UNIVERSITY OF VERMONT EXTENSION

CULTIVATING HEALTHY COMMUNITIES

Maple Sugaring in Your Backyard

Maple sugaring is an old Vermont tradition that you can enjoy in your backyard. To make your own maple syrup, follow these basic steps.

Which trees do you tap? The hard or sugar maple, *Acer saccharum,* gives the highest yield. The Red Maple is also commonly tapped. Sugar Maple: opposite branches, sharp brown buds; Red Maple: opposite branches, round red buds.

Timing: The normal tapping time in Vermont is from late February - mid March. The weather must provide cold nights (25°F or below) and warm days (40°F or above) for the sap to run. There will normally be 8-10 runs over a 4-6 week period.

Tapping with Buckets: You'll need a 5/16" or 7/16" bit (depending on spouts), a hand brace or cordless drill; spouts, hammer, buckets & covers. Drill 1 ½" - 2" into good, white wood, on any side of a tree, at a slightly upward angle, keeping 6" to the side of an old tap. Tap the spout into the hole – DO NOT pound, you can split the bark; just tight enough to hold a bucket of sap.

Tapping with Tubing: You'll need a 19/64" or 5/16" bit, depending on spouts; fittings, tubing, storage containers, cordless drill & a small hammer. Follow drilling steps above. Tap the spout in, just until snug. Limit no more than 12 taps per 5/16" line. Keep lines Downhill, Tight & Straight (DTS).

Tapping guidelines, number of taps: Trees under 10" at chest height: 0 taps; 10 - 18" trees, 1 tap; trees over 18", 2 taps. No more than two on any tree.

Sap Collection Equipment: Buckets with covers (14-16 quart buckets), water jugs, gathering pails, new 5 gallon food grade plastic pails. For tubing: spouts, tubing, tees, Y's, connectors. Sap tank(s) can be plastic (polyethylene) or stainless steel; avoid plastic garbage cans and galvanized tanks.

Sap Handling: Sap must be gathered daily when it is running, then strained / filtered and boiled as soon as possible. Sap, like milk, will spoil. Sap should be stored (under 40 degrees) in a cool, shady area. Storage capacity: provide for 2 gallons per tap.

How much sap-syrup per tap? In an average year, you may get 10 to 20 gallons of sap from each tap. It takes 35 to 40 gallons of sap to make 1 gallon of maple syrup. This yields about 2 to 3 pints of syrup per tap in an average season. To determine sap to syrup ratio, use the Jones Rule of 86: divide "86" by the % sugar in sap; Example: 86 / 2% sap = 43 gallons of sap to make 1 gallon of syrup.

Evaporating: To evaporate the sap, you can:

- Boil it down on the kitchen stove. However, it will steam up and discolor the ceilings and walls after a time. It's hard on wallpaper, too.

- Make an outdoor arch out of brick, stone, or blocks and use a wood fire. A large flat pan with a big surface of sap exposed will boil away the water faster.
- Use a camp-type stove or gas grill in the garage or on the back porch, or an old gas stove and bottled gas.
- Buy a small commercial evaporator; most expensive, but also the most efficient.
- Use only Lead-Free soldered or welded Stainless Steel pans; DO NOT use galvanized steel pans. The pan sides should be at least 4 times higher than depth of sap. Keep sap depth shallow: 1-2"; it boils faster.
- Boiling with wood? Plan on making about 25 gallons of syrup per cord of wood used.
- *Caution:* You can get severely burned with maple syrup. Handle hot sap and syrup with gloves and use extreme care.

Defoamer: As the boiling sap gets sweeter, it will tend to boil up and over. A defoamer may be used to prevent this. A drop or 2 of a vegetable oil will provide a temporary settling of the foam. Use no more defoamer than absolutely necessary; be sure it is fresh.

When do you have syrup? As the sap boils, the sugar content increases and the temperature will rise. The correct density has been reached when the boiling temperature is 7 ½ °F above the boiling point of water. The actual temperature will vary due to atmospheric pressure changes and elevation differences. For example, if water boils at 211°F today, you'll have the proper density maple syrup at 218.5°F. Method 2: hydrometers measure the density of syrup. In Vermont, standard density syrup is finished at 32° Baume or 66.9° - 68.9° Brix at 210° F.

Filtering: Syrup will need to be filtered immediately, while it is hot, to remove a natural mineral material called *niter.* A felt filter, along with a pre-filter will work best, but several layers of cloth may serve adequately. Always boil a "brand new" filter several times before using it, to eliminate any off flavor that can come from the filter. Wash filters daily in hot water; never wring them out, just squeeze and allow them to dry.

Storage: It is important to store syrup correctly to prevent spoilage. Syrup that has too low a sugar content (density) may spoil or ferment; if too high, it will crystallize in the bottom of the container. Pack your syrup hot (185°-190°F), seal the container and lay on it's side for 10 - 15 minutes; let cool completely. Syrup may be stored in sealed plastic, metal or glass containers in a cool location. Syrup keeps best in the freezer for more than 3 months, in the refrigerator for shorter periods (syrup does not freeze- it only thickens).

More information: Your local library and most maple supply outlets will have books on maple sugaring. On the web, go to www.vtmaple.org or www.uvm.edu/~uvmaple

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