

GRAPE FARM BUSINESS SUMMARY



**GREAT LAKES REGION
1982**

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GREAT LAKES REGION GRAPE FARM BUSINESS

SUMMARY AND ANALYSIS, 1982

This is a summary and analysis of the 1982 farm business records from 16 commercial grape farms in the Great Lakes Region of New York. The summary was prepared by Linda D. Putnam and Gerald B. White, Department of Agricultural Economics, Cornell University; and David G. Himelrick, Great Lakes Regional Grape Specialist.

The main purpose of this study is to help the cooperators in this project and other grape growers to improve their skills as farm managers. The objective is to demonstrate the importance of good business records and to show how they can be used as a base for sound management decisions.

The summary and analysis presented in this publication should also be useful to agribusinessmen and agricultural teachers. However, caution should be exercised in using data from this book. These data were not obtained by using a random or representative sample of all grape farms in the Great Lakes Region. This publication, therefore, should not be used as an exact representation of the entire Great Lakes Region grape farm industry.

This report has been prepared for use in a systematic study of individual farm business operations.

TABLE OF CONTENTS

| | Page |
|--|------|
| The 1982 Crop Year | 2 |
| Summary of the Farm Business | 3 |
| Physical Resources | 3 |
| Capital Investment | 4 |
| Sources of Income | 5 |
| Where the Money Went | 6 |
| Machinery and Real Estate Inventory Calculations | 7 |
| Financial Summary | 8 |
| Farm Family Financial Situation | 11 |
| Analysis of the Farm Business | 12 |
| Cost Control | 13 |
| Capital and Capital Efficiency Factors | 15 |
| 1982 Production and Marketings | 16 |
| Array of Business Factors | 17 |
| Custom Harvesting Enterprise | 18 |

The 1982 Crop Year

Grape production in New York State was 154,000 tons in 1982, five percent above 1981 but well above the disastrous crop yields in 1977. The four counties which comprise the Great Lakes Grape Region (Chautauqua, Cattaraugus, Erie, and Niagara) had a one percent increase in total production. Prices were, in general, up from 1981. The average price paid to New York growers decreased from \$243 to \$230 per ton for all varieties. However, the price for Concords increased from \$187 to \$194 per ton.

| | <u>1977</u> | <u>1978</u> | <u>1979</u> | <u>1980</u> | <u>1981</u> | <u>1982</u> |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Tons of grapes produced, all varieties | | | | | | |
| Great Lakes Region | 62,086 | 114,350 | 104,036 | 114,036 | 93,553 | 94,452 |
| State of New York | 97,209 | 181,911 | 158,966 | 171,000 | 146,500 | 154,000 |
| Tons Concord grapes produced | | | | | | |
| Great Lakes Region | 53,417 | 98,657 | 94,959 | 102,304 | 82,015 | 83,244 |
| State of New York | 67,407 | 125,243 | 119,875 | 123,121 | 103,077 | 105,840 |
| Average price paid by wineries and processors | | | | | | |
| Concords, NYS (\$/ton) | 224 | 217 | 204 | 196 | 187 | 194 |
| All varieties, NYS (\$/ton) | 240 | 241 | 225 | 220 | 243 | 230 |

Source: New York Crop Reporting Service, Fruit, selected reports from 1978, 1979, 1980, 1981, 1982, and 1983.

A comparison of selected measures from the grape farm business summaries is shown below. Labor and management income per year was -\$7,398 compared with -\$17,005 in 1981. Much of this change can be attributed to a new method of assessing the cost of equity capital. (For further explanation, see the discussion of labor and management income on page 8.) Investment per acre increased and cash expense per acre decreased somewhat, a change in trend from previous years where there was a steady increase due to inflation.

COMPARISONS OF SELECTED MEASURES, 1978-1982

| | <u>1978</u> | <u>1979</u> | <u>1980</u> | <u>1981</u> | <u>1982</u> |
|---|-------------|-------------|-------------|-------------|-------------|
| No. farms | 13 | 12 | 10 | 15 | 16 |
| Acres bearing grapes | 87.2 | 85.8 | 84.6 | 71.0 | 67.7 |
| Worker equivalent | 3.9 | 3.5 | 3.6 | 2.8 | 2.8 |
| Total farm investment | \$278,396 | \$290,728 | \$328,696 | \$264,197 | \$271,267 |
| Investment/bearing acre | \$3,193 | \$3,388 | \$3,884 | \$3,719 | \$4,005 |
| Tons grapes harv./worker | 121 | 120 | 110 | 121 | 109 |
| Grape yield/bear. acre (T) | 5.5 | 4.9 | 4.7 | 4.7 | 4.5 |
| Grape rec./bearing acre | \$1,323 | \$1,138 | \$1,057 | \$1,085 | \$1,079 |
| Average price/ton grapes | \$245 | \$232 | \$225 | \$229 | \$238 |
| Cash expense/grape acre | \$856 | \$881 | \$983 | \$937 | \$926 |
| Net cash farm income | \$34,170 | \$34,317 | \$16,841 | \$19,680 | \$26,193 |
| Labor & mgmt. inc./farm | \$28,262 | \$413 | \$-20,292 | \$-17,005 | \$-7,398 |
| Rate of return on equity capital including apprec. | 16.7% | 6.4% | 1.1% | -.56% | .63% |

Summary of the Farm Business

The first part of this publication summarizes the fruit business in a systematic, orderly manner. It provides an opportunity to study physical resources, capital investment, receipts, and expenses.

Physical Resources

Knowledge of what resources are employed and how they are combined is fundamental to sound business planning. This includes both the physical and financial resources of the business. Below are listed the physical resources for this group of grape farms.

FARM ORGANIZATION 16 Great Lakes Region Grape Farms, 1982

| Item | My Farm | Average | Range |
|--|---------|---------|--------------|
| <u>Labor:</u> | | | |
| Number of operators | _____ | 1.0 | 1.0 - 1.0 |
| Months of: | | | |
| Operator's | _____ | 8.30 | 1.0 - 12.0 |
| Family paid | _____ | 3.16 | 0.0 - 15.0 |
| Family unpaid | _____ | 2.06 | 0.0 - 11.0 |
| Regular hired | _____ | 8.11 | 0.0 - 48.0 |
| Seasonal hired | _____ | 11.72 | 0.5 - 49.0 |
| Other | _____ | 0.31 | 0.0 - 5.0 |
| Total | _____ | 33.67 | 5.1 - 114.0 |
| Worker equivalent (total months ÷ 12) | _____ | 2.81 | 0.43 - 9.5 |
| <u>Land and Crops (acres)</u> | | | |
| Bearing grapes: | | | |
| Harvested | _____ | 67.72 | 23.0 - 222.0 |
| Not harvested | _____ | 0.01 | 0.0 - 0.1 |
| Nonbearing grapes | _____ | 2.10 | 0.0 - 8.1 |
| Total Acres in Grapes | _____ | 69.83 | 23.0 - 230.0 |
| Total Crop Acres | _____ | 74.16 | 23.0 - 232.0 |
| Crop Acres Rented | _____ | 3.73 | 0.0 - 28.0 |
| Total Acres Owned | _____ | 118.46 | 0.0 - 320.0 |

Capital Investment

Management of the capital resources of a farm business is becoming increasingly important. To measure the complete financial progress of a farm, year to year changes in the capital structure must be considered. In this report, borrowed as well as owned capital is included, and the end-of-year farm inventory is used as the measure of capital investment.

FARM INVENTORY VALUES 16 Great Lakes Region Grape Farms

| Item | My Farm | | Average per Farm | |
|------------------------|----------|----------|------------------|-----------|
| | 1/82 | 1/83 | 1/82 | 1/83 |
| Land & buildings | \$ _____ | \$ _____ | \$211,088 | \$213,820 |
| Livestock | _____ | _____ | 375 | 510 |
| Machinery & equipment | _____ | _____ | 47,181 | 54,586 |
| Supplies & crops | _____ | _____ | 3,374 | 2,351 |
| TOTAL FARM INVENTORIES | \$ _____ | \$ _____ | \$262,018 | \$271,267 |

In many farm businesses, poor capital efficiency is a major cause of low profits. The following measures of capital efficiency will help evaluate overall capital management.

INVESTMENT ANALYSIS 16 Great Lakes Region Grape Farms, January 1983

| Item | My Farm | Average per Farm |
|---|------------|------------------|
| Total investment per worker equivalent | \$ _____ | \$96,678 |
| Total investment per acre of bearing grapes | \$ _____ | \$ 4,005 |
| Land & buildings per total acres owned | \$ _____ | \$ 1,805 |
| Capital Turnover* | _____ yrs. | 2.99 yrs. |

* Calculated by dividing the total year-end investment by the total cash receipts for the year. Rapid capital turnover is more desirable than a slow rate of turnover when similar farm businesses are compared.

Sources of Income

A successful farm business requires a level of gross earnings great enough to pay all costs, both operating and overhead, and leave a margin for the operator's labor and management. Here we examine the sources of receipts for this group of grape farms.

FARM RECEIPTS 16 Great Lakes Region Grape Farms, 1982

| Item | My Farm | Average per Farm | Percent of Total |
|--|----------|---------------------|---------------------|
| Grapes: | | | |
| Primary market | \$ _____ | \$63,766 | 70.2 |
| Distress market | _____ | 50 | 0.1 |
| Total 1982 Payments Received | \$ _____ | \$63,816 | 70.3 |
| Previous year's payments, certificates | _____ | \$16,196 | 17.8 |
| Machine work & trucking | _____ | 4,295 | 4.7 |
| Other crop receipts | _____ | 1,566 | 1.7 |
| Work off farm | _____ | 1,751 | 1.9 |
| Livestock & livestock product sales | _____ | 782 | 0.9 |
| Rent | _____ | 839 | 0.9 |
| Other | _____ | 1,616 | 1.8 |
| Total Cash Receipts | \$ _____ | \$90,861 | 100.0 |
| Total Cash Receipts | \$ _____ | \$90,861 | |
| Less previous year's payments | - _____ | - 16,196 | |
| Plus anticipated 1982 payments | + _____ | + 9,255 | |
| Increase in crop & supply inventory | + _____ | + 0 | |
| Total Farm Receipts | \$ _____ | \$83,920 | |

Grape income accounted for 88 percent of cash receipts. An average of 306 tons of grapes per farm were harvested and sold. Cash grape receipts for the 1982 crop totaled \$209 per ton.

Where the Money Went

With the large amount of cash flowing through a farm business today, it is important that the farm operator study expenses closely.

FARM EXPENSES
16 Great Lakes Region Grape Farms, 1982

| Item | My Farm | Average per Farm | Expense per acre of grapes (total) |
|--|----------|---------------------|--|
| Hired labor | \$ _____ | \$24,896 | \$ 357 |
| Machine hire | _____ | 5,145 | 74 |
| Machine repair & farm share of auto expense | _____ | 3,939 | 56 |
| Gasoline & oil | _____ | 3,126 | 45 |
| Spray | _____ | 2,884 | 41 |
| Fertilizer | _____ | 3,638 | 52 |
| Seeds & grape roots (replacements) | _____ | 93 | 1 |
| Posts and wire | _____ | 645 | 9 |
| Other crop expense | _____ | 2,084 | 30 |
| Real estate upkeep | _____ | 476 | 7 |
| Taxes | _____ | 3,750 | 54 |
| Insurance | _____ | 1,764 | 25 |
| Rent | _____ | 519 | 7 |
| Utilities | _____ | 569 | 8 |
| Interest paid | _____ | 9,477 | 136 |
| Miscellaneous | _____ | 1,664 | 24 |
| TOTAL CASH & OPERATING EXPENSES | \$ _____ | \$64,669 | \$ 926 |
| Machinery depreciation | _____ | 6,063 | 87 |
| Real estate depreciation | _____ | 5,051 | 72 |
| Decrease in supply inventory | _____ | 1,023 | 15 |
| Unpaid family labor | _____ | 1,031 | 15 |
| Interest on equity capital @ 5% | _____ | 12,459 | 178 |
| TOTAL FARM EXPENSES | \$ _____ | \$90,296 | \$1,293 |

Machinery and Real Estate Inventory Calculations

Capital outlays for machinery, buildings and land improvements (including drainage and vineyard establishment) usually occur in large, uneven amounts, but depreciate gradually over a period of time. Depreciation is the annual charge for the use of the machinery complement and real estate improvements in production. Depreciation was taken from the farm depreciation schedule. Appreciation, which results from inflation, is calculated as a residual.

MACHINERY AND EQUIPMENT INVENTORY 16 Great Lakes Region Grape Farms, 1982

| Item | My Farm | Average |
|--------------------------|-------------|-----------|
| End of year market value | (A)\$ _____ | \$54,586 |
| Beginning market value | \$ _____ | \$ 47,181 |
| Plus machinery purchases | + _____ | + 7,578 |
| Less machinery sales | - _____ | - 408 |
| Less depreciation* | - _____ | - 6,063 |
| Net end investment | (B)\$ _____ | 48,288 |
| APPRECIATION [(A)-(B)] | \$ _____ | \$ 6,298 |

The average machinery depreciation of \$6,063 is 11 percent of the beginning inventory plus machinery purchases.

REAL ESTATE INVENTORY 16 Great Lakes Region Grape Farms, 1982

| Item | My Farm | Average |
|------------------------------|-------------|-----------|
| End of year market value | (A)\$ _____ | \$213,820 |
| Beginning market value | \$ _____ | \$211,088 |
| Plus cost of new real estate | + _____ | + 6,947 |
| Less real estate sold | - _____ | - 147 |
| Less depreciation* | - _____ | - 5,051 |
| Net end investment | (B) _____ | 212,837 |
| Appreciation [(A)-(B)] | \$ _____ | \$ 983 |

*Depreciation (excluding additional first year depreciation) from tax records.

Financial Summary

The net returns for any business can be measured in several different ways. Each measure calculates the net return to a selected resource or group of resources such as labor or capital. Some of the common farm business measures are given below.

Net cash farm income reflects the cash available from the year's operation of the farm business for family living, payments on debt principal, and new purchases or investments. A family may have had additional cash available if members had nonfarm income.

NET CASH FARM INCOME 16 Great Lakes Region Grape Farms, 1982

| Item | My Farm | Average per Farm |
|--|----------|------------------|
| Total Cash Receipts | \$ _____ | \$90,861 |
| Total Cash Operating Expenses | _____ | 64,669 |
| NET CASH FARM INCOME | \$ _____ | \$26,192 |
| Family Living Expenses | _____ | |
| CASH FOR INVESTMENT AND PRINCIPAL PAYMENTS ON DEBTS | \$ _____ | |

Labor and management income is the return to the farm operator for labor and management. It is the measure most commonly used when comparing the profitability of farm businesses. Labor and management income is the amount left after paying all cash operating expenses and deducting charges for depreciation, unpaid labor, interest on equity capital and losses in fruit and supply inventories. The business is charged a five percent real rate of interest or opportunity cost for the use of equity capital. This real rate of interest represents the long term average rate of return that a grower could expect to earn on investments with comparable risks to farming, in an economy with little or no inflation.

Labor and management income; labor, management and ownership income; and return on equity capital are computed in the following three tables. The computations are done by two different methods. These methods are as follows:

- Method (1) Total receipts is the sum of total cash receipts minus grape payments from previous years plus anticipated 1982 payments plus or minus the increase or decrease in the crop and supply inventory. This method is the one which has been used in the most recent years in Cornell grape farm business summaries.
- Method (2) Total receipts is the sum of total cash receipts in the calendar year (including grape payments from previous years) plus or minus the increase or decrease in crop and supply inventory. Using this method, net income did not depend on growers estimates of future receipts for the current crop.

LABOR AND MANAGEMENT INCOME
16 Great Lakes Region Grape Farms, 1982

| Item | My Farm | Average per Farm | |
|------------------------------------|----------|------------------|------------|
| | | [Method 1] | [Method 2] |
| Total Farm Receipts | \$ _____ | \$82,898 | \$89,839 |
| Total Farm Expenses | _____ | 90,296 | 90,296 |
| LABOR & MANAGEMENT INCOME PER FARM | \$ _____ | (-) \$ 7,398 | (-) \$ 457 |

It is common to compute labor and management return per operator as well as per farm because most studies include some farms with more than one operator. However, the average number of operators for 1982 was 1.0; therefore labor and management income per operator was the same as labor and management income per farm.

In addition to labor and management income, the owner-operator of a farm business should receive income for his capital investment in the business. He receives this income in the form of interest on equity in the business and real estate and machinery appreciation. These three "ownership income" items are added to labor and management income to determine labor, management and ownership income. This indicates the total return the owner-operator receives for owning and operating the business.

The growers who participated in this summary submitted balance sheets and net worth or equity capital was easily computed. Average equity capital was estimated as \$249,172 per farm.

LABOR, MANAGEMENT AND OWNERSHIP INCOME
16 Great Lakes Region Grape Farms, 1982

| Item | My Farm | Average per Farm | |
|--------------------------------------|----------|------------------|------------|
| | | [Method 1] | [Method 2] |
| Labor & Management Income Per Farm | \$ _____ | (-) \$ 7,398 | (-) \$ 457 |
| Add: Real Estate Appreciation | _____ | 983 | 983 |
| Add: Machinery Appreciation | _____ | 6,298 | 6,298 |
| Add: Interest on Equity Capital @ 5% | _____ | 12,459 | 12,459 |
| LABOR, MANAGEMENT & OWNERSHIP INCOME | | | |
| PER FARM | \$ _____ | \$12,342 | \$19,283 |
| PER OPERATOR | \$ _____ | \$12,342 | \$19,283 |

Return on equity capital can be computed with or without real estate appreciation. To calculate return on equity capital (including real estate appreciation) the value of operator's labor and management is deducted from labor, management and ownership income. This return to equity capital is divided by the owner's equity investment in the business to compute the rate of return on equity capital. Owner's equity investment used here is total end of year farm inventories less total farm liabilities.

RETURN ON EQUITY CAPITAL
16 Great Lakes Region Grape Farms, 1982

| Item | My Farm | Average per Farm | |
|--|----------|------------------|---------------|
| | | [Method 1] | [Method 2] |
| Labor & Management & Ownership Income | \$ _____ | \$12,342 | \$19,283 |
| Less: Value of Operator's Labor & Management* | _____ | <u>10,772</u> | <u>10,772</u> |
| Return on Equity Capital | _____ | \$ 1,570 | \$ 8,511 |
| Rate of Return on Equity Capital (equity capital = \$249,172) | _____ % | .63% | 3.42% |

* Values estimated at \$750 per month for labor and 5 percent of cash receipts for management.

Farm Family Financial Situation

The financial situation is an important part of the grape farm business summary. It has a direct affect on current cash outflow and future capital investment decisions. A grower may have a good labor income, but a high debt load may seriously restrict his management flexibility.

The balance sheet of the financial situation is provided below.

FARM FAMILY FINANCIAL SITUATION 16 Great Lakes Region Grape Farms, 1982

| Item | My Farm | Average per Farm |
|---|-----------------|------------------|
| <u>Assets</u> | | |
| Total farm inventory | \$ _____ | \$271,267 |
| Accounts receivable | _____ | 26,130 |
| Co-op investment | _____ | 25,730 |
| Cash & checking account | _____ | 12,147 |
| TOTAL FARM ASSETS | \$ _____ | \$335,274 |
| <u>Liabilities</u> | | |
| Real estate mortgage | \$ _____ | \$ 55,076 |
| Liens & secured loans | _____ | 14,822 |
| Installment contracts | _____ | 6,378 |
| Accounts payable | _____ | 3,458 |
| Other farm debt | _____ | 6,368 |
| TOTAL FARM LIABILITIES | \$ _____ | \$ 86,102 |
| FARM NET WORTH (Farm assets less liabilities) | \$ _____ | \$249,172 |
| Percent Equity (Farm net worth + total farm assets) | _____ % | 74.3% |
| Farm Debt Per Worker Equivalent | \$ _____ | \$ 30,686 |
| Farm Debt per Bearing Acre of Grapes | \$ _____ | \$ 1,271 |

Payment ability is the most important consideration in determining if and how proposed investments should be financed. The farm business must produce enough cash income to meet operating expenses, to cover family living expenses and to make debt payments. The average farm in this study had a net cash flow, excluding interest paid, of \$35,670. This amount was available for family living expenses, debt payments, and cash for capital investments during the year.

Analysis of the Farm Business

Some of the business factors which affect profits and which a farmer can control to some degree are: (1) size of enterprise, (2) labor efficiency, (3) yields, and (4) price.

A comparison of your farm with the averages of these factors for these farms can provide valuable clues to the strong and weak points of an individual grape farm business.

SELECTED FARM BUSINESS MEASURES 16 Great Lakes Region Grape Farms, 1982

| Item | Average per Farm | My Farm |
|--|------------------|----------|
| <u>Measures of Size</u> | | |
| 1. Acres in bearing grapes | 68.0 | _____ |
| 2. Acres of grapes harvested | 68.0 | _____ |
| 3. Acres in nonbearing grapes | 2.1 | _____ |
| 4. Worker equivalent | 2.8 | _____ |
| 5. Tons of grapes harvested | 306.4 | _____ |
| 6. Tons of grapes grown | 306.5 | _____ |
| <u>Labor Efficiency</u> | | |
| 1. Acres in grapes harvested per worker | 24.1 | _____ |
| 2. Tons of grapes harvested per worker | 109.2 | _____ |
| <u>Production Factors</u> | | |
| 1. Grape yield per acre (tons) of bearing grapes | 4.5 | _____ |
| 2. Grape receipts* per acre of bearing grapes | \$1,079 | \$ _____ |
| <u>Price</u> | | |
| 1. Average price per ton of grapes sold** | \$ 238 | \$ _____ |

* Cash receipts from sale of grapes plus anticipated payments from current grape crop.

**Grape receipts ÷ tons of grapes harvested.

Cost Control

Power and machinery costs were major expenses on these grape farms. Net operating and investment costs averaged \$17,049.

POWER AND MACHINERY COSTS
16 Great Lakes Region Grape Farms, 1982

| Item | Average per Farm | My Farm |
|---|------------------|----------|
| Machinery depreciation | \$ 6,063 | \$ _____ |
| Interest at 5% average inventory | 2,544 | _____ |
| Gas & oil | 3,126 | _____ |
| Auto | 284 | _____ |
| Truck, tractor & equipment repair | 3,655 | _____ |
| Machine hire | 5,145 | _____ |
| Utilities | 570 | _____ |
| Total Machinery Costs | \$21,387 | \$ _____ |
| Income from machine work | - 4,294 | _____ |
| Gasoline tax refund | - 44 | _____ |
| NET MACHINERY COSTS | \$17,049 | \$ _____ |
| <hr style="border-top: 1px dashed black;"/> | | |
| Net Machinery Costs: | | |
| Per acre of bearing grapes | \$252 | \$ _____ |
| Per worker equivalent | \$6,076 | \$ _____ |
| Per ton of grapes harvested | \$56 | \$ _____ |

Since power and machinery costs represent a substantial portion of total costs, efficiency in use is an important factor affecting profitability of the business. Net machinery costs per acre of bearing grapes averaged \$252.

Most farm operators justify major machinery purchases as a way to save labor and increase productivity. How well labor and machinery are combined has an important bearing on farm profits.

LABOR AND MACHINERY COSTS
16 Great Lakes Region Grape Farms, 1982

| Item | Average per Farm | My Farm |
|-------------------------------|------------------|----------|
| Value of operator's labor* | \$ 6,229 | \$ _____ |
| Hired labor | 24,896 | _____ |
| Unpaid family labor | 1,031 | _____ |
| TOTAL LABOR COSTS | \$32,156 | \$ _____ |
| Total net machinery cost | 17,049 | _____ |
| TOTAL LABOR & MACHINERY COSTS | \$49,205 | \$ _____ |
| <hr/> | | |
| Labor cost: | | |
| Per worker equivalent | \$11,460 | \$ _____ |
| Per acre of bearing grapes | \$475 | \$ _____ |
| Per ton of grapes harvested | \$105 | \$ _____ |
| Labor & machinery cost: | | |
| Per worker equivalent | \$17,536 | \$ _____ |
| Per acre of bearing grapes | \$726 | \$ _____ |
| Per ton of grapes harvested | \$161 | \$ _____ |

* Valued at \$750 per month for operator's labor (value of management and owned capital excluded).

MISCELLANEOUS COST MEASURES
16 Great Lakes Region Grape Farms, 1982

| Item | Average per Farm | My Farm |
|---|------------------|----------|
| Crop expense per acre of bearing grapes** | \$138 | \$ _____ |
| Spray expense per acre of bearing grapes | 43 | \$ _____ |
| Taxes per total acres owned | 32 | \$ _____ |
| Taxes per \$1,000 of end real estate inventory | 18 | \$ _____ |
| Taxes & insurance per \$1,000 real estate inventory | 26 | \$ _____ |

**Includes spray, fertilizer, replacement vines, posts and wire and other crop expenses.

Capital and Capital Efficiency Factors

The average investment in the farm business was \$271,267. About 79 percent of this total is represented by vineyards, land and buildings.

CAPITAL INVESTMENT AND CAPITAL EFFICIENCY FACTORS 16 Great Lakes Region Grape Farms, 1982

| Item | Average per Farm | Percent of Total | My Farm |
|--|---------------------|---------------------|----------|
| Land & buildings | \$213,820 | 78.8 | \$ _____ |
| Livestock | 510 | 0.2 | _____ |
| Machinery & equipment | 54,586 | 20.1 | _____ |
| Supplies | 2,351 | 0.9 | _____ |
| Total Farm Inventories | \$271,267 | 100.0 | \$ _____ |
| <hr/> | | | |
| Worker equivalent | 2.8 | | _____ |
| Investment per worker equiv. | \$96,678 | | \$ _____ |
| Acres of bearing grapes | 67.7 | | _____ |
| Machinery & equipment investment per acre of bearing grapes | \$806 | | \$ _____ |
| Land & building investment per acre owned | \$1,805 | | \$ _____ |
| Total farm investment per acre of bearing grapes | \$4,005 | | \$ _____ |
| Total farm investment per ton of grapes sold | \$885 | | \$ _____ |
| Capital turnover (years for cash receipts to equal capital) | 2.99 | | _____ |

Investment costs such as depreciation and interest are part of the total cost of operating a farm business. Obtaining efficiency in the use of capital, as measured by investment relative to productive capacity and income, is an important part of managing a farm. The factors calculated in the table above can help a farmer gauge the soundness of his capital investment. On these farms, investment per acre of bearing grapes ranged from \$727 to \$8,788.

1982 Production and Marketings

ACRES IN VINES AND MARKETINGS
16 Great Lakes Region Grape Farms, 1982

| Item | Number of Growers Reporting | Average of All Growers |
|------------------------------------|--------------------------------|---------------------------|
| Bearing vines: | | |
| Harvested, sold in primary market | 16 | 67.66 |
| Harvested, sold in distress market | 1 | 0.06 |
| Not harvested | <u>1</u> | <u>0.01</u> |
| Total Bearing | 16 | 67.73 |
| Nonbearing Vines | 5 | <u>2.10</u> |
| Total Acres in Vines | | 69.83 |

Total acres in vines averaged 69.83 acres per farm. Ninety-seven percent of this total acreage produced a crop which was harvested and sold in the growers' primary or usual markets. The growers reported about 0.1 percent of the acreage in vines was harvested and sold in the open market. One grower had sales in the open market.

GRAPES HARVESTED & SOLD IN THE USUAL MARKETS
16 Great Lakes Region Grape Farms, 1982

| Variety | Acres | Tons | Average Yield/Acre |
|---------------------|-------------|-------------|--------------------|
| Concord | 48.6 | 231.2 | 4.8 Tn. |
| All other varieties | <u>19.0</u> | <u>74.9</u> | <u>3.9 Tn.</u> |
| Total | 67.6 | 306.1 | 4.5 Tn. |

Concords were an important variety on all farms. This variety accounted for 72 percent of the acreage harvested and 76 percent of the tonnage. The average yield of Concords was 4.8 tons per acre, compared with 3.9 tons per acre for all other varieties.

Array of Business Factors

Vineyardists in the management program can determine how their business stands relative to the others in the summary by encircling the factor measurement for their farm in each column of the table below.

ARRAY OF SELECTED BUSINESS FACTORS
16 Great Lakes Region Grape Farms, 1982

Note: each column is independent of the others. Do not read across.

| Grape Acres Harv. | Tons Grapes Harv. | Worker Equiv. | Tons Grapes Harv./ Worker | Tons Grapes/ Grape Acre | Total Farm Invest./ Grape Acre | Grape Receipts/ Grape Acre | Total Cash Oper. Exp./ Total Crop Acres |
|-------------------------|-------------------------|------------------|------------------------------------|----------------------------------|--------------------------------------|-------------------------------------|--|
| 222 | 983 | 9.5 | 303 | 11.1 | 8,788 | 2,582 | 2,019 |
| 134 | 623 | 4.8 | 232 | 5.9 | 8,244 | 1,178 | 1,344 |
| 110 | 531 | 4.3 | 165 | 5.5 | 7,252 | 1,177 | 1,059 |
| 82 | 428 | 3.7 | 132 | 5.5 | 5,063 | 1,156 | 1,008 |
| 79 | 406 | 3.6 | 131 | 5.4 | 5,014 | 1,130 | 999 |
| 76 | 374 | 2.7 | 127 | 4.9 | 4,910 | 1,117 | 993 |
| 60 | 290 | 2.7 | 126 | 4.9 | 4,345 | 1,114 | 987 |
| 48 | 284 | 2.6 | 115 | 4.9 | 4,094 | 1,054 | 934 |
| 45 | 222 | 2.5 | 111 | 4.8 | 3,988 | 1,026 | 864 |
| 42 | 220 | 2.3 | 109 | 4.7 | 3,892 | 990 | 858 |
| 41 | 193 | 1.7 | 104 | 4.7 | 3,648 | 969 | 726 |
| 38 | 182 | 1.6 | 103 | 4.6 | 3,157 | 968 | 708 |
| 30 | 165 | 1.1 | 100 | 4.4 | 2,985 | 960 | 675 |
| 28 | 141 | 1.0 | 72 | 4.3 | 2,930 | 895 | 618 |
| 26 | 129 | .7 | 62 | 3.9 | 2,115 | 788 | 618 |
| 23 | 127 | .4 | 61 | 3.6 | 727 | 687 | 580 |

Custom Harvesting Enterprise

Four of the farms in this summary had custom harvesting operations. The receipts, expenses, and machinery used were allocated to this enterprise, and are not included in the computations in the preceding pages.

CUSTOM HARVESTING ENTERPRISE
Four Great Lakes Region Grape Farms, 1982

| | Average per Farm | Range |
|--|------------------|-------------------|
| Receipts | \$10,987 | \$29 - 25,537 |
| Expenses | | |
| Hired labor | \$1,854 | |
| Machine hire | 689 | |
| Machine repair & farm share of auto expense | 1,150 | |
| Gasoline & oil | 1,030 | |
| Real estate upkeep | 0 | |
| Insurance | 192 | |
| Utilities | 85 | |
| Interest paid | 264 | |
| Miscellaneous | 216 | |
| TOTAL CASH EXPENSES | \$5,480 | |
| Machinery depreciation | 1,244 | |
| TOTAL EXPENSES | \$ 6,724 | |
| Net Income for Enterprise | \$ 4,263 | \$-2,569 - 12,080 |

The average net income was \$4,263. These growers had investments in machinery of \$20,161 allocated to custom harvesting. This is not the full value of all machinery used in custom harvesting, but rather it reflects these growers' estimation of what percentage of their machinery should be allocated to the enterprise. The same principle is used for the allocation of other expenses.