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# 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 1/2" - 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 1/2 °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](http://www.vtmaple.org) or [www.uvm.edu/~uvmmaple](http://www.uvm.edu/~uvmmaple)

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