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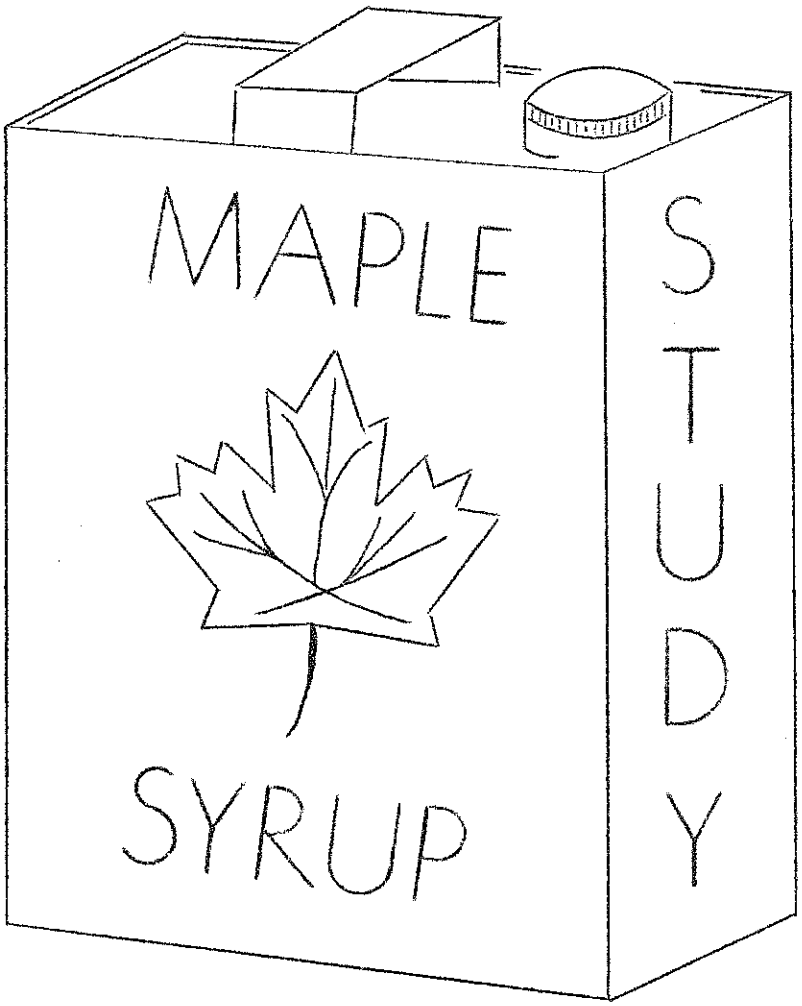
# LEWIS COUNTY 1969

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# LEWIS COUNTY MAPLE SYRUP STUDY 1969

New York has long been known for its maple syrup and related maple products. These products are produced only in certain areas of the world. They are delicacies and are used by most people as a specialty food. For New York dairymen, a sugarbush on the farm makes it possible to have a secondary enterprise. In years past, most farmers with a sugarbush made maple syrup.

New developments in recent years have had a bearing on the maple enterprise. As dairies have increased in size, some farmers have given up syrup making because of time. New equipment developed for use in sugaring requires the investment of capital. This raises the management question, will an investment in new maple equipment pay?

Many sugar operations have been discontinued, but the maple industry continues to be important in the State. Vermont for many years was the leading state in maple syrup production. New York has passed Vermont in syrup production a couple of years recently and has been a close second the other years.

Cash receipts from the farm marketings of maple products in New York for 1968 amounted to $1.5 million. This compares with $1.3 million in 1967 and $2.0 million in 1966, $1.8 million in 1965, $2.2 million in 1962, and $2.5 million in 1957. Maple receipts for the nation in 1968 amounted to 5 million dollars with New York accounting for 30 percent of this amount.

Maple producers in Lewis County and other areas are confronted with two major management questions. First, does the maple enterprise pay, and second, what might they do to increase the returns from this enterprise? Some co-operators in the Lewis County Farm Business Management Project decided to study the maple enterprise in 1968. The project was continued in 1969 with 17 maple producers submitting enterprise records which provide the basis for the study reported here.

Table 1. MAPLE SYRUP PRODUCTION AND PRICE
New York and U.S., 1958-1968

| Year | Production (1,000 gal.) | | Price per gallon | |
|---|---|---|---|---|
| | N.Y. | U.S. | N.Y. | U.S. |
| 1958-62 | 409 | 1,323 | $4.45 | $4.75 |
| 1963 | 368 | 1,143 | 4.45 | 4.86 |
| 1964 | 512 | 1,546 | 4.55 | 5.02 |
| 1965 | 410 | 1,266 | 4.55 | 5.04 |
| 1966 | 480 | 1,476 | 4.40 | 4.96 |
| 1967 | 275 | 979 | 5.00 | 5.33 |
| 1968 | 300 | 979 | 5.20 | 5.48 |
| 1969 | 348 | 1,032 | 5.80 | 6.11 |

Resources Used in Maple Enterprise

The seventeen maple producers included in this study were farmers who volunteered to keep and submit records for 1969. They do not necessarily represent all producers in Lewis County. The results presented are simply those of the seventeen producers. It is believed that this group is typical of many producers both in Lewis County and other areas in New York State.

Table 2. PHYSICAL INPUTS FOR MAPLE ENTERPRISE
17 Lewis County Farms, 1969

| Item | Your farm | Average 17 farms |
|---|---|---|
| Acres in woods | _____ | 56 (16 farms) |
| Number of trees | _____ | 1,900 (13 farms) |
| Number of taps | _____ | 2,187 |
| Labor used: (hours) | | |
| Operator | _____ | 224 hours |
| Family | _____ | 85 |
| Regular farm help | _____ | 12 |
| Extra hired help | _____ | 263 |
| Total | _____ | 584 hours |

The 13 farms that reported number of trees averaged 1,900. The number of taps for the 17 farms averaged 2,187. The operator's labor accounted for 38 percent of the total. Extra labor hired for syrup making accounted for 45 percent of all labor.

Each producer estimated the value of his sap house and other special maple equipment. This averaged $4,400 per farm with a range from $1,000 to $14,000.

Table 3. INVENTORY VALUE OF MAPLE EQUIPMENT
17 Lewis County Farms, 1969

| Item | No. reporting | Your farm | Average 17 |
|---|---|---|---|
| Sap house | 17 | $_____ | $ 898 |
| Evaporator | 17 | _____ | 652 |
| Finishing pan | 8 | _____ | 205 |
| Plastic tubing | 7 | _____ | 351 |
| Buckets, covers & spiles | 15 | _____ | 953 |
| Tanks and pails | 15 | _____ | 317 |
| Tapping machine | 15 | _____ | 83 |
| Trailer or sleds | 13 | _____ | 82 |
| Other equipment | 17 | _____ | 827 |
| Total | | $_____ | $4,368 |

Income From Maple Enterprise

The quantity and value of sales of maple products was reported by each cooperator. In addition, they estimated the amount and value of products consumed by the family and given as gifts. Products on hand at the time the records were collected in the fall were included to get the total amount made and its value. Syrup on hand the first of the year was deducted from the sales to get the quantity and value of syrup made in 1969.

Table 4. INCOME FROM THE MAPLE ENTERPRISE
17 Lewis County Farms, 1969

| Item | Your farm Gallons | Your farm Value | Average 17 farms Gallons | Average 17 farms Value |
|---|---|---|---|---|
| Sales: | | | | |
| Syrup in cans | _____ | $_____ | 411 | $2,103 |
| Syrup in drums | _____ | _____ | 125 | ,457 |
| Cream & candy (quantity in syrup equivalent) | _____ | _____ | 17 | 176 |
| Total Sales | _____ | $_____ | 553 | $2,736 |
| Home use and gifts | _____ | _____ | 17 | 76 |
| On hand at end | _____ | _____ | 71 | 418 |
| Total | _____ | $_____ | 641 | $3,230 |
| Less on hand at beginning | _____ | _____ | 3 | 15 |
| TOTAL 1969 SYRUP INCOME | _____ | $_____ | 638 | $3,215 |

These 17 producers made an average of 638 gallons of syrup in 1969. The range was from a low of 130 gallons on one farm to a high of 2,800 gallons. The average value per gallon was $5.04. Syrup sold in drums averaged $3.65 per gallon, that sold in cans $5.12, and that sold as cream and candy $10.30. The range in average value per gallon for individual producers was from $3.96 to $6.65.

Six producers made and sold maple cream and/or maple candy. The quantities of these products (usually given in pounds) were converted to gallons of syrup equivalent. A conversion factor of eight pounds of cream or candy per gallon of syrup was used.

Four producers reported cash expense for sap or syrup purchased. This is included in the figures given above for syrup made in 1969.

The 19 producers included in the 1968 summary made an average of 510 gallons of syrup. The average value per gallon in 1968 was $5.22 compared with $5.04 for 1969. The 17 producers included in the 1969 summary made an average of 499 gallons of syrup in 1968 compared with the 638 gallons in 1969. Only two of the 17 producers made less syrup in 1969 than in 1968.

## Cost of Production

An economic study of an enterprise must include the cost of production. This is not easy since some of the costs are combined with those of other enterprises. Allocations and estimates must be made. Although the cost thus determined is not precise, it does give a reasonable indication.

Table 5. COST OF PRODUCTION OF THE MAPLE ENTERPRISE
17 Lewis County Farms, 1969

| Item | Farms reporting | Your farm | Average 17 farms |
|---|---|---|---|
| Cash items | | | |
| Extra hired labor | 14 | $_____ | $437 |
| Containers | 16 | _____ | 189 |
| Sap or syrup | 4 | _____ | 68 |
| Fuel | 8 | _____ | 111 |
| Repairs, house & equipment | 13 | _____ | 56 |
| Spraying | 4 | _____ | 49 |
| Pellets | 7 | _____ | 7 |
| Taxes | 15 | _____ | 95 |
| Insurance | 12 | _____ | 19 |
| Electricity | 8 | _____ | 19 |
| Tree rental | 2 | _____ | 5 |
| Miscellaneous | 11 | _____ | 27 |
| Total Cash Costs | | $_____ | $1,082 |
| Overhead items | | | |
| Depreciation (house & equip.) | 17 | $_____ | $528 |
| Interest @ 5% on inventory | 17 | _____ | 218 |
| Use of sugarbush @ 5¢/tap | 17 | _____ | 109 |
| Fuel wood @ $1/20 gal. syrup | 9 | _____ | 11 |
| Use of tractor @ $1.25/hr. | 17 | _____ | 124 |
| Use of trailer @ $.50/hr. | 11 | _____ | 39 |
| Use of other equipment | 9 | _____ | 17 |
| Total Overhead Items | | _____ | 1,046 |
| Total cost other than regular labor | | $_____ | $2,128 |
| Regular labor other than operator @ $1.25/hr. | | _____ | 122 |
| Total cost other than operator's labor | | $_____ | $2,250 |
| Value operator's labor @ $1.75/hr. | | _____ | 392 |
| TOTAL COST PRODUCTION | | $_____ | $2,642 |

For taxes, insurance, and electricity, the farmer estimated the share of the total farm item which should be allocated to the maple enterprise. Depreciation was calculated for each item inventoried. In previous studies, charge for use of the sugarbush has been figured at 5¢ per tap and the value of fuel wood at $1.00 per 20 gallons of syrup made. The 5¢ per tap is a charge for the use of the investment in the sugarbush. It is comparable to an interest charge on the investment. Machinery and labor costs per hour were based on typical rates used in New York State.

Financial Summary

The financial returns from an enterprise can be calculated in several ways. Four measures have been used in this study. They are: enterprise profit or loss; net cash flow; return per hour of regular labor; and return per hour of operator's labor.

Table 6. FINANCIAL SUMMARY OF MAPLE ENTERPRISE
17 Lewis County Farms, 1969

| | Your farm | Average 17 farms |
|---|---|---|
| 1. Profit or Loss | | |
| Total 1969 Syrup Income | $_____ | $3,215 |
| Total Costs of Production | _____ | 2,642 |
| NET PROFIT OR LOSS | $_____ | $ 573 |
| 2. Cash Flow | | |
| Total Sales | $_____ | $2,736 |
| Total Cash Costs | _____ | 1,082 |
| NET CASH FLOW | $_____ | $1,654 |
| 3. Return Per Hour Regular Labor | | |
| Total 1969 Syrup Income | $_____ | $3,215 |
| Costs other than regular labor | _____ | 2,128 |
| Return to regular labor | $_____ | $1,087 |
| Hours of regular labor | _____ | 321 |
| RETURNS PER HOUR REGULAR LABOR | $_____ | $3.39 |
| 4. Return Per Hour Operator's Labor | | |
| Total 1969 Syrup Income | $_____ | $3,215 |
| Costs other than operator's labor | _____ | 2,250 |
| Return to operator's labor | $_____ | $ 965 |
| Hours operator's labor | _____ | 224 |
| RETURN PER HOUR OPERATOR'S LABOR | $_____ | $4.31 |

The profit or loss reflects the return to management from the enterprise. The average profit was $573 but three of the farms had a loss while 14 had profits. The range was from a loss of $660 to a profit of $3,600. Since many of the costs are fixed some think in terms of the cash situation or the net cash flow. This averaged $1,654 with a range from minus $40 to $4,000.

In considering the returns to the regular farm labor force and the operator, it is well to keep in mind that these are fixed items as far as the business is concerned. Any return from the maple enterprise might be considered as a net gain if the assumption is made that the labor would not have been used profitably otherwise. This assumption would not be valid if the work on the maple enterprise interferred with the profits from the dairy or other farm enterprises.

## Business Factors

It is common to find a wide variation in the net returns from any business venture. This is true with this maple study. Managers then ask why this variation exists. Business studies over the years have shown that usually there are some key factors which affect the profitability of the business. Some likely factors have been calculated for these maple enterprises.

Table 7. MAPLE ENTERPRISE BUSINESS FACTORS
17 Lewis County Farms, 1969

| Factor | Your farm | Average 17 farms |
|---|---|---|
| Size: | | |
| Number of taps | _____ | 2,187 |
| Gallons syrup made 1969 | _____ | 638 |
| Total 1969 syrup income | $_____ | $3,215 |
| Rate of production: | | |
| Gallons syrup per tap | _____ | .29 |
| Labor efficiency: | | |
| Gallons syrup per hour labor | _____ | 1.09 |
| Capital efficiency: | | |
| Investment per tap | $_____ | $2.00 |
| Cost control: | | |
| Cash cost per gallon syrup | $_____ | $1.70 |
| Costs other than regular labor/gallon | $_____ | $3.34 |
| Total cost per gallon syrup | $_____ | $4.14 |
| Price: | | |
| Income per gallon of syrup | $_____ | $5.04 |

One technique used in analyzing a specific business is to compare its business factors with what others are doing. This can be done in the table above.

If the cost control measures here seem high, you can compute the cost per gallon for each of the major cost items. This will help to pinpoint the specific sources of the high costs.

Size of Enterprise

Seven of the maple producers made more than 500 gallons of syrup each. For a study of the effects of size, the averages for these 7 farms were calculated. Below are comparisons for selected factors of the average for the 7 largest enterprises with the group of 17.

Table 8. COMPARISON OF 7 LARGEST ENTERPRISES AND ALL 17
17 Lewis County Farms, 1969

| Item | Average 7 large enterprises | Average all 17 farms |
|---|---|---|
| Number of taps | 3,580 | 2,187 |
| Maple enterprise inventory | $6,867 | $4,368 |
| Gallons syrup made 1969 | 1,045 | 638 |
| Hours of labor on syrup | 885 | 584 |
| Percent extra hired labor was of total | 47% | 45% |
| Total 1969 syrup income | $5,286 | $3,215 |
| Total cost of production | 4,070 | 2,642 |
| Net Profit from Enterprises | $1,216 | $ 573 |
| Net Cash Flow | $2,703 | $1,654 |
| Income per gallon syrup | $5.06 | $5.04 |
| Cash cost per gallon syrup | $1.66 | $1.70 |
| Total cost per gallon syrup | $3.89 | $4.14 |
| Gallons syrup per tap | .29 | .29 |
| Gallons syrup per hour labor | 1.18 | 1.09 |
| Returns to operator per gallon made (for his labor and management) | $1.69 | $1.51 |
| Return per hour to regular labor | $4.17 | $3.39 |
| Return per hour of operator labor | $5.65 | $4.31 |

For all measures of financial returns, the large enterprises paid better than the average of all 17 farms. The large enterprises had considerably more invested, but the quantity produced was in proportion so that the investment per tap and the total cost per gallon were less than the average of the 17.

Array of Factors

Individual factors were calculated for each farm. In order to see how your factors compare with the other 16, arrays have been made from best to poorest for several important factors. Each factor is arrayed independently of all other factors. For example, the "top" farm for one factor might be the bottom one in the next factor column. Circle your factor in each column.

| Number of taps | Gallons syrup made in 1969 | Gallons syrup per tap* | Gallons syrup per hour labor |
|---|---|---|---|
| 9,000 | 2,840 | .47 | 1.77 |
| 4,000 | 950 | .40 | 1.59 |
| 3,350 | 830 | .40 | 1.48 |
| 2,600 | 800 | .38 | 1.42 |
| 2,300 | 710 | .35 | 1.35 |
| 2,300 | 620 | .33 | 1.28 |
| 2,200 | 560 | .32 | 1.18 |
| 1,600 | 500 | .32 | 1.17 |
| 1,500 | 470 | .30 | 1.13 |
| 1,300 | 460 | .28 | .98 |
| 1,250 | 450 | .27 | .93 |
| 1,200 | 400 | .27 | .87 |
| 1,080 | 330 | .27 | .76 |
| 1,000 | 320 | .20 | .71 |
| 850 | 270 | .20 | .67 |
| 840 | 210 | .20 | .65 |
| 800 | 130 | .15 | .62 |

* In some cases, includes sap bought which raises the amount of syrup per tap.

Array of Factors contd.

| Income per gallon syrup | Cash cost per gallon syrup | Return per hour all regular labor | Return per hour operator labor |
|---|---|---|---|
| $6.65 | $ .18 | $9.44 | $12.58 |
| 6.60 | .37 | 8.91 | 9.57 |
| 6.44 | .43 | 7.61 | 8.91 |
| 5.66 | .58 | 6.34 | 7.43 |
| 5.45 | .76 | 4.39 | 6.34 |
| 5.11 | .82 | 3.81 | 6.30 |
| 5.05 | 1.35 | 3.30 | 4.41 |
| 5.01 | 1.57 | 3.09 | 4.18 |
| 4.98 | 1.64 | 2.85 | 3.86 |
| 4.78 | 1.87 | 2.68 | 2.87 |
| 4.74 | 1.96 | 2.47 | 2.68 |
| 4.60 | 2.10 | 2.22 | 2.49 |
| 4.56 | 2.35 | 1.84 | 2.43 |
| 4.29 | 2.76 | 1.82 | 1.87 |
| 4.17 | 2.76 | .98 | .72 |
| 4.16 | 2.87 | - .81 | -1.15 |
| 3.96 | 2.94 | -1.84 | -3.11 |

Table 9. PRICE PER GALLON AND RETURNS FROM MAPLE ENTERPRISE
17 Lewis County Farms, 1969

| Item | High Price over $5.25 | Low Price under $4.60 | All farms |
|---|---|---|---|
| Number of farms | 5 | 5 | 17 |
| Gallons made 1969 | 495 | 507 | 638 |
| Average price | $6.16 | $4.23 | $5.04 |
| Profit (or loss) | $588 | $503 | $573 |
| Return per hour operator's labor | $4.75 | $4.93 | $4.31 |

It appears that a high average price per gallon was not a major factor contributing to high returns from the enterprise.

Table 10. MAPLE INVESTMENT AND RETURNS FROM MAPLE ENTERPRISE
17 Lewis County Farms, 1969

| Item | Investment | | All farms |
|---|---|---|---|
| | Over $5,000 | Under $2,000 | |
| Number of farms | 4 | 4 | 17 |
| Gallons made 1969 | 1,200 | 293 | 638 |
| Maple investment | $9,716 | $1,477 | $4,368 |
| Profit (or loss) | $884 | $294 | $573 |
| Return per hour operator's labor | $2.56 | $3.90 | $4.31 |

New equipment usually means an increase in the total inventory value of the sap house and maple equipment. The four farms with the largest investments made a larger profit than the average of all 17 farms, but a lower return per hour of operator's labor.

## Comparison With Earlier Studies

Ten maple producers in St. Lawrence County submitted records on their maple enterprise for 1966 and 1967, and 19 from Lewis County submitted records for 1968. A comparison of the groups for the four years is made below.

Table 11. COMPARISON OF MAPLE ENTERPRISE BUSINESS FACTORS
Lewis and St. Lawrence Counties

| Item | St. Lawrence County | | Lewis County | |
|---|---|---|---|---|
| | 1966 | 1967 | 1968 | 1969 |
| Number of farms | 10 | 10 | 19 | 17 |
| Inputs | | | | |
| Number of taps | 1,795 | 1,616 | 2,305 | 2,187 |
| Inventory maple equipment | NA | $2,146 | $4,228 | $4,368 |
| Hours of labor - operator | 358 | 320 | 202 | 224 |
| - other | 242 | 228 | 356 | 360 |
| Output | | | | |
| Gallons of syrup made | 467 | 356 | 510 | 638 |
| Financial Summary | | | | |
| Total receipts | $2,031 | $1,604 | $2,674 | $3,215 |
| Total costs | 1,948 | 1,779 | 2,447 | 2,642 |
| Profit or Loss | $ 83 | $ -175 | $ 197 | $ 573 |
| Net cash flow | NA | $ 945 | $1,596 | $1,654 |
| Return/hr. operator's labor | $ 1.98 | $ 1.20 | $ 2.73 | $ 4.31 |
| Production | | | | |
| Gallons syrup per tap | .26 | .22 | .22 | .29 |
| Labor Efficiency | | | | |
| Gallons syrup/hour labor | .78 | .65 | .91 | 1.09 |
| Price | | | | |
| Receipts per gallon | $4.35 | $4.49 | $5.22 | $5.04 |

NA - Not available

Management Questions for Maple Producers

1. Is your maple enterprise profitable?
2. Is the "net cash flow" added money for family use?
3. Should gift and home use products be included as income?
4. What part of total costs are cash items?
5. Are depreciation and interest "real" costs?
6. How does size affect returns?
7. Is price a major factor?
8. How do some get $6.50 per gallon while others get $4.00?
9. What do you consider to be the major factors affecting returns from a maple enterprise?
10. Can you afford to invest in new equipment?
11. Would it pay better to sell sap than to invest in new equipment?
12. Does a profit of only $573 mean you should discontinue your maple enterprise?
13. What would your regular farm labor do with time now spent on syrup if you dropped the maple enterprise?
14. Does the maple enterprise affect your management of the dairy?
15. Would it ever be desirable to continue the maple enterprise even though your return per hour on regular labor is less than you are paying them now?
16. What are the weak points in your maple enterprise?
17. How could you increase your return from maple?
18. What are the long-term plans for maple syrup on your farm?