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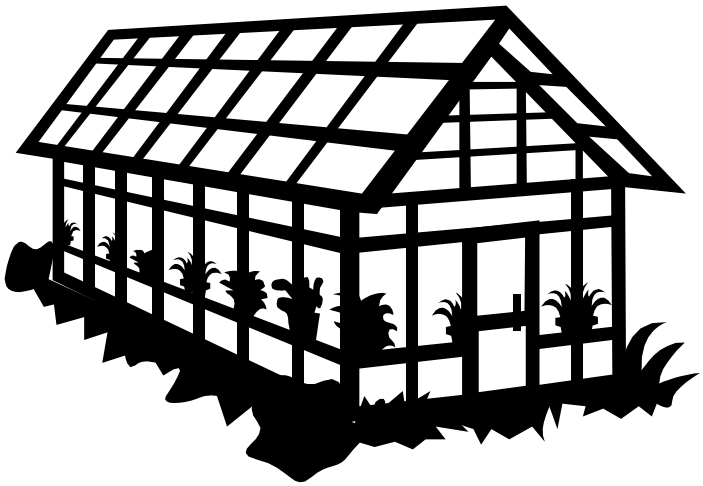
NEW YORK GREENHOUSE BUSINESS SUMMARY AND FINANCIAL ANALYSIS

Derived from 2001 Business Records



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ABSTRACT

In this Extension Bulletin, operating and financial records for 2001 from 45 New York greenhouse businesses are summarized and analyzed. Greenhouse products represented among the sample firms included outdoor bedding and garden plants, indoor potted plants and others (propagative materials). The data are presented as averages for all 45 greenhouse businesses, and by marketing channel, size and geographic location in the state.

The businesses in the project had an average of 39,454 ft^2 of greenhouse area with a range from 2,880 ft^2 to 120,625 ft^2. They had average annual greenhouse sales of $570,837 (ranging from $12,220 to $1,804,000) and average net greenhouse income of $26,512 (ranging from -$281,000 to $190,054), with an average profit margin of 2.1% (ranging from -80.7% to 49.4%). Total assets averaged $542,554 (ranging from 12,500 to $4,101,000), including plant inventory, land, equipment, buildings, supplies, cash on hand, and accounts receivable; average total liabilities were $211,887 (ranging from $0 to $793,000).

As a share of value produced (or sales), costs were 23.6 percent for hired labor, 34.9 percent for materials, 6.5 percent for heat, 3.7 percent for equipment/facilities, 23.2 percent for overhead, 4.4 percent for depreciation, and 5.8 percent for interest. Value produced per square foot of greenhouse area averaged $14.53 or $0.441 per square foot week. Value produced per full-time equivalent of labor was $92,526 and greenhouse space managed per full-time worker equivalent was 7,737 ft^2.

The top 20 percent of greenhouses (with the highest rate of return on assets) in the 2001 business summary project had an average net income of $120,000 (a profit margin of 18 percent), while the lowest 20 percent was -$102,900 (a profit margin of -36%). Similar information is also presented for retail and wholesale greenhouses and greenhouses of different sizes and geographic locations.

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I. INTRODUCTION

Greenhouse businesses in the Northeast operate in a challenging business environment. Greenhouse operations require high capital investment, and an increasing number of large players entering this industry has changed many high-profit, niche products into commodities with lower margins. When facing these high financial risks, it is important for managers to keep good business records in order to measure financial progress, improve their business analysis skills, and better position their business to insure income stability in the future.

The Greenhouse Business Summary (GHBS) project is sponsored by the Department of Applied Economics and Management at Cornell University. In 2002, 45 greenhouse businesses from 14 counties throughout New York State provided their 2001 business records to participate in the project. Each greenhouse cooperator received a detailed summary and analysis of his/her business. Individual business records are combined and analyzed to determine the impact of marketing channels, sizes of the greenhouses and geographic locations of the operations on profitability of greenhouse businesses.

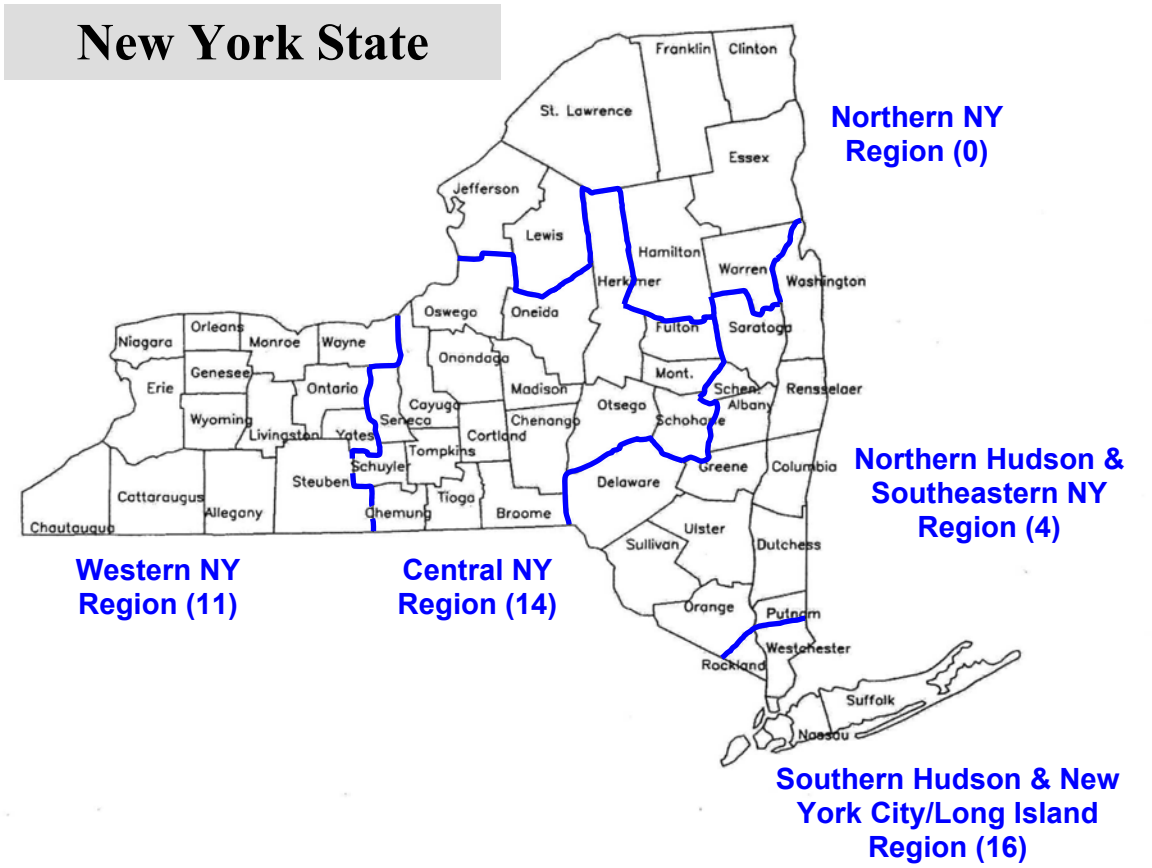
The goals of this project are to develop financial analysis tools for greenhouse managers to conduct business analysis and establish industry financial performance benchmarks to provide a framework for use in evaluating the strengths and weaknesses of the greenhouse businesses. Although the primary audience for the effort is greenhouse operators, private sector professionals and service providers (i.e. agricultural lenders, consultants, and extension educators) will also be users of the information. More information on the project can be downloaded from the Cornell Horticultural Business Management and Marketing web-site at http://hortmgt.aem.cornell.edu/.

Businesses participating in this study did so voluntarily. Therefore, the data were *not* obtained from a random sample of all greenhouse businesses in New York State. As a result, not all areas or types of operations were proportionally represented in the study, and it is not a statistically representative sample of greenhouse operations in the State (Figure 1).

This report features the following annual financial and marketing benchmarks for the New York greenhouse industry:

- Balance sheet analyses including financial ratio analysis
- Income statement analyses and measures of profitability
- Cash flow statement analyses
- Analyses of capital, operating and labor efficiency
- Industry benchmark analyses of selected business factors

Figure 1. Location of Participants in the 2001 Greenhouse Business Summary Project[a]



[a] Numbers in parentheses are number of participants in each region.

A. Information Collected and Reported

Business information from 45 New York greenhouse operations is included in this report for the 2001 fiscal year, up from 31 firms participating in the 2000 fiscal year. In most cases, the data represented a calendar year period of January to December; however, in about 20 percent of the cases (8 firms), the records were based on a fiscal year accounting, and up to six months' data were from the prior year. The reported results for revenue and expenses per square foot or per square foot week represented **un-weighted averages** for firms in each summarized group; therefore, firms of different sizes had the same influence on the results.

Information required for the business analysis included greenhouse crop sales and other income, itemized expenses, assets and liabilities, inventory values, value of leased property, production area, labor hours and number of employees. Information was collected from companies' accounting records, financial statements, income tax forms, and other production records, then transcribed to a set of standard worksheets before being entered into a computer spreadsheet for analysis. Managers who participated in this program received an individual report for their businesses with information similar to that presented here. The summaries in this report are analyzed by marketing channels, size of greenhouses, and geographical locations of the businesses.

B. Accounting Conventions

A number of accounting conventions were adopted in order to standardize the information collected from different firms and to make consistent comparisons among different groups. For firms with diversified operations that contributed records for two or more industry sectors (i.e. retail florist, nursery, vegetable), overhead costs and asset values were allocated to the greenhouse operation in proportion to product sales. Revenues from non-plant sales (i.e. hard goods and merchandise), were included in "other income".

Plant and material inventories, accounts payable and accounts receivable were accounted for on an accrual basis, where changes in inventory, accounts payable and accounts receivable values were used to adjust sales and expenses to calculate total value of production and total income for the summary year. Plant inventories were valued at market value, based on average actual prices realized, and appropriately discounted for unfinished products. For example, if a crop is normally grown for 12 weeks in the greenhouse and was grown for 9 weeks at the end of the fiscal year, it would be valued at 75 percent of its normal market price. In cases where detailed inventory records were absent, plant inventories were assessed at 50 percent of finished value for all plants in production.

Investments in buildings, site improvements, machinery, and equipment were taken at book value, i.e. original cost less accumulated depreciation. Leased capital assets in land, buildings, and equipment were estimated at current market value. Investments in land were generally valued at the original purchase price, which did not reflect the current appreciated value of landholdings for many older businesses. In cases where assets were personally owned by the proprietor and leased exclusively to the company, the book value of these assets was added back

to the business, and debts to the proprietor for these assets were included as a business liability. Lease payments received by the proprietor were removed from fixed expenses and converted into debt payments. In some cases, lease payments for land were taken as compensation for management to the owner, so the amount exceeding debt payments was added to the owner's withdrawal.

Debts to the businesses from the owner/operators and debts to corporate officers were not included among company liabilities when there was no intention to repay these debts. When calculating asset utilization and returns, all assets and liabilities were evaluated to represent a mid-year position by averaging the beginning and ending values for the summary year. Return to owner(s)/operator(s) labor, management and capital was measured by the total net return from the greenhouse operation deducting a charge for unpaid family labor (at $7 per hour). In the cases that the operators were paid officers' compensation by the corporation, the operators' salaries were removed from hired labor expenses and added to the "owner's salary and draw" category to be included in the total return to operators' labor, management and equity capital.

C. Concept of Square Foot Weeks

Comparing different sized greenhouse businesses can be tricky. Moreover, greenhouse businesses have different operating seasons during the year, and many do not use all of the available greenhouse space throughout the operating season. Therefore, in order for the results to be comparable among different operations, many analyses in this report are calculated on a **square foot week (SFW) basis.**

Converting results to square foot weeks is important when allocating indirect variable and fixed costs to greenhouse space for greenhouse businesses with different operating seasons. It is also very important when allocating indirect variable and fixed costs to greenhouse crops that have different growing periods, production cycles, and greenhouse spacing. The following example shows how square foot weeks for each greenhouse business are calculated:

- Square Footage of Each Greenhouse * Weeks Used = **SFWs for Each Greenhouse**
- Sum of Utilization SFWs for All Greenhouses = **Total SFWs of the Greenhouse Business**

D. Business Characteristics and Resources Used

Among the 45 participating greenhouse businesses, 20 are categorized as wholesale greenhouse businesses (defined as having received more than 50 percent of total greenhouse receipts from wholesale transactions), and 25 are categorized as retail greenhouse businesses (defined as having received more than 50 percent of greenhouse sales from retail sales). The major crops produced in these greenhouses are: outdoor bedding and garden plants (32 greenhouses), indoor potted plants (11 greenhouses), and others (2 greenhouses). The 45 greenhouses included in the 2001 summary analysis had an average greenhouse area of 39,454 ft^2 ranging between 2,880 ft^2 and 120,625 ft^2 and an average annual gross sale of $570,837 ranging from $12,220 to $1,804,000 (Table 1).

Recognizing important business characteristics and identifying business resources are important for evaluating management performance and selecting the right business strategies. Table 2 presents selected greenhouse business characteristics, the number of operations reporting these characteristics, and a listing of average labor, land, and greenhouse resources used in 2001 categorized by marketing channels. Among the project participants, wholesale greenhouse operations are more likely to form corporations (60 percent). On the other hand, 45 percent of retail operations are sole proprietorships. Moreover, retail operations are more likely to have a diversified operation and operate seasonally.

Table 1. Scope of Greenhouse Businesses Surveyed, 2001

		All Greenhouses (N=45)	Retail Greenhouses (N=25)	Wholesale Greenhouses (N=20)
Greenhouse Size (ft^2)	**Average**	39,454 ft^2	31,027 ft^2	50,473 ft^2
	Std. Dev.	4,610 ft^2	4,467 ft^2	8,118 ft^2
	Min.	2,880 ft^2	2,880 ft^2	5,976 ft^2
	Max.	120,625 ft^2	56,832 ft^2	120,625 ft^2
Annual Gross Sales ($)	**Average**	$ 570,837	$ 433,841	$ 749,986
	Std. Dev.	$ 77,690	$ 69,513	$ 143,234
	Min.	$ 12,220	$ 12,220	$ 25,513
	Max.	$ 1,804,000	$ 1,038,000	$ 1,804,000
Gross Margin (%)	**Average**	25.4 %	21.0 %	30.8 %
	Std. Dev.	3.3 %	4.6 %	4.3 %
	Min.	-27.2 %	-27.2 %	2.0 %
	Max.	61.9 %	51.7 %	61.9 %
Profit Margin (%)	**Average**	2.1 %	-2.7 %	8.1 %
	Std. Dev.	4.6 %	7.3 %	4.5 %
	Min.	-80.7 %	-80.7 %	-15.6 %
	Max.	49.4 %	37.3 %	49.4 %

Table 2. Business Characteristics and Resources Used, by Marketing Channels
45 New York Greenhouse Businesses, 2001 Fiscal Year

	Retail Operations (N=25)		Wholesale Operations (N=20)	
Business Characteristics	**Number (Percent) of Participants**	**Average[a]**	**Number (Percent) of Participants**	**Average[a]**
Marketing Channels				
Retail Only	10 (40%)	Retail 100% of Sales	N/A	N/A
Wholesale Only	N/A	N/A	13 (65%)	Wholesale 100% of Sales
Wholesale & Retail	15 (60%)	Retail 78% of Sales	7 (35%)	Wholesale 92% of Sales
Major Greenhouse Crop				
Outdoor Bedding/Garden Plants	21 (84%)	80% of Sales	13 (65%)	86% of Sales
Indoor Potted Plants	3 (12%)	63% of Sales	7 (35%)	80% of Sales
Others	1 (4%)	66% of Sales	0 (0%)	N/A
Operating Season				
Year-Round	5 (20%)	51 Weeks	11 (55%)	52 Weeks
Seasonal	20 (80%)	30 Weeks	9 (45%)	37 Weeks
Type of Business				
Sole Proprietorship	11 (44%)	N/A	7 (35%)	N/A
Partnership	3 (12%)	N/A	1 (4%)	N/A
S-Corporation	7 (28%)	N/A	3 (15%)	N/A
C-Corporation	4 (16%)	N/A	9 (45%)	N/A
Business Composition				
Greenhouse Only	11 (44%)	N/A	16 (80%)	N/A
Greenhouse & Nursery	4 (16%)	N/A	2 (10%)	N/A
Greenhouse & Retail Florist	2 (8%)	N/A	0 (0%)	N/A
Greenhouse & Vegetable	5 (20%)	N/A	2 (10%)	N/A
Greenhouse & Others	3 (12%)	N/A	0 (0%)	N/A
Heating Methods				
Oil Only	8 (32%)	N/A	10 (50%)	N/A
Natural Gas Only	6 (24%)	N/A	5 (25%)	N/A
Propane Only	5 (20%)	N/A	0 (0%)	N/A
Combination of Sources	6 (24%)	N/A	5 (25%)	N/A

[a] Each measure is averaged independently and not weighted based on size of businesses.

E. Greenhouse Category Definitions

In addition to marketing channels (retail vs. wholesale), this report also analyzes greenhouse businesses by size (small vs. large operations) and by geographic location (eastern vs. western New York State). It is our hypothesis that the financial performances are different for greenhouse businesses using different marketing channels and for greenhouse businesses of different sizes. Also, due to the common belief that many marketing and business factors (i.e. consumer's willingness to pay) and major expenses (i.e. labor, land and operating expenses) are significantly different between New York City metropolitan/Hudson Valley areas (eastern New York State) and the rest of the New York State, this report also compares greenhouses located in these two regions. Table 3 presents some basic information on the greenhouses in each category

Small retail greenhouses are defined as retail greenhouses with less than 20,000 ft^2 of greenhouse area, and **large retail greenhouses** are defined as retail greenhouses with more than 20,000 ft^2 of greenhouse area. In the 2001 business summary study, eight greenhouse operations are categorized as small retail greenhouses and had an average greenhouse area of 6,314 ft^2, and 17 greenhouse operations are categorized as large retail greenhouses and averaged 38,940 ft^2 of greenhouse area.

Small wholesale greenhouses are defined as wholesale greenhouses with less than 50,000 ft^2 of greenhouse area, and **large wholesale greenhouses** are defined as wholesale greenhouses with more than 50,000 ft^2 of greenhouse area. In the 2001 business summary study, nine greenhouses are categorized as small wholesale greenhouse operations and had an average greenhouse area of 27,469 ft^2, and 11 greenhouse operations are categorized as large wholesale greenhouse and averaged 70,192 ft^2 of greenhouse area.

Eastern New York (ENY) location is defined as the area which covers counties located in southeastern New York, Hudson Valley and New York City/Long Island regions (Northern Hudson & Southeastern NY and Southern Hudson & New York City/Long Island regions in Figure 1). There were no greenhouse participants from the Northern New York region in the 2001 summary. **Western New York (WNY) location** includes all greenhouse collaborators located in the Central and Western New York regions in Figure 1. Based on this definition, nine retail greenhouses and 11 wholesale greenhouses are located in the ENY area, and 16 retail greenhouses and 9 wholesale greenhouses are located in the WNY area in the 2001 summary study.

Table 3. Greenhouses Analyzed in the Business Summary, 2001

Greenhouse Category	# 0f Operations	Greenhouse Area		
		Average (ft^2)	Minimum (ft^2)	Maximum (ft^2)
Retail Greenhouses				
Small Retail	8	6,314	2,880	10,180
Large Retail	17	38,939	20,424	56,832
Western New York Retail	16	29,614	2,880	56,832
Eastern New York Retail	9	36,908	7,180	53,520
Wholesale Greenhouses				
Small Wholesale	9	27,469	5,976	45,900
Large Wholesale	11	70,192	57,911	120,625
Western New York Wholesale	9	41,196	5,976	58,588
Eastern New York Wholesale	11	58,426	12,348	120,625

II. BUSINESS SUMMARY OF ALL GREENHOUSE BUSINESSES SURVEYED

A. Balance Sheet and Financial Status Analysis

Evaluating the financial status of the business is an important part of business analysis. The first step is to determine the value of all assets and liabilities of the business and construct a balance sheet. The second step is to evaluate the relationships between assets, liabilities and owner's net worth and changes that occurred during the year.

A balance sheet reports your business's assets, liabilities and equity at a specified time. The accounting equation is **Assets = Liabilities + Owners' Equity**. The balance sheet is also called "The Statement of Financial Position" because it shows what proportion of the assets the bank owns versus how much the owner can claim. Banks use the balance sheet to evaluate whether there are enough assets to cover the bank's claims (liabilities) should the business fail. For more information on how to construct a balance sheet, see the *"New York Greenhouse Business Summary and Financial Analysis, 2000"* by Uva and Richards[1]. Table 4 shows the average balance sheet for all 45 greenhouses that participated in the 2001 Business Summary Program.

Table 4. Average Business Balance Sheets of 45 New York Greenhouse Operations, 2001 Fiscal Year

	Year Start	Year End		Year Start	Year End
	Average[a]			Average[a]	
ASSETS			**LIABILITIES**		
Current Assets					
Cash/Checking/Savings	$ 45,506	$ 52,764	Accounts Payable	$ 9,002	$ 6,593
Accounts Receivable	58,996	46,984	Operating Loan	42,816	44,922
Other Stock and Certificates	16,413	13,803	Short-Term Debt	17,275	11,513
Wholesale Inventory	58,083	57,650	***Total current liabilities***	***$ 69,093***	***$ 63,027***
Retail Inventory	14,492	13,242			
Inventory of Supplies	6,581	6,785	**Intermediate Liabilities > 1 year & ≤ 10 years**		
Prepaid Expenses	849	758	Intermediate Term	24,215	46,208
Other Current Assets	3,870	3,199	Farm Credit Stock	693	753
Total current assets	***$ 204,790***	***$ 195,185***	Leased Equipment	1,516	0
			Total intermediate liabilities	***$ 26425***	***$ 46,961***
Intermediate Assets					
Equipment	66,637	63,529	**Long-Term Liabilities > 10 years**		
Leased Equipment	2,815	379	Long-Term Debt	116,946	98,507
Farm Credit Stock	693	753	Leased Structures	2,815	0
Total intermediate assets	***$ 70,145***	***$ 64,661***	***Total-long term liabilities***	***$ 119,761***	***$ 98,507***
			TOTAL LIABILITIES	**$ 215,279**	**$ 208,495**
Long-Term Assets					
Land and Buildings	274,362	274,349	**NET WORTH (OWNERS' EQUITY)**	**$ 335,534**	**$ 325,700**
Leased Structures	1,516	0			
Total long-term assets	***$ 275,878***	***$ 274,349***			
TOTAL ASSETS	**$ 550,813**	**$ 534,195**			

[a] Each measure is averaged independently and not weighted based on size of businesses.

[1] Uva, Wen-fei and Steve Richards. 2002. *New York Greenhouse Business Summary and Financial Analysis, 2000.* EB 2002-03. Dept. of Applied Economics and Management, Cornell University, Ithaca, New York 14853.

B. Solvency and Debt Ratio Analysis

Balance sheet analysis involves an examination of financial and debt ratios. These ratios reveal whether the business is maintaining a sound financial position and earning a satisfactory return. They measure the degree of liquidity, solvency, asset utilization, and financial structure exhibited by the business.

Liquidity measures assess the company's ability to meet its current obligations. **Working capital**, calculated by current assets minus current liabilities, measures the amount of funds that would be available after all current debts have been repaid. The **current ratio,** calculated by current assets divided by current liabilities, shows the company's ability to satisfy current debts with its current assets.

Solvency ratios reflect the company's ability to meet loan payments associated with its long-term liabilities and are the indications of the firm's solvency and the potential capacity to borrow. The **debt-to-asset ratio** indicates the percentage of the business's assets to which creditors have claim. The **debt-to-owner's-equity ratio** provides some indication of the ability to pay off debt obligations either by liquidating assets or by borrowing. Sometimes, even though a business may show a very poor current ratio, if the operator has a large net worth, he/she could borrow additional funds against long-term assets and restructure the debt from short to long term if necessary. Thus the financial position of such a business may still be relatively secure.

Capital efficiency measures evaluate how capital intensive an operation is and may also be a reflection on how much capital cost went into different assets in the greenhouse operation (i.e. machinery and real estate).

Percent equity is calculated by dividing end-of-year net worth (or owners' equity) by end-of-year total assets. It represents the owner's contribution of capital to the business. Equity increases as the value of assets increase more rapidly than liabilities.

Table 5 shows the balance sheet analysis including financial and debt ratios and measures of capital efficiency for the 45 greenhouse businesses participating in 2001

Table 5. Solvency and Debt Ratio Analysis for 45 New York Greenhouse Operations 2001 Fiscal Year

Liquidity/Solvency		Capital Efficiency	
	Average[a]		Average[a]
Net Working Capital	$ 129,582	Total Asset/ft^2	$ 15.22
Current Ratio	2.88	Total Debt/ft^2	$ 6.63
Debt/Asset Ratio	81%	Machinery Value/ft^2	$ 2.20
Debt/Equity Ratio	211%	Real Estate Value/ft^2	$ 8.34
		Percent Equity	19%

[a] Each measure is averaged independently and not weighted based on size of businesses.

C. Income and Expense Analysis

The income statement analysis reveals the success or failure of a greenhouse business over time as well as the costs and returns associated with the use of varying amounts of capital, credit and resources.

The Income Statement

The income statement, also called a profit and loss statement, is a summary of receipts less expenses during a specified period (usually a year) with net income or net loss as a result.

Accrual accounting adjustments are made to cash receipts and expenses to accurately measure annual receipts, expenses, and profitability. The term "accrual" means that adjustments are made to cash records for changes in the inventory value and other liquid assets during the year to reflect the true income and cost of production for the year —what was *actually* used, spent, or sold. For instance:

Example 1: An Accrual Adjustment to Sales

Cash Sales	Change in Accounts Receivable during a Specified Period	Accrual Sales
$100,000	Increased by 10,000 (+ $10,000)	$110,000
$100,000	Decreased by 10,000 (- $10,000)	$90,000

Cash Sales	Change in Inventory Held for Sale during a Specified Period	Accrual Sales
$100,000	Increased by 10,000 (+ $10,000)	$110,000
$100,000	Decreased by 10,000 (- $10,000)	$90,000

Example 2: An Accrual Adjustment to Expenses

Cash Expenses	Change in Accounts Payable during a Specified Period	Accrual Expenses
$20,000	Increased by 1,000 (+ $1,000)	$21,000
$20,000	Decreased by 1,000 (- $1,000)	$19,000

Cash Expenses	Change in Supply Inventory/Prepaid Expenses during a Specified Period	Accrual Expenses
$20,000	Increased by 1,000 (- $1,000)	$19,000
$20,000	Decreased by 1,000 (+ $1,000)	$21,000

Greenhouse business revenue and expenditures are grouped into the following categories:

- Receipts: The revenue received from greenhouse crops produced and services associated with the greenhouse operation during the year.

- Direct Variable Costs: Cost items that are directly associated with production and vary proportionately with production volume. Examples include plant materials, fertilizer and spray chemicals, soil mix, packaging materials, and production labor.

- Indirect Variable Costs: Cost items that are directly associated with production but do not vary proportionately with production volume. Examples include heating fuel, utility, and telephone expenses.

- Fixed Costs (Overhead Costs): Cost items that are not directly associated with production. Some examples are office expenses, depreciation, lease/rent, interest, and property taxes.

Profitability in the income statement is expressed in the following ways:

- Gross Margin: The difference between the selling price (or receipts) and the variable costs. When the selling price exceeds the variable costs, it starts covering overhead costs.
- Net Income or Profit Margin: The difference between the selling price (or receipts) and the total costs (variable *and* overhead costs).

- Percent Gross Margin: Gross margin expressed as a percentage of sales (receipts).

- % Net Income or % Profit Margin: Net income (or profit) expressed as a percentage of sales (or receipts).

Table 6 shows the average income statement for all greenhouse operations that participated in the 2001 Greenhouse Business Summary Program. Accrual net income is the return to the operator's labor, management, equity and family unpaid labor. The 45 New York greenhouses had average annual sales of $589,890 ($14.53/ft^2 or $0.441/SFW of operation) and average annual accrual net income of $26,512 ($0.72/ft^2 or $0.030/SFW of operation). These greenhouses averaged a gross margin of 28.3 percent and a profit margin of 5.0 percent. Direct cost of goods sold was about 57 percent of sales. The highest cost item in 2001 was hired labor costs which was 22 percent of sales, followed by seeds and plants (19.8 percent of sales).

Table 6. Average Income Statement for 45 New York Greenhouse Businesses, 2001

	Average Total Amount	Average $ /ft^2	Average $ / SFW	Average % of sales
		Average[a]		
RECEIPTS				
Wholesale greenhouse crops	$ 366,557	$ 2.09	$ 0.186	50.6%
Retail greenhouse crops	208,472	11.98	0.246	47.1%
Other income	14,861	0.46	0.010	2.4%
TOTAL ACCRUAL INCOME (A)	***$ 589,890***	***$ 14.53***	***$ 0.441***	***100.0%***
EXPENSES				
Direct Variable Costs				
Hired Direct/Production Labor	$ 159,890	$ 3.49	$ 0.096	22.0%
Seeds and Plants	109,802	2.91	0.089	19.8%
Fertilizer and Spray Chemicals	9,355	0.21	0.006	1.6%
Soil Mix Components	16,020	0.45	0.015	3.6%
Packaging Materials	28,478	0.66	0.019	4.6%
Hard Goods/Merchandise	31,672	0.86	0.029	5.4%
Total Accrual Direct Variable Costs (B)	**$ 589,890**	**$ 8.57**	**$ 0.255**	**56.9%**
Indirect Variable Costs				
Advertising	$ 12,879	$ 0.25	$ 0.008	1.9%
Heating Fuel	36,457	0.89	0.025	6.5%
Gas/Diesel	4,301	0.09	0.002	0.6%
Electricity	8,570	0.22	0.007	1.8%
Water/Sewage	683	0.02	0.001	0.1%
Telephone	3,275	0.09	0.003	0.6%
Trucking/Shipping (Freight)	8,857	0.19	0.005	1.2%
Greenhouse Tools and Other Misc. Supplies	1,763	0.05	0.003	0.4%
Sales Tax	8,768	0.23	0.009	1.8%
Total Accrual Indirect Variable Costs (C)	**$ 85,552**	**$ 2.04**	**$ 0.062**	**14.9%**
Total Accrual Variable Costs (D = B+C)	***$ 440,768***	***$ 10.61***	***$ 0.318***	***71.7%***
ACCRUAL GROSS MARGIN (A - D)	***$ 149,122***	***$ 3.80***	***$ 0.123***	***28.3%***
Overhead Costs				
Hired Indirect/Office Labor	$ 13,789	$ 0.28	$ 0.006	1.6%
Interest	13,915	0.48	0.017	5.8%
Depreciation	20,243	0.63	0.022	4.4%
Insurance	14,097	0.33	0.010	2.2%
Repairs, Buildings	8,289	0.21	0.007	1.6%
Repairs, Equipment/Vehicles	9,919	0.21	0.006	1.5%
Property Taxes	5,314	0.15	0.005	1.1%
Lease/Rental	4,142	0.07	0.002	0.4%
Land Rent	7,462	0.17	0.004	1.1%
Office Supplies	4,388	0.11	0.003	0.7%
Professional Fees	3,922	0.10	0.003	0.7%
Education & Training	1,210	0.03	0.001	0.2%
Miscellaneous	15,920	0.29	0.008	1.9%
Total Accrual Fixed Expenses (E)	**$ 122,611**	**$ 3.07**	**$ 0.093**	**23.2%**
TOTAL ACCRUAL EXPENSES (F = D+E)	***$ 563,378***	***$ 13.68***	***$ 0.411***	***95.0%***
ACCRUAL NET INCOME (A - F)	***$ 26,512***	***$ 0.72***	***$ 0.030***	***5.0%***

[a] Each measure is averaged independently and not weighted based on size of businesses.

D. Profitability: Return to Labor, Management and Capital

Accrual net business income in the previous section is the return to the greenhouse operator(s) and other unpaid family members for their labor, management and equity capital. **Return to owners/operators' labor, management and equity capital** is evaluated by deducting a charge for unpaid family labor (at $7 per hour) from net income. Owners/operators' labor is not included in unpaid family labor. **Labor and management income per operator** measures the return to the equivalent of one full-time operator's labor and management (2,750 hours/year).

Table 7 presents owners/operators' labor and management efficiency and return measures for the 45 participating greenhouse operations.

Table 7. Efficiency and Return of Operators' Labor, Management and Equity Capital for 45 New York Greenhouse Businesses
2001 Fiscal Year

Item	Average[a]
Net Greenhouse Income	$26,512
Total Return to Operators' Labor, Management & Equity	$26,481
Number of Operator(s)	1.14
Total Labor, Management & Equity Income per Full-time Operator	$37,405
Labor & Management Income per Operator Hour	$13.55
GH ft^2 Area per Full-time Operator	43,752 ft^2
GH SFW per Full-time Operator	1,739,562 SFW

[a] Each measure is averaged independently and not weighted based on size of businesses.

E. Cash Flow Summary and Analysis

Completing an annual cash flow statement is an important step in understanding and organizing the sources and uses of funds for the business. As a statement of past performance, cash flow analyses indicate how cash has been generated and used for purchase of inputs and capital items, family living, and repayment of loans. As a budget of future plans, cash flow is essential to evaluate the loan needs and repayment capacity of the greenhouse business.

The Cash Flow Statement

An annual cash flow statement explains the changes that took place in balance sheet accounts during the year. The statement of cash flow shows the movement of cash within the business. In most businesses, this information is relevant regarding the business's activities — where did they get their money and where did it go? This statement is also called the statement of changes in financial position.

The cash flow statement is also used to double-check correctness of accounting practices. By definition, total cash inflows must equal total cash outflows when beginning and ending account changes are included. Any cash imbalance is, therefore, an error from incorrect accounting of cash inflows and outflows. Our goal in the Cornell Greenhouse Business Analysis Program is to only accept financial records from greenhouse businesses that have a cash imbalance of less than 1% of the total business cash flow.

Four major categories are included in the greenhouse business summary for sources and uses of cash:

- Operating Activities: Cash inflows associated with sales and cash outflows associated with the cost of sales. Also, money transferred to and from the owner of the business would be recorded here.

- Investing Activities: Cash inflows associated with the sale of assets (like land, building, equipment, or stock) and cash outflows associated with capital improvement or purchases (like land, building, equipment, or stock).

- Financing Activities: Cash inflows associated with borrowing money and cash outflows associated with repayment of loans.

- Cash From Reserves: Cash inflow associated with using reserves (checking/savings accounts) and cash outflows associated with taking money out of the business to put into reserves (checking/savings accounts).

Table 8 shows the average cash flow statement for all greenhouses.

Table 8. Average Annual Cash Flow from Operating Activities for All Greenhouses, 2001 Fiscal Year

		Average[a]	
Cash Flow From Operating Activities			
Cash Business Receipts	$ 607,610		
Less: Cash Business Expenses	545,331		
Cash Business Income		**$ 62,279**	
Cash Withdrawal/Transfer by Owner	46,680		
Less: Nonfarm Income	9,215		
Net Cash Withdrawals		**36,008**	
Net Cash Provided From Operations			***$ 26,271***
Cash Flow From Investing Activities			
Sale of Business Assets			
Machinery	$ 983		
Land & Buildings	0		
Subtotal		**$ 983**	
Less: Capital Purchases			
Machinery	9,519		
Land & Buildings	10,711		
Subtotal		**20,231**	
Net Provided From Investing			***- $ 19,248***
Cash Flow From Financing Activities			
Cash Inflow From Financing			
Long Term	$ 15,681		
Int. Term	29,199		
Short Term	310		
Inc. in Operating Debt	8,568		
Subtotal		**$ 53,758**	
Less: Cash Outflow From Financing			
Principal-Long Term	34,554		
Principal-Int. Term	633		
Principal-Short Term	6,287		
Dec. in Operating Debt	6,389		
Subtotal		**47,862**	
Net Provided From Financing			***$ 5,896***
Cash Flow From Reserves			
Beginning Cash/Checking/Savings Accounts		$ 45,377	
Less: Ending Cash/Check/Savings Accounts		53,427	
Net Provided From Reserves			**- $ 8050**
IMBALANCE			***$ 4,869***

[a] Each measure is averaged independently and not weighted based on size of businesses.

F. Operating Efficiency Analysis

In addition to general financial statements and ratios, there are other useful measures that would be helpful to managers in a certain industry to evaluate and improve their operating efficiency.

Cost Efficiency Measures

Production and cost efficiency measures are indicators of the company's success in managing greenhouse operations and controlling costs (Table 9).

Table 9. Cost Efficiency Measures for 45 New York Greenhouse Businesses, 2001 Fiscal Year

Item	Average[a]
Sales/ft^2 Greenhouse Area	$14.05
Operating Costs as % of Sales	74.6%
- Operating Costs/ft^2	$10.52
- Operating Expenses/SFW	$0.32
Overhead Costs as % of Sales	23.9%
- Overhead Costs/ft^2	$3.07
- Overhead Costs/SFW	$0.09
Total Costs/ft^2	$13.92
Average Total Costs/SFW	$0.42
- Average Total Costs/SFW during no heating months	$0.39
- Average Total Costs/SFW during heating months	$0.43

[a] Each measure is averaged independently and not weighted based on size of businesses.

Labor Efficiency Measures

In order to compare the amount of labor that goes into greenhouse production, we must translate **ALL** labor hours, including unpaid family labor and operator's labor, in each greenhouse operation to the number of full-time persons working in the operation. In this study, a full-time worker equivalent in a greenhouse operation is defined as 55 hours a week for 50 weeks (or 2,750 hours) a year. Sales and net income per worker equivalent are indirect measures of how well labor is used to generate sales and net income. Square feet of greenhouse area per worker equivalent is a measure of labor efficiency (Table 10).

Table 10. Labor Efficiency Measures for 45 New York Greenhouse Businesses, 2001 Fiscal Year

Item	Average[a]
Total FTE Worker Equiv.	6.8
GH ft^2 Area per Worker Equiv.	7,737 ft^2
Sales per Worker Equiv.	$92,526
Net Income per Worker Equiv.	$ 8,199
Hired Labor Cost as % of Sales	23.5%

[a] Each measure is averaged independently and not weighted based on size of businesses.

Asset Utilization Analysis

Asset utilization measures reflect the way in which a company uses its assets to obtain revenue and profit. Average Collection Period is the average length of time it takes to collect receivables. It represents the number of days a receivable is held. Average Age of Inventory explains how many days, on average, an item remains in inventory. Inventory Turnover reveals how many times a year the inventory is turned over. Asset Turnover Ratio illustrates how efficiently a company employs its assets to obtain sales revenue. This ratio shows how many dollars are generated in sales revenue per dollar invested in assets.

Table 11 shows the average asset utilization measures for the greenhouses in the 2001 business summary. Retail greenhouses have lower average age of inventory and a higher inventory turnover rate. However, WNY retail greenhouses held onto their inventory a lot longer than their ENY counterparts and had an inventory turnover rate similar to wholesale greenhouses. Small retail greenhouses generally do not sell their products by credit.

Table 11. Asset Utilization Measures for 45 New York Greenhouse Businesses[a] 2001 Fiscal Year

Item	Average[a]
Average Collection Period	51.2 days
Average Age of Inventory	45.6 days
Inventory Turnover	19.6 times
Asset Turnover Ratio	1.37

[a] Each measure is averaged independently and not weighted based on size of businesses.

G. Industry Benchmark Analysis

Business benchmarking for an industry establishes a specific measure of standards for a business to compare its financial position and performance with other similar businesses in the industry. It also allows business analysts to compare one industry to another. This report presents the greenhouse industry financial benchmarks in two ways: by greenhouse business charts and by financial performance benchmarks (rate of return on assets).

Greenhouse Business Charts

The Greenhouse Business Chart is a tool which can be used by individual businesses to see where they fall in each performance measure by drawing a line through the figure in each column of the chart to represent a level of management performance. Table 12 presents the greenhouse business charts derived from data in the Cornell Greenhouse Business Analysis program. The business chart data are divided into quintiles representing the top 20%, second 20%, etc. to the bottom 20% of each measure. The figures presented are the **minimum** of data in each quintile of a business factor when the measure is ranked from high to low, and the **maximum** of data in each quintile when the measure is ranked from low to high. It should be noted that **each column of the chart is sorted independently of the others**. Therefore, businesses in a quintile (i.e. top 20%) level for one factor may **not** necessarily be the same businesses which make up the same quintile level for any other factors.

Business characteristic factors, production rates, and profitability measures are ranked from high to low. The cost control factors are ranked from low to high, but the lowest cost group is not necessarily the most profitable. Many things affect the level of costs and must be taken into consideration when analyzing the factors.

Industry Performance Benchmarks

Table 13 compares selected business characteristics of the participating greenhouse operations by their rates of return on assets (ROA) in 2001 fiscal year. It should be noted that businesses are sorted by their return on assets in 2001 fiscal year and divided into quintiles representing groups with top 20%, second 20%, etc. to the bottom 20% of return on assets. Different from Table 12, the figures in each column in Table 13 are the **average** of data for each business characteristics for the correlated ROA group.

The results of this study show that the most profitable greenhouse businesses are not necessarily the largest greenhouses. Moreover, the lowest cost is not necessarily the most profitable, either. In some cases, the “best” management position is somewhere near the middle or average.

Table 12. Greenhouse Business Charts: All 45 Greenhouses, By Quintile, 2001

	Total GH Area	Wks Operated / Year	Total SFW Operated / Year	Annual GH Sales	Sales / Ft^2
			Greenhouse Size and Sales[b]		
Top 20%[a]	58,000 ft^2	48 weeks	2.517.456 SFW	$ 875.886	$ 20.01
↓	50,000 ft^2	43 weeks	1,391,120 SFW	$ 638,741	$ 15.05
↓	33,960 ft^2	30 weeks	1,101,828 SFW	$ 408,738	$ 11.96
↓	12,348 ft^2	23 weeks	281,820 SFW	$ 201,000	$ 8.96
Bottom 20%	2,880 ft^2	9 weeks	37,140 SFW	$ 12,220	$ 4.24
			Profitability[b]		
	Net Income	**Net Income / ft^2**	**Net Income / SFW**	**Gross Margin**	**Profit Margin**
Top 20%[a]	$ 102.888	$ 2.35	$ 0.08	37.2%	13.7%
↓	$ 44,709	$ 1.44	$ 0.05	28.6%	7.9%
↓	$ 6,141	$ 0.53	$ 0.01	23.3%	1.1%
↓	- $ 8,264	- $ 0.34	- $ 0.01	15.4%	-4.4%
Bottom 20%	- $ 280,032	- $ 4.68	- $ 0.16	-27.2%	-87.8%
			Cost Control[b]		
	Total Cost/ft^2	**Total Cost/SFW**	**Operating Expense as % Sales**	**Operating Expense/ SFW**	**Overhead Expense as % Sales**
Top 20%[a]	$ 7.97	$ 0.26	60%	$ 0.22	13%
↓	$ 11.41	$ 0.35	71%	$ 0.24	18%
↓	$ 14.23	$ 0.38	77%	$ 0.27	22%
↓	$ 18.70	$ 0.50	83%	$ 0.34	28%
Bottom 20%	$ 25.79	$ 1.05	127.2%	$ 0.71	86%
			Labor Efficiency[b]		
	# of Worker Equivalent	**Sales / Worker Equiv.**	**Net Income/ Worker Equiv.**	**GH Area/ Worker Equiv.**	**Labor Costs as % of Sales**
Top 20%[a]	9.4	$ 130,600	$ 13.582	12,297 ft^2	11%
↓	6.9	$ 91,180	$ 7,179	7,918 ft^2	18%
↓	4.3	$ 74,122	$ 1,593	5,285 ft^2	25%
↓	2.1	$ 55,317	- $ 2,968	3,698 ft^2	37%
Bottom 20%	0.3	$ 23,422	- $ 39,721	2,701 ft^2	44%
			Return to Owner(s)/Operator(s)[b]		
	Net Income to Operator's Labor, Mgmt. & Capital	**Net Income / Full-time Operator**	**Net Income / Operator Hour**	**GH Area/ Full-time Operator**	**GH SFW / Full-time Operator**
Top 20%[a]	$ 102,888	$ 110,926	$ 40.19	73,501 ft^2	3,158,263 SFW
↓	$ 41,005	$ 35,226	$ 12.76	36,470 ft^2	1,188,308 SFW
↓	$ 6,141	$ 4,115	$ 1.49	21,368 ft^2	868,870 SFW
↓	- $ 773	- $ 465	- $ 0.20	18,662 ft^2	405,116 SFW
Bottom 20%	- $ 70,370	- $ 68,148	- $ 17.40	8,546 ft^2	44,568 SFW
			Capital Efficiency[b]		
	Return on Equity	**Return on Asset**	**Total Liability/ft^2**	**Total Asset/ft^2**	**Debt/Asset**
Top 20%[a]	40.7%	17.9%	$ 1.2	$ 23.29	15%
↓	12.5%	11.1%	$ 4.3	$ 14.47	21%
↓	3.7%	1.7%	$ 6.3	$ 9.47	34%
↓	-3.7%	-3.2%	$ 7.9	$ 6.57	79%
Bottom 20%	-91.2%	-82.9%	$ 43.8	$ 2.10	560%

[a] Each column is sorted independently. Therefore, numbers across the column do not correspond.

[b] The numbers are the minimum of data in the quintile when ranked from high to low, and the maximum of data in the quintile when ranked from low to high.

Table 13. Greenhouse Business Performance Comparisons: All 45 Greenhouses, By Return-on-Asset Quintile, 2001

Business by ROA	Operating Characteristics[b]							Sales[b]			
	GH Size	Wks Operated / Year	Total SFW Operated / Year	GH Area / Full-time Operator	GH SFW / Full-time Operator	# of Total FTE Worker Equiv.	GH Area / Worker Equiv.	Annual Sales	Sales / Ft^2	Sales / SFW	Sales / Worker Equiv.
Top 20%[a]	52,293 ft^2	38 weeks	2,041,414 SFW	55,681 ft^2	2,198,891 SFW	9.8	8,726 ft^2	$ 838,137	$ 15.80	$ 0.42	$ 105,337
2nd 20%[a]	43,095 ft^2	30 weeks	1,388,312 SFW	57,884 ft^2	1,817,523 SFW	6.2	8,809 ft^2	$ 591,204	$ 14.60	$ 0.53	$ 112,933
3rd 20%[a]	23,036 ft^2	31 weeks	898,461 SFW	46,551 ft^2	1,855,473 SFW	4.0	7,038 ft^2	$ 385,682	$ 14.90	$ 0.56	$ 81,268
4th 20%[a]	35,176 ft^2	42 weeks	1,537,354 SFW	29,639 ft^2	1,260,445 SFW	5.9	6.810 ft^2	$ 479,124	$ 14.60	$ 0.37	$ 88,846
Bottom 20%[a]	45,113 ft^2	38 weeks	2,017,015 SFW	47,002 ft^2	2,070,113 SFW	8.6	7,215 ft^2	$ 582,194	$ 9.60	$ 0.25	$ 70,589
All[a]	***39,557 ft^2***	***36 weeks***	***1,561,321 SFW***	***47,364 ft^2***	***1,832,571 SFW***	***6.8***	***7,737 ft^2***	***$ 575,029***	***$ 14.10***	***$ 0.43***	***$ 92,526***

Business by ROA	Cost Control[b]								
	Operating Exp. as % of Sales	Operating Exp. / Ft^2	Operating Exp. / SFW	Overhead Exp. as % of Sales	Overhead Exp. / Ft^2	Overhead Exp. / SFW	Total Costs/Ft^2	Total Costs/SFW	Hired Labor Exp. as % of Sales
Top 20%[a]	63%	$ 10.30	$ 0.27	19%	$ 3.40	$ 0.08	$ 13.80	$ 0.35	29%
2nd 20%[a]	66%	$ 9.70	$ 0.33	21%	$ 2.90	$ 0.12	$ 12.80	$ 0.45	15%
3rd 20%[a]	70%	$ 11.10	$ 0.43	18%	$ 3.00	$ 0.10	$ 14.10	$ 0.53	20%
4th 20%[a]	81%	$ 12.00	$ 0.30	21%	$ 2.90	$ 0.07	$ 15.20	$ 0.38	29%
Bottom 20%[a]	96%	$ 9.30	$ 0.24	43%	$ 3.20	$ 0.10	$ 13.70	$ 0.37	23%
All[a]	***75%***	***$ 10.50***	***$ 0.32***	***24%***	***$ 3.10***	***$ 0.09***	***$ 13.90***	***$ 0.42***	***24%***

Business by ROA	Profitability[b]								
	Gross Margin	Profit Margin	Net Income	Net Income / Ft^2	Net Income / SFW	Net Income to Operator's Labor, Mgmt & Capital	Net Income / Full-time Operator	Net Income / Operator Hour	Net Income / Worker Equiv.
Top 20%[a]	37%	18%	$ 119,988	$ 2.20	$ 0.08	$ 118,728	$ 132,385	$ 49.30	$ 23,475
2nd 20%[a]	34%	13%	$ 79,900	$ 2.20	$ 0.09	$ 79,662	$ 132,257	$ 29.20	$ 18,999
3rd 20%[a]	30%	11%	$ 15,322	$ 0.90	$ 0.04	$ 14,906	$ 47,173	$ 16.60	$ 8,456
4th 20%[a]	19%	-2%	- $ 5,081	- $ 0.20	- $ 0.01	- $ 5,315	- $ 3,761	- $ 1.40	- $ 798
Bottom 20%[a]	4%	-36%	- $ 102,940	- $ 1.80	- $ 0.06	- $ 102,940	- $ 103,132	- $ 26.90	- $ 12,603
All[a]	***25%***	***2%***	***$ 25,727***	***$ 0.70***	***$ 0.03***	***$ 25,282***	***$ 45,954***	***$ 16.20***	***$ 8,199***

Business by ROA	Capital Efficiency (End of Year)[b]								
	ROA	ROE	Total Asset / Ft^2	Total Debt / Ft^2	Machinery Investment / Ft^2	Real Estate Investment / Ft^2	Percent of Equity	Debt/Asset Ratio	Debt/Equity Ratio
Top 20%[a]	40%	214%	$ 6.60	$ 2.80	$ 0.80	$ 8.00	55%	45%	369%
2nd 20%[a]	13%	193%	$ 14.30	$ 5.50	$ 2.80	$ 10.40	61%	39%	390%
3rd 20%[a]	5%	5%	$ 19.00	$ 5.20	$ 3.70	$ 11.20	48%	52%	-12%
4th 20%[a]	0%	0%	$ 20.10	$ 7.10	$ 2.50	$ 11.80	42%	58%	57%
Bottom 20%[a]	-31%	-26%	$ 16.40	$ 13.70	$ 1.00	$ 5.9 0	-138%	238%	93%
All[a]	***7%***	***81%***	***$ 15.20***	***$ 6.60***	***$ 2.20***	***$ 8.30***	***19%***	***81%***	***265%***

[a] Each column is sorted according to rates of return on asset. Therefore, numbers across the column correspond to the quintile of rates of return on asset.
[b] The numbers are the averages of data in this quintile.

III. BUSINESS SUMMARY FOR ALL SURVEYED RETAIL GREENHOUSES

A. Balance Sheet and Financial Standing Analysis: Retail Greenhouses

Table 14 shows the average balance sheet for the 25 retail greenhouse businesses that participated in the 2001 Greenhouse Business Summary Program. Tables 15 and 16 display the average balance sheets for the participating retail greenhouse businesses by size and by their location in the state. For more information on balance sheets see Section I.

Table 14. Average Business Balance Sheets of 25 New York Retail Greenhouse Operations[a], 2001 Fiscal Year

	Year Start	Year End		Year Start	Year End
	Average[b]			Average[b]	
ASSETS			**LIABILITIES**		
Current Assets			**Current Liabilities ≤ 1 year**		
Cash/Checking/Savings	$ 32,663	$ 38,537	Accounts Payable	$ 7,811	$ 4,233
Accounts Receivable	22,611	27,465	Operating Loan	41,523	40,020
Other Stock and Certificates	19,979	20,747	Short-Term Debt	19,394	9,869
Wholesale Inventory	6,906	6,906	***Total current liabilities***	***$ 68,728***	***$ 54,111***
Retail Inventory	25,574	23,368			
Inventory of Supplies	8,670	8,731	**Intermediate Liabilities > 1 year & ≤ 10 years**		
Prepaid Expenses	199	209	Intermediate Term	29,945	34,418
Other Current Assets	5,590	5,628	Farm Credit Stock	871	1,059
Total current assets	***$ 122,191***	***$ 131,591***	Leased Equipment	0	0
			Total intermediate liabilities	***$ 30,815***	***$ 35,478***
Intermediate Assets					
Equipment	44,821	45,768			
Leased Equipment	283	0	**Long-Term Liabilities > 10 years**		
Farm Credit Stock	871	1,059	Long-Term Debt	66,693	75,180
Total intermediate assets	***$ 45,975***	***$ 46,827***	Leased Structures	283	0
			Total-long term liabilities	***$ 66,977***	***$ 75,180***
Long-Term Assets			**TOTAL LIABILITIES**	**$ 166,520**	**$ 164,769**
Land and Buildings	275,100	277,885			
Leased Structures	0	0	**NET WORTH (OWNERS' EQUITY)**	**$ 276,746**	**$ 291,534**
Total long-term assets	***$ 275,100***	***$ 277,885***			
TOTAL ASSETS	**$ 443,267**	**$ 456,303**			

[a] Retail greenhouse operations are defined as having received more than 50 percent of total greenhouse receipts from retail transactions.

[b] Each measure is averaged independently and not weighted based on size of businesses.

Table 15. A Comparison of Average Business Balance Sheets for 25 Retail Greenhouse Operations, by Size[a], 2001 Fiscal Year

	Small Retail Operations (N=8)		Large Retail Operations (N=17)	
	Year Start	Year End	Year Start	Year End
	Average[b]		Average[b]	
ASSETS				
Current Assets				
Cash/Checking/Savings	$ 5,878	$ 6,579	$ 40,904	$ 48,370
Accounts Receivable	1,420	1,500	29,131	35,454
Other Stock/Certificates	0	0	26,126	27,131
Wholesale Inventory	0	0	9,031	9,031
Retail Inventory	14,738	14,576	28,908	26,074
Inventory of Supplies	3,433	3,830	10,282	10,238
Prepaid Expenses	0	233	261	202
Other Current Assets	23,750	23,750	20	53
Total current assets	***$ 49,218***	***$ 50,468***	***$ 144,645***	***$ 156,552***
Intermediate Assets				
Equipment	24,570	27,430	51,053	51,410
Leased Equipment	600	0	185	0
Farm Credit Stock	0	300	1,138	1,292
Total intermediate assets	***$ 25,170***	***$ 27,730***	***$ 52,377***	***$ 52,703***
Long-Term Assets				
Land and Buildings	42,418	45,539	346,695	349,377
Leased Structures	0	0	0	0
Total long-term assets	***$ 42,418***	***$ 45,539***	***$ 346,695***	***$ 349,377***
TOTAL ASSETS	**$116,805**	**$123,736**	**$ 543,717**	**$ 558,631**
LIABILITIES				
Current Liabilities				
Accounts Payable	$ 1,275	$ 0	$ 9,822	$ 5,522
Operating Loan	36,670	38,300	43,016	40,540
Short-Term Debts	2,197	2,197	24,687	12,233
Total current liabilities	***$ 40,141***	***$ 40,526***	***$ 77,524***	***$ 58,291***
Intermediate Liabilities				
Intermediate Term	4,779	10,566	37,688	41,759
Farm Credit Stock	0	300	1,138	1,292
Leased Equipment	0	0	0	0
Total intermediate liabilities	***$ 4,779***	***$ 10,866***	***$ 38,827***	***$ 43,051***
Long-Term Liabilities				
Long-Term Debt	3,000	2,959	86,292	97,399
Leased Structures	600	0	185	0
Total-long term liabilities	***$ 3,600***	***$ 2,959***	***$ 86,477***	***$ 97,401***
TOTAL LIABILITIES	**$ 48,520**	**$ 54,351**	**$ 202,828**	**$ 198,743**
NET WORTH (OWNERS' EQUITY)	**$ 68,285**	**$ 69,385**	**$ 340,889**	**$ 359,888**

[a] Small retail operation has less than 20,000 ft^2 greenhouse area; large retail operation has more than 20,000 ft^2 of greenhouse area.

[b] Each measure is averaged independently and not weighted based on size of businesses.

Table 16. A Comparison of Average Business Balance Sheets for 25 Retail Greenhouse Operations, by Location[a], 2001 Fiscal Year

	WNY Retail Operations (N = 16)		ENY Retail Operations (N = 9)	
	Year Start	Year End	Year Start	Year End
	Average[b]		Average[b]	
ASSETS				
Current Assets				
Cash/Checking/Savings	$ 36,965	$ 40,919	$ 22,337	$ 32,819
Accounts Receivable	15,431	14,870	39,843	57,693
Other Stock/Certificates	28,303	29,392	-	-
Wholesale Inventory	9,783	9,783	-	-
Retail Inventory	5,910	8,695	72,767	58,584
Inventory of Supplies	8,237	8,781	9,710	8,610
Prepaid Expenses	282	296	-	-
Other Current Assets	7,917	7,972	5	5
Total current assets	***$ 112,829***	***$ 120,708***	***$ 144,662***	***$ 157,710***
Intermediate Assets				
Equipment	34,563	36,314	69,440	68,458
Leased Equipment	194	-	496	-
Farm Credit Stock	983	1,150	600	840
Total intermediate assets	***35,741***	***37,464***	***70,536***	***69,298***
Long-Term Assets				
Land and Buildings	287,779	296,370	244,671	233,521
Leased Structures	0	0	0	0
Total long-term assets	***$ 287,779***	***$ 296,370***	***$ 244,671***	***$ 233,521***
TOTAL ASSETS	**$ 436,349**	**$ 454,542**	**$ 459,869**	**$ 460,529**
LIABILITIES				
Current Liabilities				
Accounts Payable	11,065	5,982	0	0
Operating Loan	38,642	37,252	48,436	46,664
Short-Term Debts	24,155	10,483	7,971	8,396
Total current liabilities	***$ 73,862***	***$ 53,716***	***$ 56,407***	***$ 55,059***
Intermediate Liabilities				
Intermediate Term	12,376	20,507	72,091	67,809
Farm Credit Stock	983	1,150	600	840
Leased Equipment	0	0	0	0
Total intermediate liabilities	***$ 13,359***	***$ 21,657***	***$ 72,710***	***$ 68,649***
Long-Term Liabilities				
Long-Term Debt	71,938	86,018	54,107	49,165
Leased Structures	194	0	496	0
Total-long term liabilities	***$ 72,132***	***$ 86,018***	***$ 54,603***	***$ 49,165***
TOTAL LIABILITIES	***$ 159,354***	**$ 161,392**	**$ 183,720**	**$ 172,873**
NET WORTH (OWNERS' EQUITY)	**$ 276,996**	**$ 293,150**	**$ 276,149**	**$ 287,656**

[a] ENY operations are located in counties in Southeastern New York, the Hudson Valley and New York City/Long Island regions. WNY operations are located in the Central and Western New York regions.

[b] Each measure is averaged independently and not weighted based on size of businesses.

B. Solvency and Debt Ratio Analysis: Retail Greenhouses

Balance sheet analysis involves an examination of financial and debt ratios. These ratios reveal whether the business is maintaining a sound financial position and earning a satisfactory return. They measure the degree of liquidity, solvency, asset utilization, and financial structure exhibited by the business. More information on these measures can be found in Section I. Table 17 shows the balance sheet analysis including financial and debt ratios and measures of capital efficiency for retail and wholesale greenhouse businesses in 2001.

Larger retail greenhouse operations had more net working capital and better ability to pay their current debts (higher average current ratios). ENY retail greenhouse operations had a slightly higher net working capital than their WNY counterparts and also higher current ratios. Smaller retail greenhouses had the lowest average solvency (high debt and low equity ratios).

Table 17. Greenhouse Solvency and Debt Ratio Analysis for Retail Greenhouses, by Size and Location, 2001 Fiscal Year

Item	All Retail Greenhouses (N=25)	Small Retail Greenhouses (N=8)	Large Retail Greenhouses (N=17)	WNY Retail Greenhouses (N=16)	ENY Retail Greenhouses (N=9)
	Average[a]				
Liquidity/Solvency					
Net Working Capital	$ 69,393	$ 9,941	$ 89,211	$ 66,992	$ 76,598
Current Ratio	3.71	0.63	4.27	2.97	5.38
Debt/Asset Ratio	96%	266%	40%	116%	38%
Debt/Equity Ratio	189%	-10%	256%	228%	74%
Capital Efficiency					
Total Asset/ft^2	$ 17.81	$ 21.37	$ 16.63	$ 18.43	$ 15.97
Total Debt/ft^2	$ 7.74	$ 14.15	$ 5.60	$ 8.41	$ 5.72
Machinery Value/ft^2	$ 2.20	$ 4.46	$ 1.44	$ 1.65	$3.84
Real Estate Value/ft^2	$ 10.24	$ 9.25	$ 10.57	$ 11.33	$ 6.97
Percent Equity	4%	- 166%	60%	-16%	62%

[a] Each measure is averaged independently and not weighted based on size of businesses.

C. Income and Expense Analysis: Retail Greenhouse Operations

Table 18 shows the average income statement for the 25 retail greenhouse operations. The retail greenhouses had average annual sales of $448,404 ($14.53/ft^2 or $0.509/SFW of operation) and an average annual accrual net income of $34,770 ($0.61/ft^2 or $0.026/SFW of operation), with a profit margin of 2.5 percent. The highest cost item in 2001 was hired labor costs which was 21.9 percent of sales, followed by seeds and plants (19.5 percent of sales).

Table 18. Average Income Statement for 25 New York Retail Greenhouse Businesses, 2001

	Average Total Amount[a]	Average $/ft^2[a]	Average $ /SFW[a]	Average % of sales[a]
RECEIPTS				
Wholesale greenhouse crops	$ 62,409	$ 2.09	$ 0.055	13.4%
Retail greenhouse crops	370,468	11.98	0.441	83.5%
Other income	15,527	0.46	0.013	3.0%
TOTAL ACCRUAL INCOME (A)	***$ 448,404***	***$ 14.53***	***$ 0.509***	***100.0%***
EXPENSES				
Direct Variable Costs				
Hired Direct/Production Labor	$ 109,742	$ 3.49	$ 0.113	21.9%
Seeds and Plants	76,203	2.89	0.103	19.5%
Fertilizer and Spray Chemicals	7,181	0.20	0.007	1.6%
Soil Mix Components	11,409	0.45	0.017	3.2%
Packaging Materials	14,369	0.51	0.017	3.5%
Hard Goods/Merchandise	49,865	1.40	0.050	8.7%
Total Accrual Direct Variable Costs (B)	**$ 268,769**	**$ 8.95**	**$ 0.307**	**58.3%**
Indirect Variable Costs				
Advertising	$ 10,338	$ 0.32	$ 0.011	2.6%
Heating Fuel	22,956	0.83	0.026	5.4%
Gas/Diesel	2,112	0.07	0.002	0.4%
Electricity	7,722	0.26	0.010	1.9%
Water/Sewage	645	0.02	0.001	0.2%
Telephone	2,384	0.09	0.003	0.6%
Trucking/Shipping (Freight)	2,641	0.09	0.002	0.6%
Greenhouse Tools and Other Misc. Supplies	1,212	0.06	0.004	0.5%
Sales Tax	15,624	0.42	0.016	3.1%
Total Accrual Indirect Variable Costs (C)	**$ 65,634**	**$ 2.16**	**$ 0.076**	**15.4%**
Total Accrual Variable Costs (D = B+C)	***$ 334,403***	***$ 11.11***	***$ 0.383***	***73.8%***
ACCRUAL GROSS MARGIN (A – D)	***$ 114,001***	***$ 3.42***	***$ 0.125***	***26.2%***
Overhead Costs				
Hired Indirect/Office Labor	$ 5,242	$ 0.18	$ 0.005	1.2%
Interest	10,778	0.58	0.022	8.5%
Depreciation	15,582	0.61	0.022	4.1%
Insurance	9,202	0.28	0.011	2.0%
Repairs, Buildings	6,713	0.20	0.007	1.4%
Repairs, Equipment/Vehicles	7,107	0.21	0.008	1.5%
Property Taxes	4,989	0.17	0.006	1.2%
Lease/Rental	497	0.03	0.001	0.2%
Land Rent	4,815	0.10	0.003	0.6%
Office Supplies	3,606	0.12	0.004	0.8%
Professional Fees	3,701	0.12	0.004	0.9%
Education & Training	515	0.02	0.001	0.1%
Miscellaneous	6,483	0.17	0.006	1.2%
Total Accrual Fixed Expenses (E)	**$ 79,231**	**$ 2.81**	**$ 0.099**	**23.7%**
TOTAL ACCRUAL EXPENSES (F = D + E)	***$ 413,635***	***$ 13.92***	***$ 0.482***	***97.5%***
ACCRUAL NET INCOME (A – F)	***$ 34,770***	***$ 0.61***	***$ 0.026***	***2.5%***

[a] Each measure is averaged independently and not weighted based on size of businesses.

Receipt Analysis for Retail Greenhouse Businesses

The accrual greenhouse receipts for the 25 retail greenhouse businesses are compared **by size** and **by location** in Table 19. Total accrual annual income averaged $73,395 or $11.92 per ft^2 for small retail greenhouses ($\leq$ 20,000 ft^2) and $573,407 or $15.40 per ft^2 for large retail greenhouses (> 20,000 ft^2). Small retail greenhouses had higher average receipts of $0.593 per SFW of operation, compared to the larger retail greenhouse operations average of $0.481 per SFW. Nonetheless, small retail greenhouses operated an average of 25 weeks in 2001, which is shorter than the average 33 weeks of operation by large retail greenhouse operations. Small retail greenhouse operations generated most of their sales from retail transactions (95.0 percent). On the other hand, about 20 percent of the 2001 revenue for large retail greenhouse operations was from the wholesale channel and other income.

Total accrual annual income averaged $379,082 or $12.9 per square foot for participating retail greenhouses located in Western NY counties and $656,371 or $19.37 per square foot for retail greenhouses located in Eastern NY counties. Western NY retail greenhouses had average receipts of $0.479 per SFW of operation and operated an average of 30 weeks in 2001, while Eastern NY retail greenhouses had an average income of $0.598 per SFW and operated an average of 33 weeks in 2001. Both WNY and ENY retail greenhouse operations had more than 10 percent of sales from wholesale transactions, 13.1 percent and 14.4 percent, respectively.

Table 19. Average Business Receipts for 25 New York Retail Greenhouses, by Size and Location[a], 2001 Fiscal Year

	By Greenhouse Size			
	Small Retail Greenhouses (N=8)			
	Ave. Total Amount	**Ave. $ / ft^2**	**Ave. $ / SFW**	**Ave. % of sales**
RECEIPTS				
Wholesale greenhouse crops	$ 2,580	$ 0.37	$ 0.009	5.0%
Retail greenhouse crops	70,815	11.55	0.583	95.0%
Other income	0	0.00	0.000	0.0%
Total Accrual income	***$ 73,395***	***$ 11.92***	***$ 0.593***	***100.0%***
	Large Retail Greenhouses (N=17)			
	Ave. Total Amount	**Ave. $ / ft^2**	**Ave. $ / SFW**	**Ave. % of sales**
RECEIPTS				
Wholesale greenhouse crops	$ 82,352	$ 2.66	$ 0.070	16.2%
Retail greenhouse crops	470,352	12.12	0.393	79.7%
Other income	20,703	0.61	0.018	4.0%
Total Accrual income	***$ 573,407***	***$ 15.40***	***$ 0.481***	***100.0%***
	by Greenhouse Location			
	WNY Retail Greenhouse Businesses (N=16)			
	Ave. Total Amount	**Ave. $ / ft^2**	**Ave. $ / SFW**	**Ave. % of sales**
RECEIPTS				
Wholesale greenhouse crops	$ 58,376	$ 2.14	$ 0.054	13.1%
Retail greenhouse crops	313,000	10.52	0.419	
Other income	7,606	0.25	0.007	1.4%
Total Accrual income	***$ 379,082***	***$ 12.91***	***$ 0.479***	***100.0%***
	ENY Retail Greenhouse Businesses (N=9)			
	Ave. Total Amount	**Ave. $ / ft^2**	**Ave. $ / SFW**	**Ave. % of sales**
RECEIPTS				
Wholesale greenhouse crops	$ 74,510	$ 1.95	$ 0.058	14.4%
Retail greenhouse crops	542,571	16.35	0.507	77.8%
Other income	39,290	1.07	0.033	7.8%
Total Accrual income	***$ 656,371***	***$ 19.37***	***$ 0.598***	***100.0%***

[a] Each measure is averaged independently and not weighted based on size of businesses.

Expense Analysis for Retail Greenhouse Businesses

In 2001, the 25 New York retail greenhouses participating in this project had average total business expenses of $413,635, which is $13.92 per square foot (or $0.482/SFW) of operation and 97.5 percent of sales. The highest cost item is hired direct/production labor, which is $ 0.113 per SFW and equals 21.9 percent of sales. The second highest expense item is seeds and plants, which totaled $0.103 per SFW or 19.5 percent of sales. The accrual business expenses for the 25 retail greenhouse businesses are compared **by size** in Table 20 and **by location** in Table 21.

Total accrual business expenses averaged $70,213 ($11.97/ft^2 or $0.598/SFW) for small retail greenhouses ($\leq$ 20,000 ft^2), which is 111.6 percent of total sales. The highest cost item for small retail is interest expenses (26.3 percent of sales), followed by seeds and plants (25 percent of sales) and hired direct/production labor (10.8 percent of sales).

Large retail greenhouse operations (>20,000 ft^2) had average business expenses of $528,108 ($14.57/ft^2 or $0.444/SFW), which is 92.8 percent of total sales. The highest cost item for large retail greenhouse operations is hired direct/production labor (25.6 percent of sales), followed by seeds and plants (17.7 percent of sales) and hard goods/merchandise for sale (8.3 percent of sales). Due to economies of scale, small retail greenhouses had a much higher overhead expenses ratio (41.4 percent of sales) than large retail greenhouses (17.8 percent of sales).

Total accrual business expenses averaged $331,350 ($11.99/ft^2 or $0.441/SFW) for WNY retail greenhouses, which equals 94.3 percent of total sales. The highest cost item for WNY retail greenhouse operations is hired direct/production labor (20.0 percent of sales), followed by seeds and plants (18 percent of sales) and interest expenses (11.0 percent of sales).

ENY retail greenhouses had a much higher average business expense of $660,490 ($19.70/ft^2 or $0.134/SFW), which is 106.9 percent of total sales. The highest cost item for ENY retail greenhouses is also hired direct/production labor (27.6 percent of sales), followed by seeds and plants (24.0 percent of sales) and hard goods/merchandise for sale (13.7 percent of sales).

ENY retail greenhouses had higher average hired direct labor, plant material costs and utility costs than the WNY retailers. The average direct variable costs (cost of good sold) was 71.2 percent for ENY retail greenhouses, compared to 54.0 percent for WNY retailers. However, the WNY retail operations had higher average heating costs ($0.030/SFW or 6.5 percent of sales) than the ENY operations ($0.016 per SFW or 2.4 percent of sales). Moreover, the interest expense ratio of 11.1 percent of sales for WNY retail operations was much higher than ENY retail greenhouses (1.0 percent).

Table 20. Average Business Expenses for 25 New York Retail Greenhouse Businesses[a], By Size, 2001

	Small Retail Greenhouses (N=8)				Large Retail Greenhouses (N=17)			
	Ave Total $	Ave $/ft^2	Ave $/SFW	Ave. % Sales	Ave Total $	Ave $/ft^2	Ave $/SFW	Ave. % Sales
Direct Variable Costs								
Direct/Production Labor	$ 10,259	$ 1.61	$ 0.122	10.8%	$ 142,903	$ 4.12	$ 0.122	25.6%
Seeds and Plants	21,131	3.39	0.085	25.0%	94,561	2.73	0.085	17.7%
Fertilizer and Spray Chemicals	573	0.09	0.008	0.8%	9,383	0.23	0.008	1.8%
Soil Mix Components	2,604	0.46	0.013	4.3%	14,344	0.45	0.013	2.8%
Packaging Materials	2,063	0.35	0.016	3.3%	18,470	0.56	0.016	3.6%
Hard Goods/Merchandise	5,458	0.98	0.043	9.9%	64,667	1.54	0.043	8.3%
Total Accrual Direct Variable Costs (A)	***$ 42,088***	***$ 6.88***	***$ 0.288***	***54.2%***	***$ 344,329***	***$ 9.63***	***$ 0.288***	***59.7%***
Indirect Variable Costs								
Advertising	$ 1,610	$ 0.29	$ 0.012	3.8%	$ 13,247	$ 0.33	$ 0.011	2.3%
Heating Fuel	2,977	0.50	0.030	4.6%	29,616	0.94	0.025	5.7%
Gas/Diesel	0	0.00	0.000	0.0%	2,816	0.09	0.002	0.5%
Electricity	1,209	0.21	0.013	2.1%	9,892	0.28	0.009	1.9%
Water/Sewage	77	0.02	0.002	0.2%	835	0.02	0.001	0.2%
Telephone	617	0.10	0.005	0.7%	2,973	0.09	0.003	0.6%
Trucking/Shipping (Freight)	0	0.00	0.000	0.0%	3,522	0.12	0.003	0.7%
Greenhouse Tools and Other Supplies	616	0.13	0.013	1.2%	1,411	0.04	0.002	0.3%
Sales Tax	3,334	0.51	0.018	3.4%	19,720	0.39	0.015	3.1%
Total Accrual Indirect Variable Costs (B)	***$ 10,440***	***$ 1.76***	***$ 0.093***	***16.0%***	***$ 84,033***	***$ 2.30***	***$ 0.071***	***15.2%***
Overhead Costs								
Indirect/Office Labor	$ 0	$ 0.00	$ 0.000	0.0%	$ 6,990	$ 0.25	$ 0.006	1.6%
Interest	4,613	1.27	0.053	26.3%	12,833	0.34	0.012	2.6%
Depreciation	5,561	0.90	0.041	7.0%	18,923	0.51	0.016	3.1%
Insurance	932	0.14	0.007	0.8%	11,959	0.33	0.012	2.4%
Repairs, Buildings	800	0.13	0.007	1.2%	8,694	0.23	0.007	1.5%
Repairs, Equipment/Vehicles	1,423	0.20	0.007	0.9%	9,002	0.22	0.008	1.7%
Property Taxes	1,184	0.21	0.011	2.1%	6,257	0.16	0.005	1.0%
Lease/Rental	600	0.08	0.003	0.3%	462	0.01	0.000	0.1%
Land Rent	0	0.00	0.000	0.0%	6,420	0.14	0.004	0.8%
Office Supplies	1,086	0.15	0.005	1.1%	4,447	0.11	0.003	0.7%
Professional Fees	795	0.12	0.005	1.3%	4,670	0.12	0.003	0.7%
Education & Training	0	0.00	0.000	0.0%	687	0.02	0.001	0.1%
Miscellaneous	692	0.10	0.003	0.4%	8,414	0.20	0.007	1.4%
Total Accrual Fixed Expenses (C)	***$ 17,686***	***$ 3.32***	***$ 0.142***	***41.4%***	***$ 99,747***	***$ 2.64***	***$ 0.085***	***17.8%***
Total Accrual Expenses (D=A+B+C)	***$ 70,213***	***$ 11.97***	***$ 0.598***	***111.6%***	***$ 528,108***	***$ 14.57***	***$ 0.444***	***92.8%***

[a] Each measure is averaged independently and not weighted based on size of businesses.

Table 21. Average Business Expenses for 25 New York Retail Greenhouse Businesses[a], By Location[a], 2001

	WNY Retail Greenhouses (N=16)				ENY Retail Greenhouses (N=9)			
	Ave Total $	Ave $/ft^2	Ave $/SFW	Ave. % Sales	Ave Total $	Ave $/ft^2	Ave $/SFW	Ave. % Sales
Direct Variable Costs								
Direct/Production Labor	$ 93,939	$ 3.23	$ 0.108	20.0%	$ 157,153	$ 4.27	$ 0.129	27.6%
Seeds and Plants	66,807	2.40	0.089	18.0%	104,391	4.38	0.143	24.0%
Fertilizer and Spray Chemicals	5,986	0.15	0.006	1.4%	10,764	0.33	0.010	2.1%
Soil Mix Components	11,882	0.48	0.019	3.4%	9,992	0.37	0.012	2.3%
Packaging Materials	15,100	0.55	0.018	4.1%	12,174	0.38	0.012	1.6%
Hard Goods/Merchandise	21,602	0.89	0.039	7.0%	134,654	2.94	0.084	13.7%
Total Accrual Direct Variable Costs (A)	***$ 215,316***	***$ 7.71***	***$ 0.279***	***54.0%***	***$ 429,127***	***$ 12.67***	***$ 0.390***	***71.2%***
Indirect Variable Costs								
Advertising	7,689	0.27	0.011	2.5%	18,284	0.47	0.013	3.1%
Heating Fuel	24,543	0.93	0.030	6.5%	18,196	0.52	0.016	2.4%
Gas/Diesel	1,979	0.07	0.002	0.5%	2,512	0.05	0.001	0.2%
Electricity	4,518	0.18	0.008	1.4%	17,333	0.50	0.015	3.4%
Water/Sewage	781	0.03	0.001	0.2%	237	0.00	0.000	0.0%
Telephone	1,784	0.08	0.003	0.6%	4,184	0.14	0.004	0.8%
Trucking/Shipping (Freight)	3,378	0.12	0.003	0.7%	430	0.01	0.000	0.1%
Greenhouse Tools and Other Supplies	1,499	0.08	0.005	0.5%	351	0.03	0.001	0.4%
Sales Tax	10,160	0.23	0.011	3.1%	32,014	0.99	0.031	3.2%
Total Accrual Indirect Variable Costs (B)	***$ 56,332***	***$ 1.98***	***$ 0.074***	***16.0%***	***$ 93,542***	***$ 2.71***	***$ 0.473***	***13.6%***
Overhead Costs								
Indirect/Office Labor	4,285	0.18	0.004	1.0%	8,115	0.20	0.006	1.6%
Interest	11,515	0.67	0.026	11.0%	8,565	0.30	0.010	1.0%
Depreciation	12,312	0.46	0.018	3.9%	25,393	1.05	0.034	4.6%
Insurance	7,799	0.24	0.010	1.6%	13,413	0.41	0.013	3.3%
Repairs, Buildings	4,365	0.16	0.006	1.4%	13,757	0.34	0.011	1.3%
Repairs, Equipment/Vehicles	6,295	0.16	0.006	1.4%	9,543	0.37	0.012	1.8%
Property Taxes	3,019	0.13	0.006	1.1%	10,898	0.30	0.009	1.5%
Lease/Rental	456	0.01	0.000	0.1%	620	0.08	0.003	0.3%
Land Rent	1,847	0.05	0.002	0.3%	13,720	0.28	0.007	1.5%
Office Supplies	1,888	0.06	0.002	0.6%	8,762	0.29	0.009	1.4%
Professional Fees	2,570	0.09	0.003	0.8%	7,094	0.19	0.005	1.0%
Education & Training	424	0.02	0.000	0.1%	790	0.02	0.001	0.3%
Miscellaneous	2,927	0.08	0.003	0.8%	17,152	0.47	0.014	2.4%
Total Accrual Fixed Expenses (C)	***$ 59,702***	***$ 2.31***	***$ 0.087***	***24.2%***	***$ 137,821***	***$ 4.32***	***$ 0.134***	***22.0%***
Total Accrual Expenses (D=A+B+C)	***$ 331,350***	***$ 11.99***	***$ 0.441***	***94.3%***	***$ 660,490***	***$ 19.70***	***$ 0.607***	***106.9%***

[a] Each measure is averaged independently and not weighted based on size of businesses.

Net Income Analysis for Retail Greenhouse Businesses

Table 22 presents the net greenhouse income analysis for participating retail greenhouse operations by size and geographic location.

The participating New York retail greenhouse operations had an average net income of $34,770 and an average profit margin of 2.5 percent. In 2001, the participating large retail greenhouses had a higher profit margin (7.2 percent) than the small retail greenhouses (-11.6 percent), and the participating retail greenhouses located in WNY New York counties had a higher average profit margin (5.7 percent) than the ENY retail operations (-6.9 percent).

Table 22. Net Business Income Analysis for 25 New York Retail Greenhouse Businesses, by Size and Location, 2001

Item	All Retail Greenhouses (N=25)	Small Retail Greenhouses (N=8)	Large Retail Greenhouses (N=17)	WNY Retail Greenhouses (N=16)	ENY Retail Greenhouses (N=9)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Net Income ($)[a]	$34,770	$3,181	$45,299	$ 47,732	- $ 4119
Net Income per ft^{2}[b]	$0.61	-$0.04	$0.83	$0.92	-$0.33
Net Income per SFW[b]	$0.026	-$0.005	$0.037	$0.038	-$0.009
% Gross Margin[b]	26.2%	29.8%	25.1%	29.9%	15.1%
% Profit Margin[b]	2.5%	-11.6%	7.2%	5.7%	-6.9%

[a] Each measure is averaged independently and not weighted based on size of businesses.

D. Profitability: Return to Labor, Management and Capital for Retailers

Net business income in the previous section is the return to the greenhouse operator(s) and other unpaid family members for their labor, management and equity capital. **Return to owners/ operators' labor, management and equity capital** is evaluated by deducting a charge for unpaid family labor (at $7 per hour) from net income. Owners/operators' labor is not included in unpaid family labor. **Labor and management income per operator** measures the return to the equivalent of one full-time operator's labor and management (2,750 hours/year).

Table 23 presents owners/operators' labor and management efficiency and return measures for the participating retail greenhouse operations by size and location. See Section III for the business summary analysis of wholesale operations.

Table 23. Efficiency and Return of Operators' Labor, Management and Equity Capital for 25 New York Retail Greenhouse Businesses, by Size and Location, 2001

Item	All Retail Greenhouses (N=25)	Small Retail Greenhouses (N=8)	Large Retail Greenhouses (N=17)	WNY Retail Greenhouses (N=16)	ENY Retail Greenhouses (N=9)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Net Greenhouse Income	$35,520	$ 3,181	$ 46,299	$ 47,732	-$1,119
Total Return to Operators' Labor, Management & Equity	$35,213	$ 2,831	$ 46,007	$ 47,441	-$ 1,469
Total Labor & Management Income per Full-time Operator	$48,288	$ 2,543	$ 63,536	$ 70,829	- $ 19,336
Labor & Management Income per Operator Hour	$17.50	$0.92	$23.02	$ 25.66	- $7.01
Number of Operator(s)	1.1	0.8	1.2	1.0	1.4
GH ft^2 Area per Full-time Operator	38,871 ft^2	6,895 ft^2	49,530 ft^2	42,881 ft^2	26,841 ft^2
GH SFW per Full-time Operator	1,283,316 SFW	195,112 SFW	1,646,050 SFW	1,403,741 SFW	922,038 SFW

[a] Each measure is averaged independently and not weighted based on size of businesses.

E. Retail Business Statement of Cash Flow

An annual cash flow statement explains the changes that took place in balance sheet accounts during the year. The statement of cash flow shows the movement of cash within the business. In most businesses, this information is relevant regarding the business's activities — where did they get their money and where did it go? This statement is also called the statement of changes in financial position.

Table 24 shows the annual average cash flow statement for all Retail Greenhouse Businesses.

Table 24. Average Annual Cash Flow for 25 New York Retail Greenhouses, by Size and Location, 2001 Fiscal Year

	All	By Size		By Location	
	Retail Greenhouses (N=25)	Small Retail Greenhouses (N=8)	Large Retail Greenhouses (N=17)	WNY Retail Greenhouses (N=16)	ENY Retail Greenhouses (N=9)
	Average[a]	Average[a]		Average[a]	
Cash Flow From Operations					
Cash Farm Receipts	$ 450,771	$ 225,190	$ 525,965	$ 378,058	$ 668,910
Less: Cash Farm Expenses	401,189	193,972	470,261	324,578	630,722
Cash Farm Income	**49,582**	**31,218**	**55,703**	**53,380**	**38,188**
Owner's Withdrawals	37,619	16,942	44,512	37,438	38,162
Less: Non-Farm Cash Transfer	7,319	2,923	8,784	3,710	18,146
Net Cash Withdrawals	**30,300**	**14,019**	**35,728**	**33,729**	**20,016**
Net Cash Provided From Operations	***19,281***	***17,200***	***19,975***	***19,651***	***18,172***
Cash Flow From Investing Activities					
Inflow from Sale of Assets					
Machinery	$ 625	$ 0	$ 833	$ 833	$ 0
Land & Buildings	0	0	0	0	0
Subtotal	**625**	**0**	**833**	**833**	**0**
Outflow from Capital Purchases					
Machinery	$ 9,366	$ 12,778	$ 8,229	$ 8,556	$ 11,799
Land & Buildings	14,866	12,672	15,598	18,822	3,000
Subtotal	**$ 24,233**	**$ 25,450**	**$ 23,827**	**$ 27,377**	**$ 14,799**
Net Cash Provided From Investing	***- $ 23,608***	***- $ 25,450***	***- $ 22,994***	***- $ 26,544***	***- $ 14,799***
Cash Flow From Financing Activities					
Inflow From Financing					
Long Term	$ 12,548	$ 0	$ 16,730	$ 16,730	$ 0
Intermediate Term	11,048	10,693	18,803	13,648	36,778
Short Term	4,245	1,117	0	0	424
Increase in Operating Debt	6,728	1,660	8,417	8,471	1,660
Subtotal	**$ 34,568**	**$ 13,470**	**$ 43,949**	**$ 38,794**	**$ 38,862**
Outflow From Financing					
Principal-Long Term	$ 3,164	$ 1,125	$ 3,844	$ 2,650	$ 4,707
Principal-Intermediate Term	0	5,928	0	5,516	0
Principal-Short Term	10,149	0	13,904	13,673	3,875
Decrease in Operating Debt	8,234	0	11,099	9,807	0
Subtotal	**$ 21,637**	**$ 7,053**	**$ 28,846**	**$ 31,646**	**$ 8,582**
Net Provided From Financing	***$ 12,931***	***$ 6,417***	***$ 15,103***	***$ 7,148***	***$ 30,280***
Cash Flow From Reserves					
Beginning Balance of Cash/Checking/Savings	$ 31,626	$ 13,177	$ 37,776	$ 36,965	$ 10,608
Less: Ending Balance of Cash/Checking/Savings	38,848	11,273	49,039	40,919	32,634
Net Provided From Reserves	***- $ 7,222***	***$ 1,904***	***- $ 10,264***	***- $ 3,954***	***$ 22,026***
IMBALANCE CHECK	***$ 1,383***	***$ 70***	***$ 1,821***	***- $ 3,698***	***$ 11,628***

[a] Each measure is averaged independently and not weighted based on size of businesses.

F. Operating Efficiency Analysis for Retail Greenhouse Operations

In addition to general financial statements and ratios, there are other useful measures that would be helpful to managers in a certain industry to evaluate and improve their operating efficiency.

Cost Efficiency Measures

Production and cost efficiency measures are indicators of the company's success in managing greenhouse operations and controlling costs (Table 25).

Table 25. Cost Efficiency Measures for 25 New York Retail Greenhouse Businesses, by Size and Location, 2001 Fiscal Year

Item	All Retail Greenhouses (N=25)	Small Retail Greenhouses (N=8)	Large Retail Greenhouses (N=17)	WNY Retail Greenhouses (N=16)	ENY Retail Greenhouses (N=9)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Sales per ft^2 Greenhouse Area	$14.10	$11.90	$14.80	$12.70	$18.30
Operating Costs as % of Sales	79.0%	88.8%	75.7%	78.3%	81.3%
- Operating Costs/ft^2	$11.10	$10.00	$11.50	$10.00	$14.26
- Operating Expenses/SFW	$0.38	$0.49	$0.35	$0.36	$0.44
Overhead Costs as % of Sales	24.6%	41.4%	19.1%	24.4%	25.5%
- Overhead Costs/ft^2	$2.81	$3.32	$2.64	$2.31	$4.32
- Overhead Costs/SFW	$0.10	$0.14	$0.08	$0.09	$0.13
Total Costs/ft^2	$14.34	$13.33	$14.68	$12.55	$19.70
Average Total Costs/SFW	$0.49	$0.63	$0.45	$0.46	$0.61
- Average Total Costs/SFW during no heating months	$0.47	$0.60	$0.42	$0.43	$0.59
- Average Total Costs/SFW during heating months	$0.51	$0.65	$0.46	$0.47	$0.63

[a] Each measure is averaged independently and not weighted based on size of businesses.

Labor Efficiency Measures

In order to compare the amount of labor that goes into greenhouse production, we must translate ALL labor hours, including unpaid family labor and operator's labor, in each greenhouse operation to the number of full-time persons working in the operation. In this study, a full-time worker equivalent in a greenhouse operation is defined as 55 hours a week for 50 weeks (or 2,750 hours) a year. Sales and net income per worker equivalent are indirect measures of how well labor is used to generate sales and net income. Square feet greenhouse area per worker equivalent is a measure of labor efficiency (Table 26).

Table 26. Labor Efficiency Measures for 25 New York Retail Greenhouse Businesses 2001 Fiscal Year

Item	All Retail Greenhouses (N=25)	Small Retail Greenhouses (N=8)	Large Retail Greenhouses (N=17)	WNY Retail Greenhouses (N=17)	ENY Retail Greenhouses (N=8)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Total FTE Worker Equiv.	5.2	1.4	6.4	4.8	6.1
GH ft^2 Area per Worker Equiv.	7,115 ft^2	4,356 ft^2	8,035 ft^2	7,564 ft^2	5,768 ft^2
Sales per Worker Equiv.	$84,843	$42,801	$98,857	$81,766	$94,076
Net Income per Worker Equiv.	$8,308	-$880	$11,371	$12,795	-$5,153
Hired Labor Cost as % of Sales	23.1%	10.8%	27.1%	22.5%	24.8%

[a] Each measure is averaged independently and not weighted based on size of businesses.

Asset Utilization Analysis

Asset utilization measures reflect the way in which a company uses its assets to obtain revenue and profit. Average Collection Period is the average length of time it takes to collect receivables. It represents the number of days a receivable is held. Average Age of Inventory explains how many days, on average, an item remains in inventory. Inventory Turnover reveals how many times a year the inventory is turned over. Asset Turnover Ratio illustrates how efficiently a company employs its assets to obtain sales revenue. This ratio shows how many dollars are generated in sales revenue per dollar invested in assets.

Table 27 shows the average asset utilization measures for the greenhouses in the 2001 business summary. Retail greenhouses have lower average age of inventory and a higher inventory turnover rate. However, WNY retail greenhouses held onto their inventory a lot longer than their ENY counterparts and had an inventory turnover rate similar to wholesale greenhouses. Small retail greenhouses generally do not sell their products by credit.

Table 27. Asset Utilization Measures for 25 New York Retail Greenhouse Businesses by Size and Location, 2001 Fiscal Year

Item	All Retail Greenhouses (N=25)	Small Retail Greenhouses (N=8)	Large Retail Greenhouses (N=17)	WNY Retail Greenhouses (N=17)	ENY Retail Greenhouses (N=8)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Average Collection Period	56.0 days	0.0 days	74.6 days	24.0 days	33.25 days
Average Age of Inventory	14.5 days	10.9 days	17.6 days	55.0 days	10.2 days
Inventory Turnover	29.08 times	36.9 times	25.6 times	6.2 times	36.0 times
Asset Turnover Ratio	0.96	0.65	1.07	1.19	0.89

[a] Each measure is averaged independently and not weighted based on size of businesses.

G. Retail Greenhouse Business Performance Benchmarks

Business benchmarking for an industry establishes a specific measure of standards for a business to compare its financial position and performance with other similar businesses in the industry. It also allows business analysts to compare one industry to another. Again, this report presents the retail greenhouse financial benchmarks in two ways: by greenhouse business charts and by financial performance benchmarks (rate of return on assets).

Retail Greenhouse Business Charts

The Greenhouse Business Chart is a tool which can be used by individual businesses to see where they fall in each performance measure by drawing a line through the figure in each column of the chart to represent a level of management performance. Table 28 presents the greenhouse business charts derived from the Cornell Greenhouse Business Analysis program. Again, the business chart data are divided into quintiles representing the top 20%, second 20%, etc. to the bottom 20% of each measure. The figures presented are the **minimum** of data in each quintile of a business factor when the measure is ranked from high to low, and the **maximum** of data in each quintile when the measure is ranked from low to high. It should be noted that **each column of the chart is sorted independently of the others**. Therefore, businesses in a quintile (i.e. top 20%) level for one factor may **not** necessarily be the same businesses which make up the same quintile level for any other factors.

Business characteristic factors, production rates, and profitability measures are ranked from high to low. The cost control factors are ranked from low to high, but the lowest cost group is not necessarily the most profitable. Many things affect the level of costs and must be taken into consideration when analyzing the factors.

Industry Performance Benchmarks for Retail Greenhouses

Table 29 compares selected business characteristics of the participating greenhouse operations by their return on assets (ROA) in 2001 fiscal year. It should be noted that businesses are sorted by their return on assets in 2001 fiscal year and divided into quintiles representing groups with top 20%, second 20%, etc. to the bottom 20% of return on assets. Again, different from Table 28, the figures in each column in Table 29 are the average of data for each business characteristics for the correlated ROA group.

The results of this study show that the most profitable greenhouse businesses are not necessarily the largest greenhouses. Moreover, the lowest cost is not necessarily the most profitable, either. In some cases, the "best" management position is somewhere near the middle or average. The top 20 percent ROA of *retail* greenhouses generally had average annual sales, low operating and overhead costs, high labor efficiency, no debt, and a high asset turnover ratio.

Table 28. Greenhouse Business Charts: 25 New York Retail Greenhouses, By Quintile, 2001[a]

	Greenhouse Area	Wks Operated / Year	Total SFW Operated / Year	Annual Sales	Sales / Ft^2
			Greenhouse Size and Sales[b]		
Top 20%[a]	50,464 ft^2	41 Wks	1,350,000 SFW	$ 638,741	$ 20.01
↓	36,470 ft^2	33 Wks	1,101,828 SFW	$ 417,196	$ 16.49
↓	24,528 ft^2	28 Wks	1,045,000 SFW	$ 358,248	$ 11.96
↓	7,180 ft^2	23 Wks	281,820 SFW	$ 188,935	$ 8.96
Bottom 20%	2,880 ft^2	9 Wks	37,140 SFW	$ 12,220	$ 4.24
			Profitability[b]		
	Net Income	**Net Income / ft^2**	**Net Income/SFW**	**Gross Margin**	**Profit Margin**
Top 20%[a]	$ 102,888	$ 2.42	$ 0.08	31%	14%
↓	$ 41,005	$ 1.07	$ 0.06	26%	8%
↓	$ 3,876	$ 0.54	$ 0.02	22%	2%
↓	- $ 8,264	- $ 0.34	- $ 0.01	14%	-7%
Bottom 20%	- $ 170,543	- $ 4.68	- $ 0.16	- 27%	-68%
			Cost Control[b]		
	Total Cost / ft^2	**Total Cost/SFW**	**Operating Expense as % Sales**	**Operating Expense/ SFW**	**Overhead Expense as % Sales**
Top 20%[a]	$ 7.97	$ 0.30	68%	$ 0.23	13%
↓	$ 10.28	$ 0.38	73%	$ 0.31	14%
↓	$ 14.23	$ 0.42	77%	$ 0.34	17%
↓	$ 18.93	$ 0.52	85%	$ 0.40	20%
Bottom 20%	$ 25.79	$ 1.05	127%	$ 0.94	118%
			Labor Efficiency[b]		
	# of Worker Equivalent	**Sales / Worker Equiv.**	**Net Income/ Worker Equiv.**	**GH Area/Worker Equivalent**	**Labor Costs as % of Sales**
Top 20%[a]	8.0	$ 105,769	$ 12,527	8,494 ft^2	10.5%
↓	5.9	$ 83,440	$ 7,179	5,520 ft^2	16.4%
↓	3.9	$ 62,605	$ 2,026	5,235 ft^2	25.3%
↓	2.1	$ 52,330	- $ 1,037	3,227 ft^2	30.6%
Bottom 20%	0.5	$ 23,422	- $ 39,721	2,701 ft^2	41.6%
			Return to Owner(s)/Operator(s)[b]		
	Net Income to Operator's Labor, Mgmt & Capital	**Net Income / Full-time Operator**	**Net Income / Operator Hour**	**GH ft^2 / Full-time Operator**	**GH SFW / Full-time Operator**
Top 20%[a]	$ 102,888	$ 110,926	$ 40.19	47,196 ft^2	1,286,402 SFW
↓	$ 41,005	$ 31,091	$ 11.27	27,700 ft^2	868,870 SFW
↓	$ 2,476	$ 4,115	$ 1.49	19,342 ft^2	659,706 SFW
↓	- $ 8,264	- $ 6,517	- $ 2.36	10,063 ft^2	405,116 SFW
Bottom 20%	- $ 170,543	- $ 170,543	$ 30.79	5,035 ft^2	44,568 SFW
			Capital Efficiency[b]		
	Return on Equity	**Return on Asset**	**Total Liability/ft^2**	**Total Asset/ft^2**	**Debt/Asset**
Top 20%[a]	24%	13%	$ 2.26	$ 26.56	18%
↓	11%	9%	$ 4.54	$ 15.05	20%
↓	6%	2%	$ 6.34	$ 12.57	36%
↓	-1%	-3%	$ 7.66	$ 8.57	53%
Bottom 20%	-91%	-83%	$ 43.76	$ 4.32	711%

[a] Each column is sorted independently. Therefore, numbers across the column do not correspond.

[b] The numbers are the minimum of data in the quintile when ranked from high to low, and the maximum of data in the quintile when ranked from low to high.

Table 29. Greenhouse Business Performance Comparisons: 25 NY Retail Greenhouses, By Rates of Return-on-Asset Quintile, 2001

Business by ROA	Operating Characteristics[b]							Sales[b]			
	GH Size	Wks Operated / Year	Total SFW Operated / Year	GH Area / Full-time Operator	GH SFW / Full-time Operator	# of Total FTE Worker Equiv.	GH Area / Worker Equiv.	Annual Sales	Sales / Ft^2	Sales / SFW	Sales / Worker Equiv.
Top 20%[a]	47,022 ft^2	29 weeks	1,309,964 SFW	39,373 ft^2	995,737 SFW	7.9	10,139 ft^2	$ 675,379	$ 15.10	$ 0.51	$ 115,707
2nd 20%[a]	41,748 ft^2	28 weeks	1,045,789 SFW	101,303 ft^2	3,604,183 SFW	4.6	9,810 ft^2	$ 432,462	$ 10.90	$ 0.41	$ 99,084
3rd 20%[a]	20,613 ft^2	26 weeks	753,164 SFW	16,686 ft^2	589,197 SFW	3.9	4,261 ft^2	$ 422,847	$ 18.90	$ 0.84	$ 79,453
4th 20%[a]	23,160 ft^2	39 weeks	924,056 SFW	20,118 ft^2	779,987 SFW	6.5	3,863 ft^2	$ 412,298	$ 17.90	$ 0.49	$ 70,721
Bottom 20%[a]	15,450 ft^2	32 weeks	512,123 SFW	17,372 ft^2	573,597 SFW	2.0	6,494 ft^2	$ 140,565	$ 7.10	$ 0.22	$ 48,961
All[a]	***30,688 ft^2***	***31 weeks***	***934,078 SFW***	***38,996 ft^2***	***1,288,990 SFW***	***5.2***	***7,115 ft^2***	***$ 432,877***	***$ 14.10***	***$ 0.50***	***$ 84,843***

Business by ROA	Cost Control[b]								
	Operating Exp. as % of Sales	Operating Exp. / Ft^2	Operating Exp. / SFW	Overhead Exp. as % of Sales	Overhead Exp. / Ft^2	Overhead Exp. / SFW	Total Costs/Ft^2	Total Costs/SFW	Hired Labor Exp. as % of Sales
Top 20%[a]	66%	$ 10.42	$ 0.34	14%	$ 2.20	$ 0.07	$ 12.70	$ 0.41	24%
2nd 20%[a]	68%	$ 7.69	$ 0.28	21%	$ 2.00	$ 0.09	$ 9.80	$ 0.37	23%
3rd 20%[a]	79%	$ 14.59	$ 0.67	18%	$ 3.80	$ 0.14	$ 18.40	$ 0.81	19%
4th 20%[a]	86%	$ 15.45	$ 0.42	17%	$ 3.00	$ 0.08	$ 19.10	$ 0.52	32%
Bottom 20%[a]	101%	$ 7.53	$ 0.23	57%	$ 3.30	$ 0.12	$ 12.30	$ 0.39	17%
All[a]	***79%***	***$ 11.1***	***$ 0.38***	***25%***	***$ 2.80***	***$ 0.10***	***$ 14.30***	***$ 0.49***	***23%***

Business by ROA	Profitability[b]								
	Gross Margin	Profit Margin	Net Income	Net Income / Ft^2	Net Income / SFW	Net Income to Operator's Labor, Mgmt & Capital	Net Income / Full-time Operator	Net Income / Operator Hour	Net Income / Worker Equiv.
Top 20%[a]	34%	20%	$ 124,080	$ 2.60	$ 0.10	$ 124,080	$ 109,278	$ 39.50	$ 30,427
2nd 20%[a]	32%	12%	$ 74,242	$ 1.70	$ 0.07	$ 73,542	$ 163,925	$ 59.30	$ 17,742
3rd 20%[a]	21%	3%	$ 15,650	$ 0.60	$ 0.03	$ 15,223	$ 12,460	$ 4.50	$ 2,870
4th 20%[a]	14%	-3%	- $ 11,307	- $ 0.50	- $ 0.01	- $ 11,774	- $ 8,546	- $ 3.10	- $ 1,306
Bottom 20%[a]	-1%	-54%	- $ 54,628	- $ 2.00	- $ 0.08	- $ 54,628	- $ 55,579	$ 0.70	- $ 15,565
All[a]	***21%***	***-3%***	***$ 35,520***	***$ 0.60***	***$ 0.03***	***$ 35,213***	***$ 48,366***	***$ 22.80***	***$ 8,308***

Business by ROA	Capital Efficiency (End of Year)[b]								
	ROA	ROE	Total Asset / Ft^2	Total Debt / Ft^2	Machinery Investment / Ft^2	Real Estate Investment / Ft^2	Percent of Equity	Debt/Asset Ratio	Debt/Equity Ratio
Top 20%[a]	25%	41%	$ 13.00	$ 5.10	$ 0.90	$ 9.20	65%	35%	68%
2nd 20%[a]	11%	261%	$ 12.00	$ 4.40	$ 1.70	$ 7.90	55%	45%	521%
3rd 20%[a]	3%	4%	$ 23.80	$ 3.90	$ 6.60	$ 12.40	81%	19%	27%
4th 20%[a]	-1%	1%	$ 29.60	$ 8.10	$ 1.70	$ 19.50	61%	39%	145%
Bottom 20%[a]	-48%	-33%	$ 12.30	$ 18.20	$ 0.60	$ 2.60	-165%	265%	25%
All[a]	***-1%***	***73%***	***$ 17.80***	***$ 7.70***	***$ 2.20***	***$ 10.20***	***4%***	***96%***	***189%***

[a] Each column is sorted according to rates of return on asset. Therefore, numbers across the column correspond to the quantile of rates of return on asset.
[b] The numbers are the averages of data in this quintile.

IV. BUSINESS SUMMARY FOR ALL SURVEYED WHOLESALE GREENHOUSES

A. Balance Sheets and Financial Standing Analysis: Wholesale Greenhouses

Table 30 shows the average balance sheet for the 20 wholesale greenhouse businesses that participated in the 2001 Greenhouse Business Summary Program. Tables 31 and 32 display average balance sheets for wholesalers by size and location. For more explanation on balance sheets see Section I.

Table 30. Average Business Balance Sheets for 20 New York Wholesale Greenhouse Operations[a], 2001 Fiscal Year

	Year Start	Year End
	Average[b]	
ASSETS		
Current Assets		
Cash/Checking/Savings	$ 62,301	$ 71,370
Accounts Receivable	106,576	72,508
Other Stock and Certificates	11,751	4,722
Wholesale Inventory	125,006	124,008
Retail Inventory	0	0
Inventory of Supplies	3,849	4,241
Prepaid Expenses	1,699	1,475
Other Current Assets	1,620	23
Total current assets	***$ 312,803***	***$ 278,347***
Intermediate Assets		
Equipment	95,164	86,754
Leased Equipment	6,126	874
Farm Credit Stock	462	354
Total intermediate assets	***$ 101,752***	***$ 87,982***
Long-Term Assets		
Land and Buildings	273,397	269,725
Leased Structures	3,499	0
Total long-term assets	***$ 276,896***	***$ 269,725***
TOTAL ASSETS	**$ 691,451**	**$ 636,055**

	Year Start	Year End
	Average[b]	
LIABILITIES		
Current Liabilities		
Accounts Payable	$ 10,559	$ 9,692
Operating Loan	44,507	51,332
Short-Term Debt	14,503	13,663
Total current liabilities	***$ 69,569***	***$ 74,687***
Intermediate Liabilities		
Intermediate Term	16,723	61,623
Farm Credit Stock	462	354
Leased Equipment	3,499	0
Total intermediate liabilities	***$ 20,683***	***$ 61,978***
Long-Term Liabilities		
Long-Term Debt	182,662	129,012
Leased Structures	6,126	0
Total-long term liabilities	***$ 188,788***	***$ 129,886***
TOTAL LIABILITIES	**$ 279,040**	**$ 265,676**
NET WORTH (OWNERS' EQUITY)	**$ 412,411**	**$ 370,378**

[a] Wholesale greenhouse operations are defined as having received more than 50 percent of total greenhouse receipts from wholesale transactions.

[b] Each measure is averaged independently and not weighted based on size of businesses.

Table 31. A Comparison of Average Business Balance Sheets for 20 New York Wholesale Greenhouse Operations, by Size[a], 2001 Fiscal Year

	Small Wholesale Operations (N=9)		Large Wholesale Operations (N=11)	
	Year Start	Year End	Year Start	Year End
	Average[b]		Average[b]	
ASSETS				
Current Assets				
Cash/Checking/Savings	$ 5,783	$ 11,213	$ 110,745	$ 122,934
Accounts Receivable	20,913	21,962	180,002	115,832
Other Stock/Certificates	876	876	21,073	8,019
Wholesale Inventory	20,410	19,343	214,660	213,722
Retail Inventory	0	0	0	0
Inventory of Supplies	6,274	7,124	1,770	1,770
Prepaid Expenses	531	662	2,700	2,172
Other Current Assets	50	50	2,967	0
Total current assets	***$ 54,836***	***$ 61,228***	***$ 533,917***	***$ 464,449***
Intermediate Assets				
Equipment	67,488	59,538	118,887	110,082
Leased Equipment	3,184	0	8,648	1,623
Farm Credit Stock	1,000	767	0	0
Total intermediate assets	***$ 71,673***	***$ 60,305***	***$ 127,535***	***$ 111,705***
Long-Term Assets				
Land and Buildings	143,198	135,157	384,996	385,070
Leased Structures	0	0	6,499	0
Total long-term assets	***$ 143,198***	***$ 135,157***	***$ 391,494***	***$ 385,070***
TOTAL ASSETS	**$ 269,706**	**$ 256,690**	**$1,052,946**	**$ 961,224**
LIABILITIES				
Current Liabilities				
Accounts Payable	13,668	15,643	7,894	4,590
Operating Loan	38,931	35,647	49,286	64,777
Short-Term Debts	10,314	6,720	18,094	19,613
Total current liabilities	***62,913***	***58,011***	***75,274***	***88,980***
Intermediate Liabilities				
Intermediate Term	26,512	27,720	8,332	90,683
Farm Credit Stock	1,000	767	0	0
Leased Equipment	0	0	6,499	0
Total intermediate liabilities	***27,511***	***28,487***	***14,831***	***90,683***
Long-Term Liabilities				
Long-Term Debt	132,384	133,294	225,756	125,343
Leased Structures	3,184	0	8,648	0
Total-long term liabilities	***135,569***	***133,294***	***234,404***	***125,342***
TOTAL LIABILITIES	**225,993**	**219,793**	**324,509**	**305,005**
NET WORTH (OWNERS' EQUITY)	**$ 43,713**	**$ 36,897**	**$ 728,438**	**$ 656,219**

[a] Small wholesale operation has less than 50,000 ft^2 of greenhouse area; large wholesale operation has more than 50,000 ft^2 of greenhouse area.

[b] Each measure is averaged independently and not weighted based on size of businesses.

Table 32. A Comparison of Average Business Balance Sheets for 20 New York Wholesale Greenhouse Operations, by Location[a], 2001 Fiscal Year

	WNY Wholesale Operations (N=9)		ENY Wholesale Operations (N=11)	
	Year Start Average[b]	Year End	Year Start Average[b]	Year End
ASSETS				
Current Assets				
Cash/Checking/Savings	$ 16,509	$ 21,596	$ 101,551	$ 114,034
Accounts Receivable	24,193	27,119	177,191	111,412
Other Stock/Certificates	9,857	9,857	13,374	320
Wholesale Inventory	47,076	47,409	191,803	189,665
Retail Inventory	0	0	0	0
Inventory of Supplies	828	1,678	6,438	6,438
Prepaid Expenses	0	0	3,155	2,740
Other Current Assets	0	0	3,009	43
Total current assets	***$ 98,464***	***$ 107,660***	***$ 496,521***	***$ 424,651***
Intermediate Assets				
Equipment	86,921	82,650	102,231	90,272
Leased Equipment	923	0	10,586	1,623
Farm Credit Stock	500	267	429	429
Total intermediate assets	***$ 88,344***	***$ 82,917***	***$ 113,245***	***$ 92,324***
Long-Term Assets				
Land and Buildings	150,902	156,777	378,392	366,539
Leased Structures	0	0	6,499	0
Total long-term assets	***$ 150,902***	***$ 156,777***	***$ 384,891***	***$ 366,539***
TOTAL ASSETS	**$ 337,710**	**$ 347,353**	**$ 994,657**	**$ 883,513**
LIABILITIES				
Current Liabilities				
Accounts Payable	4,589	4,784	15,676	13,898
Operating Loan	58,333	75,037	32,655	30,929
Short-Term Debts	5630	4,167	22,109	21,802
Total current liabilities	***$ 68,552***	***$ 84,088***	***$ 70,440***	***$ 66,628***
Intermediate Liabilities				
Intermediate Term	0	0	31,056	114,444
Farm Credit Stock	500	267	429	429
Leased Equipment	0	0	6449	0
Total intermediate liabilities	***$ 500***	***$ 267***	***$ 37,983***	***$ 114,873***
Long-Term Liabilities				
Long-Term Debt	78,801	95,807	271,685	157,474
Leased Structures	923	0	10,586	0
Total-long term liabilities	***$ 79,724***	***$ 95,807***	***$ 282,271***	***$ 157,474***
TOTAL LIABILITIES	**$ 148,776**	**$ 180,161**	**$ 390,695**	**$ 338,975**
NET WORTH (OWNERS' EQUITY)	**$ 188,934**	**$ 167,192**	**$ 603,963**	**$ 544,538**

[a] ENY operations are located in counties in Southeastern New York, the Hudson Valley and New York City/Long Island regions. WNY operations are located in the Central and Western New York regions.

[b] Each measure is averaged independently and not weighted based on size of businesses.

B. Solvency and Debt Ratio Analysis: Wholesale Greenhouses

The balance sheet analysis involves an examination of financial and debt ratios. These ratios reveal whether the business is maintaining a sound financial position and earning a satisfactory return. They measure the degree of liquidity, solvency, asset utilization, and financial structure exhibited by the business. Table 33 shows the balance sheet analysis including financial and debt ratios and measures of capital efficiency for retail and wholesale greenhouse businesses in 2001.

Large wholesale greenhouse operations had more net working capital and better ability to pay their current debts (higher average current ratios). ENY wholesale greenhouse operations also had an average higher net working capital than their WNY counterparts, and also higher current ratios. Wholesale greenhouses had a lower average real estate value per square foot ($5.99/ft^2) than retail greenhouses ($10.24/ft^2). See Section III for the business summary analysis for the participating retail greenhouse operations.

Table 33. Greenhouse Solvency and Debt Ratio Analysis for 20 New York Wholesale Operations by Size and Location, 2001 Fiscal Year

Item	All Wholesale Greenhouses (N=20)	Small Wholesale Greenhouses (N=9)	Large Wholesale Greenhouses (N=11)	WNY Wholesale Greenhouses (N=9)	ENY Wholesale Greenhouses (N=11)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Liquidity/Solvency					
Net Working Capital	$ 203,661	$ 3,217	$ 375,469	$123,572	$358,022
Current Ratio	1.80	1.11	2.50	0.88	2.42
Debt/Asset Ratio	62%	77%	50%	43%	79%
Debt/Equity Ratio	358%	724%	45%	160%	528%
Capital Efficiency					
Total Asset/ft^2	$ 12.03	$ 13.27	$ 10.97	$ 10.94	$ 12.97
Total Debt/ft^2	$ 5.26	$ 6.27	$ 4.40	$ 3.60	$ 6.68
Machinery Value/ft^2	$ 2.20	$ 2.97	$ 1.54	$ 2.19	$ 2.21
Real Estate Value/ft^2	$ 5.99	$ 8.26	$ 4.05	$ 6.39	$ 5.66
Percent Equity	38%	23%	50%	57%	21%

[a] Each measure is averaged independently and not weighted based on size of businesses.

C. Income and Expense Analysis: Wholesale Greenhouses

The income statement analysis reveals the success or failure of a greenhouse business over time as well as the costs and returns associated with the use of varying amounts of capital, credit and resources.

The Income Statement

The income statement, also called a profit and loss statement, is a summary of receipts less expenses during a specified period (usually a year) with net income or net loss as a result. It provides a

measure of return from business or the ability to meet financial obligations such as debt payments and other operating expenses during the year. Table 34 shows the average income statement for 20 wholesale greenhouse operations.

Table 34. Average Income Statement for 20 Wholesale Greenhouse Businesses, 2001

	Average Total Amount[a]	Average $ / ft²[a]	Average $ / SFW[a]	Average % of sales[a]
RECEIPTS				
Wholesale greenhouse crops	$ 740,894	$ 13.83	$ 0.346	96.2%
Retail greenhouse crops	9,092	0.20	0.006	2.2%
Other income	14,041	0.23	0.005	1.6%
TOTAL ACCRUAL INCOME (A)	***$ 764,027***	***$ 14.26***	***$ 0.358***	***100.0%***
EXPENSES				
Direct Variable Costs				
Hired Direct/Production Labor	221,610	3.48	0.074	22.1%
Seeds and Plants	151,154	2.93	0.073	20.2%
Fertilizer and Spray Chemicals	12,031	0.22	0.006	1.6%
Soil Mix Components	21,694	0.45	0.013	4.1%
Packaging Materials	45,843	0.85	0.023	5.9%
Hard Goods/Merchandise	9,281	0.18	0.004	1.2%
Total Accrual Direct Variable Costs (B)	**$ 461, 612**	**$ 8.11**	**$ 0.192**	**55.0%**
Indirect Variable Costs				
Advertising	16,007	0.17	0.003	1.0%
Heating Fuel	53,073	0.96	0.023	7.7%
Gas/Diesel	6,995	0.13	0.003	0.9%
Electricity	9,613	0.17	0.005	1.6%
Water/Sewage	728	0.01	0.000	0.1%
Telephone	4,370	0.08	0.002	0.5%
Trucking/Shipping (Freight)	16,507	0.31	0.008	2.0%
Greenhouse Tools and Misc. Supplies	2,442	0.04	0.001	0.3%
Sales Tax	329	0.01	0.000	0.1%
Total Accrual Indirect Variable Costs (C)	**$ 110,066**	**$ 1.89**	**$ 0.046**	**14.2%**
Total Accrual Variable Costs (D = B+C)	***$ 571,678***	***$ 10.00***	***$ 0.237***	***69.2%***
ACCRUAL GROSS MARGIN (A – D)	***$ 192,349***	***$ 4.26***	***$ 0.120***	***30.8%***
Overhead Costs				
Hired Indirect/Office Labor	24,309	0.39	0.008	2.0%
Interest	17,777	0.37	0.010	2.5%
Depreciation	25,979	0.66	0.022	4.7%
Insurance	20,121	0.38	0.009	2.4%
Repairs, Buildings	10,229	0.22	0.006	1.8%
Repairs, Equipment/Vehicles	13,379	0.20	0.005	1.4%
Property Taxes	5,714	0.13	0.003	1.0%
Lease/Rental	8,629	0.13	0.003	0.7%
Land Rent	10,720	0.25	0.005	1.8%
Office Supplies	5,315	0.10	0.003	0.6%
Professional Fees	4,194	0.09	0.002	0.5%
Education & Training	2,064	0.04	0.001	0.3%
Miscellaneous	27,535	0.11	0.010	2.8%
Total Accrual Fixed Expenses (E)	**$ 176,000**	**$ 3.39**	**$ 0.086**	**22.7%**
TOTAL ACCRUAL EXPENSES (F = D + E)	***$ 747,678***	***$ 13.39***	***$ 0.324***	***91.9%***
ACCRUAL NET INCOME (A – F)	***$ 16,348***	***$ 0.87***	***$ 0.034***	***8.1%***

[a] Each measure is averaged independently and not weighted based on size of businesses.

Receipt Analysis for Wholesale Greenhouse Operations

The wholesale greenhouses had average annual sales of $764,027 ($14.26/ft^2 or $0.368/SFW) and average annual accrual net income of $16,348 ($0.87/ft^2 or $0.034/SFW), with a profit margin of 8.1 percent. The accrual greenhouse receipts for the 20 wholesale greenhouse businesses are compared **by size** and **by location** in Table 35.

Total accrual annual income averaged $398,781 or $13.24/ft^2 for small wholesale greenhouses (<= 50,000 ft^2) and $1,077,094 or $15.14/ft^2 for large wholesale greenhouses (> 50,000 ft^2). Small wholesale greenhouses had a higher average sale of $0.413/SFW of operation, compared to large wholesale greenhouse operations' average of $0.310/SFW. Small wholesale greenhouses also had a shorter average operating season (34 weeks) compared to large wholesale greenhouses (49 weeks).

Total accrual annual income averaged $460,059 or $9.89/ft^2 for participating wholesale greenhouses located in WNY counties and $1,023,807 or $18.01/ft^2 for wholesale greenhouses located in ENY counties. WNY wholesale greenhouses had an average receipt of $0.282/SFW and operated an average of 39 weeks in 2001. ENY wholesale greenhouses had an average income of $0.422/SFW and operated an average of 45 weeks in 2001.

Table 35. Average Business Receipts for 20 New York Wholesale Greenhouses[a] By Size and Location, the 2001 Fiscal Year

	By Greenhouse Size			
	Small Wholesale Greenhouses (N=9)			
	Ave Total Amount	**Average $ / ft^2**	**Average $ / SFW**	**Average % of sales**
RECEIPTS				
Wholesale sales	$ 390,349	$ 12.99	$ 0.404	96.9%
Retail sales	7,879	0.23	0.009	3.0%
Other income	553	0.02	0.001	0.1%
Total Accrual income	***$ 398,781***	***$ 13.24***	***$ 0.413***	***100.0%***
	Large Wholesale Greenhouses (N=11)			
	Ave Total Amount	**Average $ / ft^2**	**Average $ / SFW**	**Average % of sales**
RECEIPTS				
Wholesale sales	$ 1,041,360	$ 14.55	$ 0.297	95.7%
Retail sales	10,132	0.17	0.003	1.4%
Other income	25,602	0.42	0.009	2.9%
Total Accrual income	***1,077,094***	***$ 15.14***	***$ 0.310***	***100.05***
	By Greenhouse Location			
	WNY Wholesale Greenhouse Businesses (N=9)			
	Ave Total Amount	**Average $ / ft^2**	**Average $ / SFW**	**Average % of sales**
RECEIPTS				
Wholesale sales	$ 420,059	$ 9.10	$ 0.265	92.6%
Retail sales	19,700	0.43	0.009	4.7%
Other income	21,191	0.36	0.008	2.8%
Total Accrual income	***$ 460,950***	***$ 9.89***	***$ 0.282***	***100.0%***
	ENY Wholesale Greenhouse Businesses (N=11)			
	Ave Total Amount	**Average $ / ft^2**	**Average $ / SFW**	**Average % of sales**
RECEIPTS				
Wholesale sales	$ 1,015,895	$ 17.88	$ 0.416	99.4%
Retail sales	0	0.00	0.003	0.0%
Other income	7,912	0.13	0.003	0.6%
Total Accrual income	***$ 1,023,807***	***$ 18.01***	***$ 0.422***	***100.0%***

[a] Each measure is averaged independently and not weighted based on size of businesses.

Expense Analysis for Wholesale Greenhouse Operations

In 2001, the 20 New York wholesale greenhouses had an average total business expense of $747,678, which is $13.39 per square foot (or $0.324 per SFW of operation) and 91.9 percent of sales. The highest cost item was hired direct labor, which is $ 0.074 per SFW and equals 22.1 percent of sales. The second highest expense item was seeds and plants, which totaled $0.073 per SFW or 20.2 percent of sales. The accrual business expenses for the 20 wholesale greenhouse businesses are compared **by size** in Table 36 and **by location** in Table 37.

Total accrual business expenses averaged $368,071 ($11.73 per ft^2 or $0.346 per SFW) for small wholesale greenhouses (≤ 50,000 ft^2), which is 83.7 percent of total sales. The highest cost item for small wholesale greenhouse operations was seeds and plants (19.9 percent of sales), followed by hired direct labor (13.6 percent of sales) and heating costs (8.1 percent of sales). Large wholesale greenhouse operations (> 50,000 ft^2) had average total business expenses of $1,073,056 ($14.83 per ft^2 or $0.304 per SFW), which is 98.9 percent of total sales. The highest cost item for large wholesale greenhouse operations was hired direct labor (29.3 percent of sales), followed by seeds and plants (20.5 percent of sales) and heating costs (7.4 percent of sales).

Total accrual business expenses averaged $446,835 ($9.27/ft^2 or $0.251/SFW) for WNY wholesale greenhouses, which equals 88.5 percent of total sales. The highest cost item for WNY wholesale greenhouse operations was the cost of seeds and plants (21.0 percent of sales), followed by hired direct labor (15.7 percent of sales) and heating costs (10.8 percent of sales). ENY wholesale greenhouses had a much higher average business expense of $1,005,544 ($16.93/ft^2 or $0.386/SFW), which is 94.8 percent of total sales. The highest cost item for ENY wholesale greenhouses was hired labor (27.6 percent of sales), followed by seeds and plants (19.5 percent of sales).

WNY wholesale greenhouse businesses had a higher average percentage of heating costs (10.8 percent of sales), compared to 5.1 percent of sales for ENY wholesale greenhouse operations. On the other hand, the ENY wholesale greenhouse businesses had much higher freight costs (2.4 percent of sales or $0.46/$ft^2$) and hired indirect/office labor costs (3.1 percent of $0.64/ft2), compared to WNY's 1.6 percent of sales or $0.15/$ft^2$ for freight costs and 0.9 percent or $0.10/$ft^2$ for hired indirect/office labor costs.

Table 36. Average Business Expenses for 20 New York Wholesale Greenhouse Businesses[a], By Size, 2001

	Small Wholesale Greenhouses (N=9)				Large Wholesale Greenhouses (N=11)			
	Ave Total	Ave $/ft^2	Ave $/SFW	Ave % Sales	Ave Total	Ave $/ft^2	Ave $/SFW	Ave % Sales
Direct Variable Costs								
Direct/Production Labor	$ 81,134	$ 2.23	$ 0.052	13.6%	$ 341,863	$ 4.55	$ 0.0092	29.3%
Seeds and Plants	88,870	2.88	0.086	19.9%	204,540	2.97	0.0062	20.5%
Fertilizer and Spray Chemicals	5,242	0.18	0.006	1.4%	17,850	0.26	0.005	1.7%
Soil Mix Components	11,677	0.48	0.018	5.3%	30,281	0.43	0.009	3.0%
Packaging Materials	27,236	0.89	0.029	6.1%	61,792	0.81	0.017	5.7%
Hard Goods/Merchandise	5,335	0.14	0.003	0.7%	12,663	0.22	0.004	1.7%
Total Accrual Direct Variable Costs (A)	***$ 219,674***	***6.80***	***$ 0.194***	***47.1%***	***$ 668,988***	***$ 9.24***	***$ 0.190***	***61.9%***
Indirect Variable Costs								
Advertising	$ 288	$ 0.01	$ 0.001	0.1%	$ 29,480	$ 0.30	$ 0.006	1.8%
Heating Fuel	30,164	0.92	0.026	8.1%	72,709	1.00	0.021	7.4%
Gas/Diesel	4,257	0.10	0.003	0.6%	9,342	0.14	0.003	1.1%
Electricity	3,388	0.13	0.005	1.4%	14,949	0.21	0.005	1.6%
Water/Sewage	683	0.02	0.001	0.1%	767	0.01	0.000	0.1%
Telephone	2,037	0.06	0.002	0.4%	6,371	0.09	0.002	0.6%
Trucking/Shipping (Freight)	11,337	0.38	0.011	2.5%	20,939	0.26	0.005	1.6%
Greenhouse Tools and Other Supplies	1,297	0.03	0.001	0.3%	3,424	0.05	0.001	0.3%
Sales Tax	733	0.02	0.001	0.2%	-17	0.00	0.000	0.0%
Total Accrual Indirect Variable Costs (B)	***$ 54,185***	***$ 1.68***	***$ 0.049***	***13.8%***	***$ 826,952***	***$ 2.06***	***$ 0.043***	***14.5%***
Overhead Costs								
Indirect/Office Labor	$ 5,524	$ 0.17	$ 0.003	0.9%	$ 40,410	$ 0.57	$ 0.011	3.0%
Interest	15,660	0.47	0.015	3.1%	19,592	0.28	0.006	2.1%
Depreciation	22,855	0.92	0.038	6.7%	28,656	0.44	0.009	3.1%
Insurance	11,915	0.36	0.009	2.3%	27,156	0.41	0.008	2.5%
Repairs, Buildings	6,676	0.26	0.009	2.2%	13,274	0.18	0.004	1.4%
Repairs, Equipment/Vehicles	2,974	0.09	0.003	1.0%	22,298	0.30	0.006	1.8%
Property Taxes	3,537	0.12	0.004	1.1%	7,579	0.13	0.003	1.0%
Lease/Rental	3,184	0.09	0.002	0.4%	13,295	0.16	0.003	1.0%
Land Rent	11,960	0.39	0.008	2.7%	9,657	0.13	0.003	1.0%
Office Supplies	2,237	0.08	0.003	0.5%	3,020	0.11	0.002	0.7%
Professional Fees	2,919	0.09	0.002	0.6%	5,288	0.08	0.002	0.5%
Education & Training	511	0.03	0.001	0.2%	3,396	0.05	0.001	0.4%
Miscellaneous	4,261	0.16	0.006	1.2%	47,484	0.68	0.014	4.2%
Total Accrual Fixed Expenses (C)	***$ 94,212***	***$ 3.24***	***$ 0.103***	***22.8%***	***$ 246,104***	***$ 3.52***	***$ 0.072***	***22.6%***
Total Accrual Expenses (D=A+B+C)	***$ 368,071***	***$ 11.73***	***$ 0.346***	***83.7%***	***$1,073,056***	***$ 14.83***	***$ 0.304***	***98.9%***

[a] Each measure is averaged independently and not weighted based on size of businesses.

Table 37. Average Business Expenses for 20 New York Wholesale Greenhouse Businesses,[a] By Location, 2001

	WNY Wholesale Greenhouses (N=9)				ENY Wholesale Greenhouses (N=11)			
	Ave Total	Ave $/ft^2	Ave $/SFW	Ave % Sales	Ave Total	Ave $/ft^2	Ave $/SFW	Ave % Sales
Direct Variable Costs								
Direct/Production Labor	$ 90,076	$ 1.76	$ 0.055	15.7%	$ 334,353	$ 4.96	$ 0.089	27.6%
Seeds and Plants	108,856	2.23	0.055	21.0%	187,409	3.53	0.088	19.5%
Fertilizer and Spray Chemicals	8,554	0.18	0.005	1.8%	15,011	0.26	0.006	1.5%
Soil Mix Components	16,978	0.44	0.013	5.6%	25,737	0.47	0.013	2.8%
Packaging Materials	28,850	0.58	0.016	5.5%	60,408	1.07	0.029	6.2%
Hard Goods/Merchandise	14,570	0.25	0.002	2.0%	4,748	0.12	0.005	0.6%
Total Accrual Direct Variable Costs (A)	***$ 267,884***	***$ 5.43***	***$ 0.146***	***51.4%***	***$ 627,665***	***$ 10.41***	***$ 0.231***	***58.1%***
Indirect Variable Costs								
Advertising	$ 694	$ 0.01	$ 0.002	0.1%	$ 29,132	$ 0.30	$ 0.005	1.8%
Heating Fuel	51,283	1.13	0.024	10.8%	54,607	0.82	0.023	5.1%
Gas/Diesel	6,470	0.11	0.002	1.0%	7,446	0.14	0.003	0.8%
Electricity	11,534	0.24	0.006	2.5%	7,967	0.11	0.004	0.7%
Water/Sewage	355	0.01	0.000	0.1%	1,049	0.02	0.001	0.1%
Telephone	2,427	0.05	0.001	0.4%	6,036	0.11	0.002	0.6%
Trucking/Shipping (Freight)	6,232	0.15	0.004	1.6%	25,315	0.46	0.011	2.4%
Greenhouse Tools and Other Supplies	1,150	0.03	0.002	0.3%	3,549	0.06	0.000	0.3%
Sales Tax	572	0.01	0.001	0.2%	121	2.02	0.000	0.0%
Total Accrual Indirect Variable Costs (B)	***$ 80,719***	***$ 1.73***	***$ 0.042***	***16.9%***	***$ 135,220***	***$ 12.43***	***$ 0.049***	***11.8%***
Overhead Costs								
Indirect/Office Labor	$ 4,129	$ 0.10	$ 0.006	0.9%	$ 41,606	$ 0.64	$ 0.008	3.1%
Interest	10,459	0.21	0.005	1.8%	24,050	0.51	0.014	3.1%
Depreciation	20,740	0.43	0.012	4.3%	30,468	0.85	0.032	5.1%
Insurance	7,539	0.17	0.006	1.7%	30,906	0.57	0.011	3.0%
Repairs, Buildings	7,432	0.18	0.005	2.0%	12,626	0.25	0.007	1.5%
Repairs, Equipment/Vehicles	4,980	0.11	0.005	1.3%	20,579	0.29	0.004	1.6%
Property Taxes	6,215	0.14	0.003	1.4%	5,284	0.11	0.004	0.7%
Lease/Rental	923	0.02	0.001	0.1%	15,233	0.22	0.004	1.2%
Land Rent	10,922	0.29	0.004	2.7%	10,546	0.22	0.006	1.0%
Office Supplies	3,015	0.06	0.002	0.5%	7,353	0.13	0.003	0.7%
Professional Fees	1,738	0.04	0.002	0.4%	6,300	0.13	0.002	0.6%
Education & Training	2,019	0.04	0.001	0.3%	2,042	0.05	0.001	0.3%
Miscellaneous	18,049	0.33	0.012	2.7%	35,666	0.54	0.009	2.9%
Total Accrual Fixed Expenses (C)	***$ 98,232***	***$ 2.11***	***$ 0.063***	***20.2%***	***$ 242,659***	***$ 4.50***	***$ 0.106***	***24.8%***
Total Accrual Expenses (D=A+B+C)	***$ 446,835***	***$ 9.27***	***$ 0.251***	***88.5%***	***$ 1,005,544***	***$ 16.93***	***$ 0.386***	***94.8%***

[a] Each measure is averaged independently and not weighted based on size of businesses.

Net Business Income Analysis for Wholesale Greenhouse Operations

Table 38 presents the net greenhouse income analysis for participating wholesale greenhouse operations by size and geographic location.

The participating New York wholesale greenhouse operations had an average net income of $16,348 and an average profit margin of 8.1 percent (Table 22). In 2001, the participating small wholesale greenhouses had a higher profit margin (16.3 percent) than the large wholesale greenhouses, and the participating wholesale greenhouses located in WNY New York counties had a higher average profit margin (11.5 percent) than the ENY wholesale operations (5.2 percent).

Table 38. Net Business Income Analysis for 20 New York Wholesale Greenhouse Businesses, by Size and Location, 2001

Item	All Wholesale Greenhouses (N=20)	Small Wholesale Greenhouses (N=9)	Large Wholesale Greenhouses (N=11)	WNY Wholesale Greenhouses (N=9)	ENY Wholesale Greenhouses (N=11)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Net Income ($)	$16,348	$30,710	$4,038	$14,155	$18,263
Net Income per ft^2	$0.87	$1.51	$0.31	$0.62	$1.08
Net Income per SFW	$0.034	$0.067	$0.006	$0.032	$0.036
% Gross Margin	30.8%	39.1%	23.6%	31.7%	30.0%
% Profit Margin	8.1%	16.3%	1.1%	5.2%	11.5%

[a] Each measure is averaged independently and not weighted based on size of businesses.

D. Profitability: Return to Labor, Management and Capital Wholesale Greenhouse Businesses

Net business income in the previous section is the return to the greenhouse operator(s) and other unpaid family members for their labor, management and equity capital. **Return to owners/ operators' labor, management and equity capital** is evaluated by deducting a charge for unpaid family labor (at $7 per hour) from net income. Owners/operators' labor is not included in unpaid family labor. **Labor and management income per operator** measures the return to the equivalent of one full-time operator's labor and management (2,750 hours/year).

Table 39 presents owners/operators' labor and management efficiency and return measures for the participating wholesale greenhouses by size and location. Wholesale greenhouse operators managed a bigger average greenhouse area per full-time operator equivalent (49,759 ft^2 or 2,301.096 SFW) compared to their retail operation counterparts (38,871 ft^2 or 1,283,316 SFW).

Table 39. Efficiency and Return of Operators' Labor, Management and Equity Capital for Wholesale Greenhouse Businesses, by Size and Location, 2001

Item	All Wholesale Greenhouses (N=20)	Small Wholesale Greenhouses (N=9)	Large Wholesale Greenhouses (N=11)	WNY Wholesale Greenhouses (N=9)	ENY Wholesale Greenhouses (N=11)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Net Greenhouse Income	$ 16,348	$ 30,710	$4,038	$14,115	$18,263
Total Return to Operators' Labor, Management & Equity	$ 15,735	$ 29,380	$4,038	$ 12,855	$18,203
Total Labor & Management Income per Full-time Operator	$ 24,011	$28,109	$ 20,498	$ 13,440	$33,071
Labor & Management Income per Operator Hour	$ 8.70	$10.18	$ 7.43	$4.87	$11.98
Number of Operator(s)	1.2	1.3	1.1	0.9	1.5
GH ft^2 Area per Full-time Operator	49,759 ft^2	20,324 ft^2	74,989 ft^2	46,335 ft^2	52,693 ft^2
GH SFW per Full-time Operator	2,301,096 SFW	708,270 SFW	3,666,376 SFW	1,958,018 SFW	2,595,163 SFW

[a] Each measure is averaged independently and not weighted based on size of businesses.

E. Cash Flow Summary: Wholesale Greenhouses

The Cash Flow Statement

An annual cash flow statement explains the changes that took place in balance sheet accounts during the year. The statement of cash flow shows the movement of cash within the business. In most businesses, this information is relevant regarding the business's activities — where did they get their money and where did it go? This statement is also called the statement of changes in financial position.

The cash flow statement is also used to double-check correctness of accounting practices. By definition, total cash inflows must equal total cash outflows when beginning and ending account changes are included. Any cash imbalance is, therefore, an error from incorrect accounting of cash inflows and outflows. Our goal in the Cornell Greenhouse Business Analysis Program is to have a cash imbalance of less than 1% of the total business cash flow.

Table 40. Average Annual Cash Flow for 20 New York Wholesale Greenhouses, by Size and Location, 2001 Fiscal Year

	All	By Size		By Location	
	Wholesale Greenhouses (N=20)	Small Wholesale Greenhouses (N=9)	Large Wholesale Greenhouses (N=11)	WNY Wholesale Greenhouses (N=9)	ENY Wholesale Greenhouses (N=11)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Cash Flow From Operations					
Cash Farm Receipts	$ 800,642	$ 402,155	$ 1,142,202	$ 457,691	$ 1,094,600
Less: Cash Farm Expenses	722,736	344,222	1,047,176	426,750	976,438
Cash Farm Income	**77,906**	**57,933**	**95,026**	**30,941**	**118,162**
Owner's Withdrawals	54,583	49,200	59,196	40,815	66,384
Less: Non-Farm Cash Transfer	11,550	10,224	12,666	5,833	16,449
Net Cash Withdrawals	**43,033**	**38,976**	**45,511**	**34,982**	**49,934**
Net Provided From Operations	***34,873***	***18,957***	***48,515***	***-4,040***	***68,228***
Cash Flow From Investing					
Inflow from Sale of Assets					
Machinery	1,423	3,083	0	0	2,643
Land & Buildings	0	0	0	0	0
Subtotal	**1,423**	**3,083**	**0**	**0**	**2,643**
Outflow from Capital Purchases					
Machinery	9,707	6,883	12,128	10,383	9,128
Land & Buildings	5,598	3,031	7,798	11,962	143
Subtotal	**15,305**	**9,914**	**19,925**	**22,345**	**9,271**
Net Provided From Investing	***-13,882***	***-6,831***	***19,925***	***-22,345***	***-6,628***
Cash Flow From Financing					
Inflow From Financing					
Long Term	19,538	19,167	19,857	29,167	11,286
Intermediate Term	51,538	7,333	89,429	0	95,714
Short Term	692	0	1,519	0	1,286
Increase in Operating Debt	10,832	2,064	18,348	16,803	5,714
Subtotal	**82,602**	**28,564**	**129,153**	**45,970**	**114,000**
Outflow From Financing					
Principal-Long Term	73,187	18,257	120,271	12,160	125,497
Principal-Intermediate Term	6,637	6,124	7,077	0	12,326
Principal-Short Term	1,533	3,594	0	1,463	1,593
Decrease in Operating Debt	4,007	5,348	2,857	0	7,441
Subtotal	**85,364**	**33,322**	**130,205**	**13,623**	**146,857**
Net Provided From Financing	***-2,763***	***-4,758***	***-1,053***	***32,347***	***-32,857***
Cash Flow From Reserves					
Beginning Balance of Cash/Checking/Savings	62,301	5,783	110,745	16,509	101,551
Less: Ending Balance of Cash/Checking/Savings	71,370	11,213	122,934	21,596	114,034
Net Provided From Reserves	***-9,069***	***-5,429***	***-12,189***	***-5,087***	***-12,483***
IMBALANCE CHECK	**$ 9,159**	**$ 1,939**	**$ 15,348**	**$ 875**	**$ 16,260**

[a] Each measure is averaged independently and not weighted based on size of businesses.

F. Operating Efficiency Analysis: Wholesale Greenhouse Operations

In addition to general financial statements and ratios, there are other useful measures that would be helpful to managers in a certain industry to evaluate and improve their operating efficiency.

Cost Efficiency Measures

Production and cost efficiency measures are indicators of the company's success in managing greenhouse operations and controlling costs (Table 41).

Table 41. Cost Efficiency Measures for 20 New York Wholesale Greenhouse Businesses, by Size and Location, 2001 Fiscal Year

Item	All Wholesale Greenhouses (N=20)	Small Wholesale Greenhouses (N=9)	Large Wholesale Greenhouses (N=11)	WNY Wholesale Greenhouses (N=9)	ENY Wholesale Greenhouses (N=11)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Sales per ft^2 GH Area	$ 14.00	$13.20	$14.70	$17.90	$9.50
Operating Costs as % of Sales	69.2%	60.9%	76.4%	70.0%	68.3%
- Operating Costs/ft^2	$9.80	$8.50	$11.00	$12.35	$6.88
- Operating Expenses/SFW	$0.23	$0.24	$0.23	$0.28	$0.17
Overhead Costs as % of Sales	23.1%	22.8%	23.4%	25.0%	20.9%
- Overhead Costs/ft^2	$3.39	$3.24	$3.52	$4.50	$2.11
- Overhead Costs/SFW	$0.09	$0.10	$0.07	$0.12	$0.05
Total Costs/ft^2	$13.39	$11.73	$14.83	$16.93	$9.27
Average Total Costs/SFW	$0.32	$0.35	$0.30	$0.40	$0.23
- Average Total Costs/SFW during no heating months	$0.30	$0.32	$0.28	$0.38	$0.20
- Average Total Costs/SFW during heating months	$0.34	$0.35	$0.33	$0.43	$0.24

[a] Each measure is averaged independently and not weighted based on size of businesses.

Labor Efficiency Measures

In order to compare the amount of labor that goes into greenhouse production, we must translate ALL labor hours, including unpaid family labor and operator's labor, in each greenhouse operation to the number of full-time persons working in the operation. In this study, a full-time worker equivalent in a greenhouse operation is defined as 55 hours a week for 50 weeks (or 2,750 hours) a year. Sales and net income per worker equivalent are indirect measures of how well labor is used to generate sales and net income. Square feet greenhouse area per worker equivalent is a measure of labor efficiency (Table 42).

Table 42. Labor Efficiency Measures for Wholesale Greenhouse Businesses, by Size and Location, 2001 Fiscal Year

Item	Wholesale Greenhouses				
	All Wholesale Greenhouses (N=20)	Small Wholesale Greenhouses (N=9)	Large Wholesale Greenhouses (N=11)	WNY Wholesale Greenhouses (N=10)	ENY Wholesale Greenhouses (N=10)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Total FTE Worker Equiv.	8.9	4.0	12.0	3.9	13.1
GH ft^2 Area per Worker Equiv.	8,502 ft^2	9,561 ft^2	7,594 ft^2	11,661 ft^2	5,794 ft^2
Sales per Worker Equiv.	$101,981	$103,841	$100,388	$105,875	$98,644
Net Income per Worker Equiv.	$8,065	$16,112	$1,168	$8,007	$8,115
Hired Labor Cost as % of Sales	24.1%	14.6%	32.3%	17%	31%

[a] Each measure is averaged independently and not weighted based on size of businesses.

Asset Utilization Analysis

Asset utilization measures reflect the way in which a company uses its assets to obtain revenue and profit. Average Collection Period is the average length of time it takes to collect receivables. It represents the number of days a receivable is held. Average Age of Inventory explains how many days, on average, an item remains in inventory. Inventory Turnover reveals how many times a year the inventory is turned over. Asset Turnover Ratio illustrates how efficiently a company employs its assets to obtain sales revenue. This ratio shows how many dollars are generated in sales revenue per dollar invested in assets.

Table 43 shows the average asset utilization measures for the wholesale greenhouses in the 2001 business summary.

Table 43. Asset Utilization Measures for 20 New York Wholesale Greenhouse Businesses, by Size and Location, 2001 Fiscal Year

Item	Wholesale Greenhouses				
	All Wholesale Greenhouses (N=20)	Small Wholesale Greenhouses (N=9)	Large Wholesale Greenhouses (N=11)	WNY Wholesale Greenhouses (N=10)	ENY Wholesale Greenhouses (N=10)
	Average[a]	Average[a]	Average[a]	Average[a]	Average[a]
Average Collection Period	41.7 days	31.1 days	45.2 days	46.3 days	34.0 days
Average Age of Inventory	55.1 days	30.4 days	76.3 days	60.4 days	49.0 days
Inventory Turnover	7.3 time	10.5 times	5.2 times	7.5 times	7.0 times
Asset Turnover Ratio	1.9	1.7	2.0	2.1	1.6

[a] Each measure is averaged independently and not weighted based on size of businesses.

G. Wholesale Greenhouse Business Performance Benchmarks

Business benchmarking for an industry establishes a specific measure of standards for a business to compare its financial position and performance with other similar businesses in the industry. It also allows business analysts to compare one industry to another. This report presents the wholesale greenhouse financial benchmarks in two ways: by greenhouse business charts and by financial performance benchmarks (rate of return on assets).

Wholesale Greenhouse Business Charts

The Greenhouse Business Chart is a tool which can be used by individual businesses to see where they fall in each performance measure by drawing a line through the figure in each column of the chart to represent a level of management performance. Table 44 presents the wholesale greenhouse business charts derived from the Cornell Greenhouse Business Analysis program. The business chart data are divided into quintiles representing the top 20%, second 20%, etc. to the bottom 20% of each measure. Again, the figures presented are the **minimum** of data in each quintile of a business factor when the measure is ranked from high to low, and the **maximum** of data in each quintile when the measure is ranked from low to high. It should be noted that **each column of the chart is sorted independently of the others**. Therefore, businesses in a quintile (i.e. top 20%) level for one factor may **not** necessarily be the same businesses which make up the same quintile level for any other factors.

Business characteristic factors, production rates, and profitability measures are ranked from high to low. The cost control factors are ranked from low to high, but the lowest cost group is not necessarily the most profitable. Many things affect the level of costs and must be taken into consideration when analyzing the factors.

Industry Performance Benchmarks for Wholesale Greenhouse Businesses

This section compares selected business characteristics of the participating wholesale greenhouse operations by their rates of return on assets (ROA) in 2001 fiscal year. Table 45 presents these comparisons. It should be noted that businesses are sorted by their return on assets in 2001 fiscal year and divided into quintiles representing groups with top 20%, second 20%, etc. to the bottom 20% of return on assets. Different from Table 44, the figures in each column in Table 45 are the **average** of data for each business characteristics for the correlated ROA group.

The results of this study show that the most profitable greenhouse businesses are not necessarily the largest greenhouses. Moreover, the lowest cost is not necessarily the most profitable, either. In some cases, the "best" management position is somewhere near the middle or average.

The top 20 percent ROA of wholesale greenhouses generally had higher annual sales, lower operating costs, higher sales per full-time worker equivalent, lower debt-to-asset ratio, and higher asset turnover ratio.

Table 44. Greenhouse Business Charts: 20 Wholesale Greenhouses, By Quintile, 2001

	Greenhouse Area	Wks Operated / Year	Total SFW Operated / Year	Annual Sales	Sales / Ft^2
			Greenhouse Size and Sales[b]		
Top 20%[b]	68,816 ft^2	52 weeks	3,578,432 SFW	$ 1,374,516	$ 19.97
↓	58,000 ft^2	48 weeks	2,517,456 SFW	$ 709,253	$ 14.96
↓	45,900 ft^2	43 weeks	1,954,800 SFW	$ 685,056	$ 12.23
↓	34,567 ft^2	42 weeks	1,148,400 SFW	$ 349,932	$ 10.63
Bottom 20%	5,976 ft^2	18 weeks	131,472 SFW	$ 25,513	$ 4.27
			Profitability[b]		
	Net Income	**Net Income / ft^2**	**Net Income/SFW**	**Gross Margin**	**Profit Margin**
Top 20%[b]	$ 76,243	$ 2.11	$ 0.07	40.3%	21.8%
↓	$ 31,908	$ 1.44	$ 0.03	28.8%	5.7%
↓	$ 9,947	$ 0.13	$ 0.00	27.1%	1.1%
↓	$ 4,488	$ 0.08	$ 0.00	23.2%	0.6%
Bottom 20%	- $ 281,016	- $ 2.33	- $ 0.05	2.0%	-15.6%
			Cost Control[b]		
	Total Cost / ft^2	**Total Cost/SFW**	**Operating Expense as % Sales**	**Operating Expense/ SFW**	**Overhead Expense as % Sales**
Top 20%[a]	$ 10.14	$ 0.23	60%	$ 0.18	18%
↓	$ 11.85	$ 0.26	67%	$ 0.21	19%
↓	$ 13.20	$ 0.33	71%	$ 0.22	23%
↓	$ 17.29	$ 0.35	77%	$ 0.25	28%
Bottom 20%	$ 23.98	$ 0.69	98%	$ 0.40	32%
			Labor Efficiency[b]		
	# of Worker Equivalent	**Sales / Worker Equiv.**	**Net Income/ Worker Equiv.**	**GH Area/Worker Equivalent**	**Labor Costs as % of Sales**
Top 20%[a]	16.5	$ 142,788	$ 15,829	12,892 ft^2	14.7%
↓	6.9	$ 92,921	$ 5,280	8,502 ft^2	20.4%
↓	4.8	$ 86,734	$ 1,593	7,918 ft^2	22.6%
↓	4.4	$ 80,337	$ 506	4,166 ft^2	36.5%
Bottom 20%	0.3	$ 55,317	- $ 8,616	3,667 ft^2	44.3%
			Return to Owner(s)/Operator(s)[b]		
	Net Income to Operator's Labor, Mgmt & Capital	**Net Income / Full-time Operator**	**Net Income / Operator Hour**	**GH Area / Full-time Operator**	**GH SFW / Full-time Operator**
Top 20%[a]	$ 68,683	$ 58,264	$ 21.11	90,964 ft^2	4,730,111 SFW
↓	$ 31,908	$ 35,226	$ 12.76	64,032 ft^2	3,158,263 SFW
↓	$ 6,947	$ 8,716	$ 3.16	22,182 ft^2	1,015892 SFW
↓	$ 4,488	$ 1,656	$ 0.60	21,114 ft^2	899,208 SFW
Bottom 20%	- $ 281,032	- $ 256,837	- $ 93.06	15,146 ft^2	275,735 SFW
			Capital Efficiency[b]		
	Return on Equity	**Return on Asset**	**Total Liability/ft^2**	**Total Asset/ft^2**	**Debt/Asset**
Top 20%[a]	48.4%	30.1%	$ 1.21	$ 22.18	15%
↓	12.5%	12.2%	$ 1.59	$ 9.47	23%
↓	3.7%	1.7%	$ 4.97	$ 7.36	30%
↓	-2.6%	-1.2%	$ 7.62	$ 5.83	244%
Bottom 20%	-22.2%	-6.4%	$ 17.27	$ 2.10	438%

[a] Each column is sorted independently. Therefore, numbers across the column do not correspond.

[b] The numbers are the minimum of data in the quintile when ranked from high to low, and the maximum of data in the quintile when ranked from low to high.

Table 45. Greenhouse Business Performance Comparisons: 20 Wholesale Greenhouses, By Return-on-Asset Quintile, 2001

Business by ROA	Operating Characteristics[b]							Sales[b]			
	GH Size	Wks Operated / Year	Total SFW Operated / Year	GH Area / Full-time Operator	GH SFW / Full-time Operator	# of Total FTE Worker Equiv.	GH Area / Worker Equiv.	Annual Sales	Sales / Ft^2	Sales / SFW	Sales / Worker Equiv.
Top 20%[a]	59,527 ft^2	43 weeks	2,735,955 SFW	66,447 ft^2	3,215,582 SFW	12.9	5,543 ft^2	$ 1,040,083	$ 16.30	$ 0.37	$ 78,727
2nd 20%[a]	34,972 ft^2	41 weeks	1,679,423 SFW	33,028 ft^2	1,543,564 SFW	5.8	7,585 ft^2	$ 595,380	$ 17.90	$ 0.54	$ 123,108
3rd 20%[a]	25,938 ft^2	32 weeks	1,043,136 SFW	20,392 ft^2	663,393 SFW	3.1	12,640 ft^2	$ 358,152	$ 9.70	$ 0.27	$ 96,642
4th 20%[a]	58,938 ft^2	46 weeks	2,651,777 SFW	47,342 ft^2	2,089,354 SFW	6.6	9,985 ft^2	$ 695,751	$ 12.00	$ 0.26	$ 114,761
Bottom 20%[a]	68,096 ft^2	46 weeks	3,232,369 SFW	68,563 ft^2	3,224,592 SFW	13.3	8,631 ft^2	$ 911,874	$ 12.20	$ 0.26	$ 99,149
All[a]	***50,474 ft^2***	***42 weeks***	***2,333,313 SFW***	***49,198 ft^2***	***2,265,901 SFW***	***8.9***	***8,502 ft^2***	***$ 749,986***	***$ 14.00***	***$ 0.35***	***$ 101,981***

Business by ROA	Cost Control[b]								
	Operating Exp. as % of Sales	Operating Exp. / Ft^2	Operating Exp. / SFW	Overhead Exp. as % of Sales	Overhead Exp. / Ft^2	Overhead Exp. / SFW	Total Costs/Ft^2	Total Costs/SFW	Labor Exp. as % of Sales
Top 20%[a]	63%	$ 10.10	$ 0.23	23%	$ 4.20	$ 0.09	$ 14.4	$ 0.32	32%
2nd 20%[a]	65%	$ 11.70	$ 0.31	24%	$ 4.30	$ 0.15	$ 16.1	$ 0.46	18%
3rd 20%[a]	55%	$ 6.20	$ 0.16	20%	$ 2.40	$ 0.06	$ 8.5	$ 0.22	11%
4th 20%[a]	79%	$ 9.40	$ 0.21	21%	$ 2.50	$ 0.05	$ 12.0	$ 0.26	30%
Bottom 20%[a]	83%	$ 10.30	$ 0.22	26%	$ 3.00	$ 0.07	$ 13.8	$ 0.30	28%
All[a]	***69%***	***$ 9.80***	***$ 0.23***	***23%***	***$ 3.40***	***$ 0.09***	***$ 13.4***	***$ 0.32***	***24%***

Business by ROA	Profitability[b]								
	Gross Margin	Profit Margin	Net Income	Net Income / Ft^2	Net Income / SFW	Net Income to Operator's Labor, Mgmt & Capital	Net Income / Full-time Operator	Net Income / Operator Hour	Net Income / Worker Equiv.
Top 20%[a]	37%	14%	$ 125,738	$ 2.10	$ 0.05	$ 123,218	$ 142,347	$ 54.30	$ 11,189
2nd 20%[a]	35%	11%	$ 43,060	$ 1.90	$ 0.08	$ 42,920	$ 40,826	$ 14.50	$ 16,927
3rd 20%[a]	45%	25%	$ 9,375	$ 1.10	$ 0.05	$ 9,375	$ 22,411	$ 7.10	$ 18,846
4th 20%[a]	21%	1%	$ 5,718	$ 0.10	$ 0.00	$ 5,718	$ 5,173	$ 1.90	$ 1,050
Bottom 20%[a]	17%	-8%	- $ 108,016	- $ 1.10	- $ 0.02	- $ 108,016	- $ 102,176	- $ 37.20	- $ 6,430
All[a]	***31%***	***8%***	***$ 16,346***	***$ 0.90***	***$ 0.03***	***$ 15,735***	***$ 22,935***	***$ 8.70***	***$ 8,065***

Business by ROA	Capital Efficiency (End of Year)[b]								
	ROA	ROE	Total Asset / Ft^2	Total Debt / Ft^2	Machinery Investment / Ft^2	Real Estate Investment / Ft^2	Percent of Equity	Debt/Asset Ratio	Debt/Equity Ratio
Top 20%[a]	51%	117%	$ 4.80	$ 1.40	$ 1.40	$ 0.70	60%	40%	121%
2nd 20%[a]	15%	283%	$ 11.90	$ 4.80	$ 3.60	$ 5.90	58%	42%	1,192%
3rd 20%[a]	6%	4%	$ 14.80	$ 8.80	$ 0.30	$ 12.20	-18%	118%	-87%
4th 20%[a]	1%	0%	$ 7.50	$ 7.20	$ 1.20	$ 2.60	-4%	104%	-66%
Bottom 20%[a]	-5%	-11%	$ 20.50	$ 6.00	$ 3.60	$ 9.60	60%	40%	141%
All[a]	***15%***	***91%***	***$ 12.00***	***$ 5.30***	***$ 2.20***	***$ 6.00***	***38%***	***62%***	***358%***

[a] Each column is sorted according to rates of return on asset. Therefore, numbers across the column correspond to the quantile of rates of return on asset.
[b] The numbers are the averages of data in this quintile.

V. CONCLUSION

Business summary analysis helps greenhouse managers evaluate the firm's financial performance during the year and provides a shorthand means of communicating information about a business. However, there is no universal agreement among the experts on which ratios to use in a financial analysis. Financial ratios presented in this report are ones which we think would be useful to most greenhouse operations. Individual greenhouse business might find additional analysis useful. The nature of the operation and management goals/objectives will serve as the guides to the use of different financial ratios.

Moreover, while analysis of financial ratios in any given year provides valuable insights into a business, they do have limitations. As financial analysis information becomes available over time for a greenhouse business, and as ratios are made available for similar businesses in the industry, the value of the information improves.

Progress of the Business: Comparing the Business to Itself

Annual business analysis can show a manager the internal trends for a business. These trends, which can be observed by comparing one's report from year to year, help a business evaluate the impacts of business decisions and check the business's financial progress over time. A trend analysis of the income statements will let you examine expense items, profit levels, and percentages of sales across time periods. Observing the balance sheet over several years provides a basis for checking the business's progress toward financial stability.

Benchmarking as Part of the Big Picture

Another useful performance-measuring tool is to compare the business's performance against other greenhouse businesses that are of similar type and volume. External benchmarks (or industry benchmarks) can help one compare their business to competitive industry standards. The more information you have about how other businesses are doing (especially successful businesses), the more you are able to improve your business performance and become more competitive.

Setting Goals for Profit

As operators face more and more price pressures from the market, accurately calculating costs and closely monitoring a business's financial health will be the first line of defense. Knowing one's financial performance measures/ratios are not a substitute for good management; instead, they are a tool to help business owners make more informed financial decisions. Business success isn't simply "what one ends up with", but something that is planned. Greenhouse operators need to set goals and measure performance throughout the year. This can lead to a shift production and/or marketing efforts to more profitable crops and markets.

OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2003-08	DFBS New York Large Herd Farms, 300 Cows or Larger 2002		Karszes, J., Knoblauch, W., and Putnam, L.
2003-07	not supplied me with title yet		Conner, D.
2003-06	Doing Business Together: A Joint Business Agreement Guide	($12.00)	Richards, S.
2003-05	Lake Erie Grape Farm Cost Survey 1996-2000		Shaffer, B., and White, G.
2003-04	Dairy Farm Business Summary, Western and Central Plain Region, 2002		Knoblauch, W., Putnam, L., Karszes, J., Hanchar, J., Murphy, J., Barry, J., Richards, S., and Allhusen, G.
2003-03	Case Stories of Farm Transfer	($12.00)	Richards, S., McGonigal, J., Claypool, E., Freeman, R., Petzen, J., Grace, J., New, D., Ames, M. and Kurdieh, Z.
2003-02	Customer Relationship Marketing (CRM) Current Status and Prospects for the Food Retailing Industry		Hawkes, G.F.
2003-01	Systems Management for Dairy Productions	($15.00)	Richards, S. and S. Buckley
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