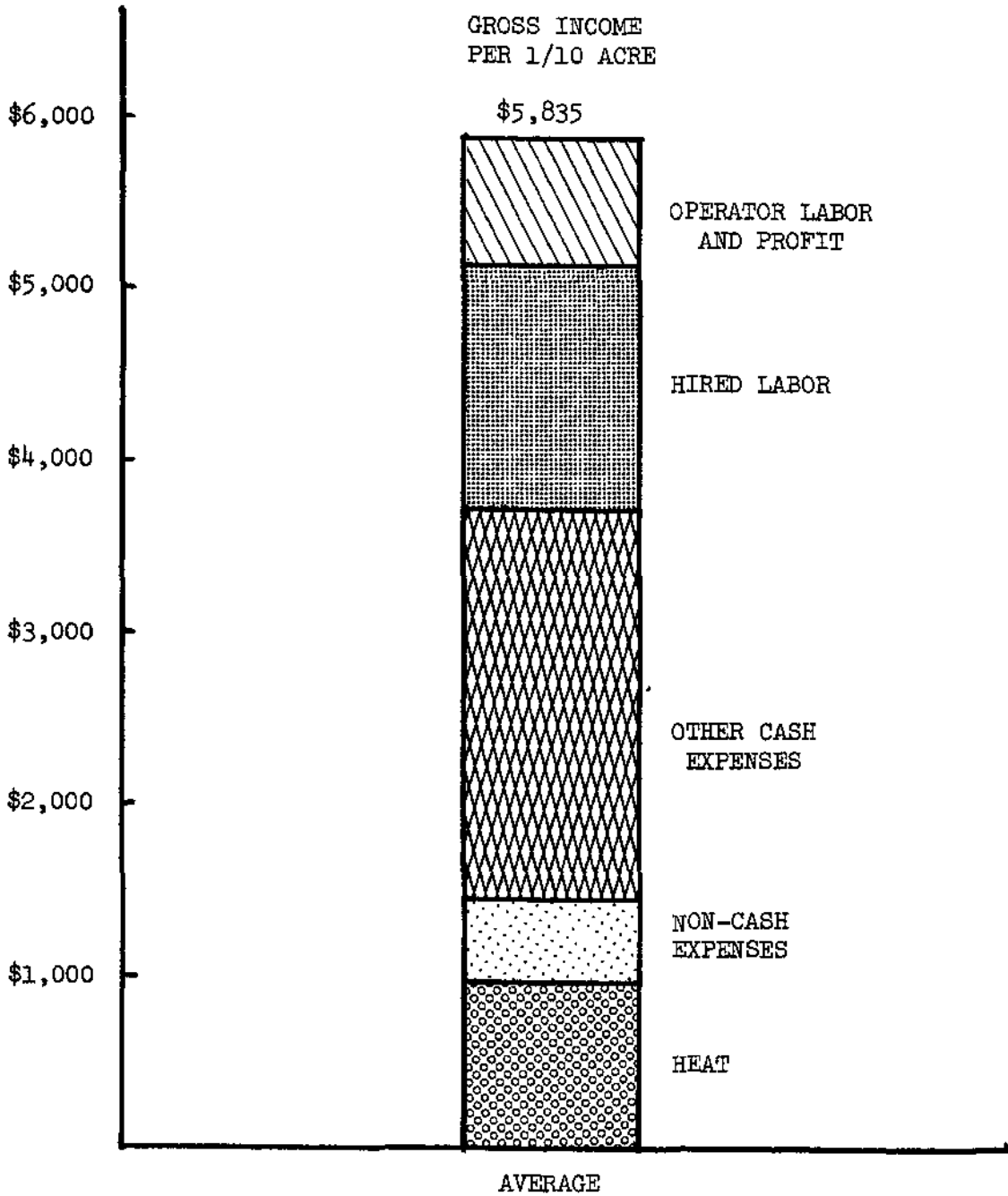
Figure 3 gives an overview of the breakdown of costs and the residual earned for unpaid labor per one-tenth acre for 1972. Table 6 contains cost and return information per one-tenth acre of tomatoes grown, for spring crop only, fall crop only, and for 2 crops. The fifteen firms received \$697 Net Firm Income per one-tenth acre.

Looking at the spring and fall crop summaries, it can be seen that nearly all the profit resulted from the spring crop. While the fall crop does not produce large profits, it did cover all cash costs. This fact, combined with a need to retain full time employees and other reasons makes fall tomatoes a reasonable endeavor.

The low yields associated with the short fall crop causes cost per basket to be \$3.10, compared to \$2.37 for the spring crop. At the same time, lower prices resulted in an average sale price of only \$2.47 per basket in the fall, compared to \$2.60 in the spring. Thus, both low yields and low prices contributed to the unprofitableness of fall tomatoes.

Total labor use was 7,300 hours per acre, 4,700 for spring crop, and 2,600 for fall. The turnover (sales per dollar invested) was still quite good for the fall crop, but the negative profit margin assured that not all costs would be covered.

FIGURE 3
ANNUAL GROSS INCOME AND COST PER 1/10 ACRE,
15 GREENHOUSE TOMATO OPERATIONS, OHIO, 1972



How Well Did Your Operation Perform?

Throughout this report, space has been provided to enter figures for your own operation to compare with those from the fifteen firms summarized. In Table 7 are key performance factors taken from various parts of the summary. By entering data for your firm into this table you can begin to answer three basic questions about your performance:

Am I fully employed?

How well did my tomatoes perform?

How sound is my operation financially?

If your figures are low in some cases and high in others, you may need to concentrate on these weak areas to improve your profit picture. No one factor can be singled out as the basic difference between high and low income firms. For each efficiency measure, some firms in the lower group ranked near the top. But SATISFACTORY INCOMES were the result of above average performance "Across the Board", rather than outstanding achievement in only one or two departments.

How Did Individual Firms Differ From the Averages?

Since averages are the result of combining figures from widely differing operations, we need some idea of how these firms differ. The middle two columns of Table 7, give an idea of how much diversity there was from firm to firm for each figure. For example, line 3 gives baskets of tomatoes produced per man (based on 3,000 hours per year per person). All 15 firms averaged 9,131 baskets. But to include 2/3 of the firms we would need to go from 6,986 baskets to 11,276 baskets. Thus, the upper 1/3 had yields nearly double those of the lower 1/3 of the producers. And the operator with the fewest baskets per man averaged only 4,020, less than 1/3 the number for the top firm.

These figures help to point out how results can differ greatly from firm to firm. Examination of them with data from your operation may help you to improve it and increase income.

Table 2 : Total Firm Financial Summary
Fifteen Ohio Greenhouse Tomato Operations, 1972

	Unit	Per 1/10 Acre of Greenhouse*	1972 Average 15 Greenhouses
<u>INCOME</u>			
Cash Receipts**	\$	5,790	170,817
Capital Gains and Losses	\$	9	262
Inventory Changes	\$	36	1,053
Gross Farm Income	\$	5,835	172,132
<u>EXPENSES</u>			
Cash Expenses	\$	4,638	136,838
Depreciation	\$	397	11,697
Interest Not Charged	\$	73	2,150
Unpaid Operator & Family Labor	\$	609	17,978
Total Farm Expense	\$	5,717	168,663
<u>MANAGEMENT INCOME & PROFIT</u>			
Total	\$	118	3,469
As a Percent of Gross Income	%	2.0	2.0
<u>UNPAID OPERATOR & FAMILY LABOR</u>			
Total	\$	609	17,978
As a Percent of Gross Income	%	10.4	10.4
<u>OVERHEAD COSTS</u>			
Total	\$	1,171	34,532
As a Percent of Gross Income	%	20.1	20.1
<u>VARIABLE COSTS</u>			
Total	\$	3,937	116,153
As a Percent of Gross Income	%	67.5	67.5
<u>NET CASH INCOME</u>			
	\$	1,152	33,979
<u>NET FIRM INCOME</u>			
	\$	800	23,597
<u>INVESTMENT</u>			
Total	\$	3,609	106,460
Return on Investment	\$	335	9,857
Percent Return on Investment	%	9.3	9.3
Turnover (Gross Income per \$1 Invested)	\$/ \$	1.62	1.62
Profit Margin (Return as a % of Gross)	%	5.7	5.7
<u>TOTAL UNPAID LABOR & MANAGEMENT INCOME</u>			
Total	\$	727	21,447
Hour	\$	5.06	5.06

* The 15 firms averaged 2.95 acres under glass.

** Include minor receipts from lettuce, cucumbers, cherry tomatoes, cut flowers, and miscellaneous income in addition to tomatoes.

Table 3: Detailed Receipts and Expenses for Fifteen Ohio Greenhouse Tomato Operations, 1972.

	<u>Unit</u>	<u>Per 1/10 Acre of Greenhouse</u>	<u>1972 Average 15 Greenhouses</u>
<u>CASH RECEIPTS</u>			
Spring Tomatoes	\$	4,227	124,714
Cash Rent and Royalties	\$	10	299
Raising Plants	\$	104	3,062
Interest Income	\$	23	673
Tax Refund	\$	7	196
Patronage Dividend	\$	17	502
Lettuce	\$	33	983
Miscellaneous Receipts	\$	6	170
Other _____	\$		
Government Payments	\$	2	68
Fall Tomatoes	\$	<u>1,361</u>	<u>40,150</u>
Total Cash Receipts	\$	5,790	170,817
<u>CASH EXPENSE</u>			
Hired Labor	\$	1,409	41,576
Farm and Packing Supplies	\$	134	3,951
Machinery Repairs	\$	35	1,046
Bldg. and Greenhouse Repairs	\$	285	8,396
Fuel, Oil, Grease	\$	43	1,257
Electricity & Telephone	\$	89	2,617
Heating (coal, gas, oil)	\$	982	28,968
Miscellaneous Expenses	\$	104	3,073
Seeds and Plants	\$	83	2,450
Insecticides, Fungicides, and Fertilizer	\$	166	4,890
Machine Hire and Trucking	\$	24	705
Auto Expense	\$	20	585
Interest on Notes and Mortgage	\$	144	
Director's Fees	\$	148	4,238
Packing House Fees	\$	701	4,367
Taxes	\$	149	20,668
Cash Rent	\$	3	100
Insurance	\$	<u>120</u>	<u>3,544</u>
Total Cash Expense	\$	4,638	136,838

Table 4: Detailed Capital Gain, Net Inventory Change, Depreciation Investment, and Ratio-Analysis for Fifteen Ohio Greenhouse Tomato Operations, 1972.

	<u>Unit</u>	<u>Per 1/10 Acre of Greenhouse</u>	<u>1972 Average 15 Greenhouses</u>
<u>CAPITAL GAIN</u>			
	\$	5	149
	\$	3	93
Machinery and Equipment	\$	<u>1</u>	<u>20</u>
Total Capital Gain or Loss	\$	9	262
<u>NET INVENTORY CHANGE</u>			
	\$	36	1,053
	\$		
Fertilizer	\$		
Packing Supplies	\$		
Total Inventory Change	\$	<u>36</u>	<u>1,053</u>
<u>DEPRECIATION</u>			
Buildings, Fence, Tile, etc.	\$	211	6,213
Greenhouse Machinery and Equipment	\$	147	4,349
Other Machinery and Equipment	\$	<u>38</u>	<u>1,117</u>
Total Depreciation	\$	397	11,697
<u>CAPITAL INVESTMENT</u>			
	\$		
	\$		
	\$		
Other	\$	37	1,093
Machinery and Equipment	\$	959	28,283
Buildings, Fence, Tile	\$	2,413	71,175
Land (\$2000/Acre Under Glass)	\$	<u>200</u>	<u>5,909</u>
Total Capital Investment	\$	3,609	106,460
<u>RATIO ANALYSIS</u>			
Profit Margin	%	5.7	5.7
Turnover	\$/\$	1.62	1.62
Return on Investment	%	9.3	9.3

Table 5: Amount and Value of Labor Used On Fifteen Ohio Greenhouse Tomato Operations, 1972.

<u>LABOR EFFICIENCY</u> Reported Labor Used	<u>Unit</u>	<u>Per 1/10 Acre of Greenhouse</u>	<u>1972 Average 15 Greenhouses</u>
Operators Labor Used			
Hours	Hr.	132.1	3,896.3
Value/Hr.	\$	3.99	3.99
Hours	Hr.	7.5	221.0
Value/Hr.	\$	3.00	3.00
Unpaid Family Labor Used			
Wife			
Hours	Hr.	5.2	154.6
Value/Hr.	\$	2.32	2.32
Hired Labor			
Hours	Hr.	565.8	16,691.0
Value/Hr.	\$	2.49	2.49
Number of Man Equivalent Hours Used	Hr.	710	20,932
Number of PMWU Used	No.	71	2,093
Number of Man-Year Equivalents Used	Yr.	.24	6.98
Value of Operators Labor Used	\$	598	17,642
Value of Unpaid Family Labor Used	\$	11	337
Value of Hired Labor Used	\$	<u>1,409</u>	<u>41,576</u>
Value of Total Labor	\$	2,018	59,555
Value of Labor Per Man Hour Equivalent	\$	2.84	2.84
Value of Labor Per PMWU	\$	28.45	28.45
Value of Labor Per Man-Year Equivalent	\$	8,532	8,532

Table 6: Financial Analysis Per 1/10 Acre of Tomatoes, Fifteen Greenhouse Tomato Operators, Ohio, 1972.

SPRING AND FALL TOMATOES PER TENTH ACRE

<u>PER TENTH ACRE INFORMATION</u>	<u>Unit</u>	<u>15 Greenhouses</u> <u>(Spring)</u>	<u>13 Greenhouses</u> <u>(Fall)</u>	<u>2 Crops</u>
TOTAL VALUE OF PRODUCTION	\$	4,315	1,534	5,849
Cash Expenses				
Hired Labor	\$	935	518	1,443
Farm and Packing Supplies	\$	100	35	135
Machinery Repairs	\$	23	15	38
Bldg. and Greenhouse Repairs	\$	190	78	268
Fuel, Oil, and Grease	\$	28	16	44
Electricity and Telephone	\$	59	31	90
Heating (coal, gas, oil)	\$	740	262	1,002
Miscellaneous Expenses	\$	61	37	98
Seeds and Plants	\$	36	31	77
Insecticides, Fungicides, and Fertilizer	\$	124	68	192
Machine Hire and Trucking	\$	13	12	25
Auto Expense	\$	13	7	20
Interest on Notes and Mortgage	\$	87	56	143
Director's Fees	\$	100	57	157
Packing House Fees	\$	534	199	733
Taxes	\$	94	59	153
Cash Rent	\$	2	1	3
Insurance	\$	78	46	124
Total Cash Expense	\$	3,217	1,528	4,745
Noncash Expenses				
Depreciation				
Bldg., Tile, Etc.	\$	120	76	196
Greenhouse Mach. & Equip.	\$	97	55	152
Other Machinery & Equip.	\$	37	22	59
Total Depreciation	\$	254	153	407
Unpaid Opr. & Family Labor	\$	404	219	623
Interest Not Charged	\$	52	25	77
Total Noncash Expense	\$	710	397	1,107
TOTAL EXPENSE OF TOMATO PRODUCTION	\$	3,927	1,925	5,852
Management Income and Profit	\$	388	-391	-3
Net Firm Income	\$	844	-147	697
Value of Production minus Cash Expenses	\$	1,098	6	1,104
Return to Unpaid Operator and Family Labor, Management and Profit				
Total per Tenth Acre	\$	792	-172	620
Per Hour	\$	8.33	-3.39	4.12

Table 6: Continued, Fifteen Greenhouse Tomato Operators, Ohio 1972

SPRING AND FALL TOMATOES PER TENTH ACRE

<u>GENERAL INFORMATION</u>	<u>Unit</u>	<u>Spring 15 Greenhouses</u>	<u>Fall 13 Greenhouses</u>	<u>2 Crops</u>
Number of Acres	A.	2.89	3.02	2.95
Number of Baskets Produced	No.	47,918	18,724	66,642
Number of Baskets/Acre	No.	16,581	6,200	22,781
Value Per Basket Produced	\$	2.60	2.47	2.56
Total Cost Per Basket Produced	\$	2.37	3.10	2.58
<u>PER TENTH ACRE INFORMATION</u>				
Total Investment	\$	2,328	1,359	3,687
Return on Investment	\$	528	-310	218
Percent Return on Investment	%	22.7	-22.8	5.9
Hours of Labor Used	Hr.	470	260	730
Value of Labor Used	\$	1,339	737	2,076
<u>RATIO ANALYSIS</u>				
Profit Margin	%	12.2	-20.2	3.7
Turnover	\$/ \$	1.85	1.13	1.59
Return on Investment	%	22.7	-22.8	5.9

Table 7: Basic Checklist For Comparison Of Your Operation With Fifteen Ohio Greenhouse Tomato Operators, 1972.

	Average Of 15 Firms	Two-Thirds of Firms Within These Limits	Extreme Values For These 15 Firms	Your Firm
<u>Am I Fully Employed?</u>				
1. Acres of Tomatoes	2.95	(1.30 to 4.60)	--	_____
2. Acres Per Man	.44	(.36 to .52)	(.33 to .63)	_____
3. Baskets Per Man	9,131	(6,986 to 11,276)	(4,020 to 12,840)	_____
<u>How Well Did My Tomatoes Perform?</u>				
4. Baskets Per Acre-Spring	16,989	(12,890 to 21,088)	(10,250 to 26,539)	_____
5. Baskets Per Acre-Fall*	6,095	(4,939 to 7,251)	(3,907 to 8,347)	_____
6. Baskets Per Acre-Total	22,412	(17,439 to 27,385)	(12,000 to 31,908)	_____
7. Gross Income Per Acre	58,535	(45,729 to 71,341)	(28,425 to 86,101)	_____
8. Net Firm Income Per Acre	9,118	(1,662 to 16,574)	(421 to 23,414)	_____
9. Overhead Cost Per Acre	14,354	(5,499 to 23,209)	(7,615 to 45,640)	_____
10. Variable Cost Per Acre	37,885	(30,238 to 45,532)	(22,515 to 52,758)	_____
11. Labor and Management Income Per Acre	8,388	(471 to 16,305)	(-1,705 to 23,722)	_____
12. Investment Per Acre	43,914	(25,909 to 61,919)	(12,456 to 74,036)	_____
13. Return to Investment Per Acre	3,629	(-3,171 to 10,429)	(-6,595 to 22,164)	_____
14. Labor Used Per Acre (Hours)	7,113	(5,835 to 8,391)	(4,796 to 9,241)	_____
<u>How Sound Is My Operation Financially?</u>				
15. Value Received Per Basket Sold	2.56	--	--	_____
16. Cost to Produce Per Basket Sold	2.58	--	--	_____
17. Gross Income Per Man	24,889	(20,121 to 29,657)	(17,906 to 34,648)	_____
18. Overhead Costs As A % of Gross	19.4	(13.3 to 25.5)	(7.7 to 33.5)	_____
19. Profit Margin	4.45	(-6.54 to 15.44)	(-23.2 to 25.7)	_____
20. Turnover	1.63	(.75 to 2.51)	(.71 to 4.01)	_____
21. Return On Investment	7.78	(-7.45 to 23.01)	(-22.1 to 37.3)	_____
22. Heating Cost Per Acre	9,864	(8,197 to 11,531)	(5,664 to 11,987)	_____
23. Hired Labor Cost Per Acre	12,507	(7,519 to 17,495)	(3,444 to 24,215)	_____
<u>Enterprise Data</u>				
SPRING CROP				
24. Baskets Per Acre	16,989	(12,890 to 21,088)	(10,250 to 26,539)	_____
25. Value Received Per Basket Sold	2.59	(2.44 to 2.73)	(2.19 to 2.81)	_____
26. Cost of Production Per Basket Sold	2.38	(2.06 to 2.70)	(1.70 to 3.12)	_____
FALL CROP				
27. Baskets Per Acre	6,095	(4,939 to 7,251)	(3,907 to 8,347)	_____
28. Value Received Per Basket Sold	2.46	(2.30 to 2.62)	(2.31 to 2.87)	_____
29. Cost of Production Per Basket Sold	3.45	(2.74 to 4.16)	(2.21 to 5.00)	_____

* Firms

GLOSSARY OF SELECTED TERMS*

GROSS INCOME - is the sum of all cash receipts plus inventory and capital gains less decreases in inventory and capital losses.

INTEREST NOT CHARGED - represents an estimated charge for equity capital. It is determined by taking six percent of total investment and subtracting the amount of interest paid during the year. This calculation makes a similar charge for the total investment of each farm business.

UNPAID OPERATOR & FAMILY LABOR - is the wage charge for the operator and unpaid family labor using the time worked and rates per hour estimated by the farm operator.

TOTAL EXPENSE - is the sum of all cash and non-cash expense for the firm less the cost of purchased feeder livestock. Non-cash expense includes depreciation, interest not charged and unpaid operator and family labor charge.

MANAGEMENT INCOME & PROFIT - equals Gross Income minus Total Expense. This represents the return to management income and profit after all cash and non-cash expenses are deducted.

FAMILY LABOR & MANAGEMENT INCOME - equals Management Income and Profit plus Unpaid Operator and Family Labor. This represents the return to the operator and his family for their unpaid labor, management and profit.

NET FIRM INCOME - equals Family Labor and Management Income plus Interest Not Charged. This represents the return to the operator for equity capital, unpaid labor, management and profit.

RETURN TO INVESTMENT - equals Management Income and Profit plus paid and unpaid interest. Paid and unpaid interest equals six percent of Total Investment. This represents the return to all capital, owned and borrowed, plus management and profit. This return times 100 divided by Total Investment gives Percent Return On Investment.

OVERHEAD COSTS - is the sum of depreciation, building repairs, interest paid, property taxes, cash rent, insurance and interest not charged. These represent costs that are essentially fixed and must be recovered regardless of the level of production.

VARIABLE COSTS - is the sum of all cash expenses other than those included in Overhead Costs. These costs vary with the level of production.

NUMBER OF MAN-YEAR EQUIVALENTS - represents the number of full-time man equivalents available on the farm for the entire year. Family labor is adjusted to a man-equivalent basis. One man-year equivalent is 3,000 hours.

* A complete listing of calculations is contained in occasional paper #49, "A Guide To Interpretation of the Computer Printout".

PROFIT MARGIN - equals Management Income and Profit plus paid and unpaid interest divided by gross income times 100. This shows the dollars of profit and interest received from each dollar of gross income.

TURNOVER RATIO - equals Gross Income divided by Total Investment. This is the dollars of gross income received during the year for each dollar of investment.

RETURN ON INVESTMENT - equals Management Income and Profit plus paid and unpaid interest divided by Total Investment times 100. It gives the percent of profit and interest received during the year for each dollar of investment.