

Maine Maple Syrup Production Costs

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ABSTRACT

Average maple syrup production in Maine has recently surpassed New York state and is second of all U.S. states to Vermont. Maple syrup producers and industry supporters wanted detailed budgets for producing maple syrup in Maine. In June and November 2006, most Maine producers were surveyed for their production costs. Total survey respondents were 26 out of 295 for a response rate of about 9%. Using data collected from both surveys, representative maple syrup enterprise budgets were developed for small 300 tap, medium 3000 tap, and large 30,000 tap operations. All budgets allow any mix of bucket and/or tubing collection and track both operating and ownership costs. Representative budgets can be customized to a particular producer's operation and budgets allow recording of syrup production by container type. Net farm income or NFL for representative small, medium, and large maple syrup operations using tubing collection are -\$5,529, \$5,380, and \$47,283 respectively. Since all sizes assume use of only family labor, this labor cost is captured in NFL. For small and medium-sized operations, bucket collection has lower equipment costs compared to tubing. However if family labor is included as a cost, tubing is more profitable than buckets since less labor is used.

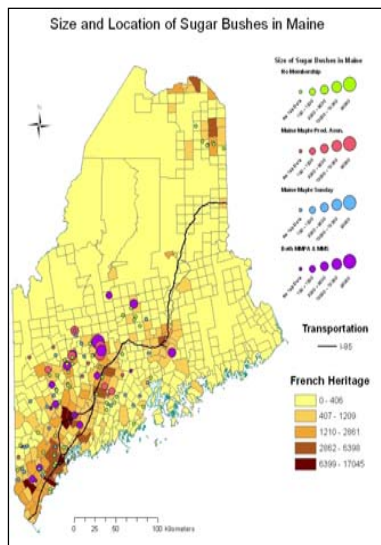


Maple Syrup Producers

Data & Methods

Tubing Profitability

Bucket Profitability



- ◆ New England Agricultural Statistics average 2003-2005 maple syrup prices
- ◆ Assume yield 1 quart of syrup per tap
- ◆ Input prices and quantities from survey data and equipment catalogs
- ◆ Depreciation calculations use capital recovery method

Budget Example

Annual Maple Syrup Budget	Small - 300 Taps	Medium - 3000 Taps	Large - 30,000 Taps
Number of Taps	300	3000	30000
Syrup Yield (gal)	300	3000	30000
Price (\$/gal)	-	-	-\$47.57
Annual Revenue	\$35,679	\$11,899	\$47,571
Annual Operating Expenses			
Labor			
Family	\$0	\$0	\$0
Hired	\$0	\$0	\$0
Syrup Acre Fuel	\$0	\$0	\$0
Hardware	\$0	\$0	\$0
Softwood	\$0	\$0	\$0
Oil	\$2,991	\$0,366	\$3,457
Propane	\$309	\$0,160	\$0,411
Diesel Fuel	\$1,066	\$0,36	\$1,426
Filtering	\$317	\$0,05	\$0,21
Containers	\$7,152	\$2,36	\$0,54
Clean & Sanitize	\$187	\$0,06	\$0,22
Miscellaneous			
Utilities	\$868	\$0,29	\$1,16
Rent or Lease	\$724	\$0,24	\$0,77
Packaging	\$0	\$0	\$0
Syrup	\$0	\$0	\$0
Tire and Trucking	\$0	\$0	\$0
Storage and Warehouse	\$0	\$0	\$0
Deer, Fees, Legal and Accounts	\$764	\$0,13	\$0,53
Phone and Internet	\$605	\$0,22	\$0,87
Advertising	\$1,546	\$0,52	\$2,066
Maintenance and Upkeep	\$1,287	\$0,42	\$1,469
Interest	\$801	\$0,27	\$1,07
Total Operating Expenses	\$17,712	\$5,599	\$23,643
Annual Ownership Expenses			
Depreciation and Interest			
Bucket Equipment	\$0	\$0	\$0
Syrup Line Equipment	\$3,448	\$0,15	\$4,609
Tubing Equipment	\$807	\$0,17	\$0,60
Maine Sap Transport	\$1,308	\$0,46	\$1,776
Syrup House Equipment	\$1,292	\$0,33	\$2,12
Land	\$2,046	\$0,87	\$3,499
Buildings	\$669	\$0,22	\$0,89
Tractor and Implement	\$2,387	\$0,60	\$1,18
Total Ownership Expenses	\$12,587	\$4,20	\$16,78
Total Annual Cost	\$30,299	\$10,10	\$40,421
Net Farm Income (NFL)	\$5,380	\$1,79	\$7,16
Return on Variable Cost (ROVC)	\$17,967	\$5,89	\$23,928
Performance Measures			
Break-even Revenue		\$940	\$461
Long-run to Cover All Costs		\$30,10	\$40,61
Short-run to Cover Operating Costs		\$9,96	\$23,64

Size	Line Item	Total	Per Tap	Per Gal
S	Revenue	\$3,718	\$12.39	\$49.58
300	Operating Costs	\$2,843	\$9.48	\$37.91
taps	Ownership Costs	\$6,404	\$21.35	\$85.38
	Net Farm Income	-\$5,529	-\$18.44	-\$73.71
M	Revenue	\$35,679	\$11.89	\$47.57
3000	Operating Costs	\$17,712	\$5.90	\$23.63
taps	Ownership Costs	\$12,587	\$4.20	\$16.78
	Net Farm Income	\$5,380	\$1.79	\$7.16
L	Revenue	\$140,505	\$4.68	\$18.73
30,000	Operating Costs	\$48,555	\$1.62	\$6.47
taps	Ownership Costs	\$44,667	\$1.49	\$5.96
	Net Farm Income	\$47,283	\$1.57	\$6.30

Size	Line Item	Total	Per Tap	Per Gal
S	Revenue	\$3,718	\$12.39	\$49.58
300	Operating Costs	\$2,840	\$9.47	\$37.87
taps	Ownership Costs	\$6,175	\$20.58	\$82.33
	Net Farm Income	-\$5,297	-\$17.66	-\$70.62
M	Revenue	\$35,679	\$11.89	\$47.57
3000	Operating Costs	\$17,813	\$5.94	\$23.75
taps	Ownership Costs	\$12,321	\$4.11	\$16.43
	Net Farm Income	\$5,545	\$1.84	\$7.39
L	Revenue	\$140,505	\$4.68	\$18.73
30,000	Operating Costs	\$51,939	\$1.73	\$6.93
taps	Ownership Costs	\$66,631	\$2.22	\$8.88
	Net Farm Income	\$21,935	\$0.73	\$2.92

2006 ME Maple Syrup Production Cost Survey

- ◆ First 14 page survey mailed June 2006
- ◆ Second 8 page survey mailed November 2006
- ◆ Both survey data include revenues plus variable and fixed costs
- ◆ 26 respondents out of 295 surveyed producers
- ◆ ~9% response rate

Current Findings & Conclusions

- ◆ Tubing/bucket profitability results assume family labor cost is not an operating cost so family labor is captured in net farm income
- ◆ For small and medium-sized operations, bucket collection has lower equipment costs compared to tubing assuming family labor not specified as an operating cost
- ◆ If family labor is included as a cost at \$12.36 per hour, tubing collection for small and medium-sized operations are \$525 and \$14,653 more profitable since less labor is used compared to buckets
- ◆ Large operations more profitable using tubing than buckets due to both lower equipment costs and lower labor costs

Future Work & Use

- ◆ Determine cost effectiveness of artificial vacuum, reverse osmosis, pre-heating, & air injection equipment plus value-added maple products like candy, cream, & sugar
- ◆ Budgets allow recording of maple syrup production by the container and/or drum
- ◆ Budgets allow any mix of tubing/buckets
- ◆ Extension, industry groups, and producers can customize representative budgets to a particular producer's operation

* Representative Budget Sizes: 1) Small - 300 taps
2) Medium - 3000 taps & 3) Large - 30,000 taps