Economic Aspects of Maple Syrup Production

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Main Topics for Today

• overview of the current status of the maple industry

• costs and benefits of using maple trees for syrup or sawtimber production

• economics of leasing maple trees for syrup production
Maple syrup production 1850-2013


Note: 1 U.S. gallon = 3.79 liters
Pure Maple Syrup & Sugar Production 1860-1930

- Pure maple sugar
- Pure maple syrup (lbs)

Pounds of Pure Maple Produced
Percentage of Pure Maple made as Syrup

1860 1870 1880 1890 1900 1910 1920 1930
Average Consumption of Pure Maple Syrup in United States 1975–2009

**FIGURE 1.13.** Average per capita consumption of maple syrup for the United States is determined by taking total US production, adding imports, subtracting exports, and then dividing by the population in a given year. Until recently, nearly all of the increase in United States consumption was driven by growth in Canadian syrup production. Consumption data is shown with the green line and references on the right-hand axis; import, export and production data references are on the left-hand axis.
Pancake Syrup Market Trends

Rolling 12 months, July 29, 2014.
United States, scan data projects to about 90% ACV

Provided by Neilsen
with the assistance of Mark Harran, IMSI
Covers about 90% ACV U.S. Sales, but does not capture all maple syrup sales

Does not cover maple syrup sales through:

- Farm gate
- Farmers markets
- Small rural outlets
- Convenience stores
- Websites
- Mail order

### xAOC (Expanded All Outlet Channel)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food</strong></td>
<td>Projects to all Grocery Stores $2 Million+ annual ACV. Includes projections for Natural Foods retailers such as Whole Foods, Trader Joes, as well as discount grocers such as Aldi.</td>
</tr>
<tr>
<td><strong>Drug</strong></td>
<td>Projects to all Chains + Independents $1MM+ annual ACV (ACV includes Rx).</td>
</tr>
<tr>
<td><strong>Select Mass Accounts</strong></td>
<td>Target + Kmart + ShopKo + Pamida + Alco</td>
</tr>
<tr>
<td><strong>Walmart</strong></td>
<td>Division 1 + SuperCenters + Neighborhood Markets</td>
</tr>
</tbody>
</table>
| **Select Club Accounts** | Sam’s + BJ's  
Does NOT include Costco |
| **Select Dollar Accounts** | Dollar General + Family Dollar + Fred's Dollar  
Does NOT include Dollar Tree or 99Cent Stores |
| **Select Military Accounts** | DECA (Defense Commissary Agency) only  
Does NOT include AAFES (Army Air Force Exchange Svcs)  
nor NEXCOM (Navy Exchange Command) |
Total sales ($) from July 2013-July 2014

- Molasses
- Cooking Syrup
- Imitation
- Imitation (reduced calories)
- Pure Maple
- Fruit Syrup

22%
Change in sales from July 2013-July 2014

4.7%
Total volume (units) from July 2013-July 2014

- Molasses
- Cooking Syrup
- Imitation
- Imitation (reduced calories)
- Pure Maple
- Fruit Syrup

9%
Change in volume (units) from July 2013-July 2014

6%
FIGURE 4.2. Total number of potential taps from sugar maples and red maples in United States.
FIGURE 4.4. Source: USDA Forest Service FIA data and NASS report from 2011.
## Table 10: Areas of Maple Stands in Three Canadian Provinces
(OMNR, 2012; RNQ, 2002; Écoressources, 2012)

<table>
<thead>
<tr>
<th>Area</th>
<th>Ontario</th>
<th>Quebec</th>
<th>New Brunswick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tappable maple stands (ha)</td>
<td>1,325,843</td>
<td>620,000</td>
<td>139,230</td>
</tr>
<tr>
<td>Tappable maple stands on Crown land (ha)</td>
<td>643,273</td>
<td>282,970</td>
<td>117,000</td>
</tr>
<tr>
<td>Maple stands on Crown land currently used for maple syrup production (2011) (ha)</td>
<td>256</td>
<td>31,706</td>
<td>9,239</td>
</tr>
<tr>
<td>% of tappable maple stands on Crown land currently used for maple syrup production (2011) (%)</td>
<td>0.04%</td>
<td>11%</td>
<td>8%</td>
</tr>
</tbody>
</table>
Costs of Production for Pure Maple Syrup

Fixed Costs

- Land & Taxes
- Buildings
  - Sugarhouse
  - Sap collection
- Equipment
  - Evaporator
  - Reverse osmosis
  - Vacuum pump
  - Tubing/Buckets
  - Collection tanks
  - Filter press
  - Bottling Unit
- Vehicles
- Insurance

Variable Costs

- Labor
  - Sap collection & processing
- Fuel
  - Electricity
  - Wood or Oil
- Tubing & Taps
- Filtering Media
- Storage Containers
  - Sap & Syrup
Cost of Production Study (Quebec 2003)

<table>
<thead>
<tr>
<th>Elements</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
<th>Global</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>$/lb</td>
<td>$/lb</td>
<td>$/lb</td>
<td>$/lb</td>
</tr>
<tr>
<td>Variable costs</td>
<td>0.65</td>
<td>0.65</td>
<td>0.80</td>
<td>0.70</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>0.53</td>
<td>0.45</td>
<td>0.39</td>
<td>0.44</td>
</tr>
<tr>
<td>Miscellaneous income (-)</td>
<td>-0.09</td>
<td>-0.05</td>
<td>-0.07</td>
<td>-0.06</td>
</tr>
<tr>
<td><strong>Total paid</strong></td>
<td>1.09</td>
<td>1.04</td>
<td>1.12</td>
<td>1.08</td>
</tr>
<tr>
<td>Depreciation</td>
<td>0.64</td>
<td>0.51</td>
<td>0.42</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td>1.73</td>
<td>1.55</td>
<td>1.54</td>
<td>1.58</td>
</tr>
<tr>
<td>Compensation for operator / family</td>
<td>1.96</td>
<td>0.85</td>
<td>0.41</td>
<td>0.90</td>
</tr>
<tr>
<td>Compensation for owner's equity</td>
<td>0.36</td>
<td>0.20</td>
<td>0.11</td>
<td>0.20</td>
</tr>
<tr>
<td><strong>Cost of production</strong></td>
<td>4.05</td>
<td>2.61</td>
<td>2.06</td>
<td>2.68</td>
</tr>
</tbody>
</table>

Costs of production fall as size of operation increases

Producing syrup is only profitable for large-scale producers
What Determines Bulk Syrup Pricing?