



Backyard Maple Sugarin'

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Traveling through New England this time of the year you will start to notice the first signs of spring. No, it's not blooming crocuses or the return of the robin. It's the sound of maple sap dripping into sap buckets and the sweet smell of the steam rising from the sugar house. For many in New England, the start of the maple sugaring season is the start of spring. This is certainly true for the commercial sugar producers in the area, but if you have a few sugar maple trees in your backyard, you and your family can usher in spring by producing your own maple syrup right in your own backyard.

The process of boiling sap down to syrup is work, but is fun, educational and can be a great family activity. If you have access to a few sugar or red maples, you can produce maple syrup. The procedure outlined below is for the backyard hobbyist who is just getting started in maple sugaring and provides a list of the equipment needed and a step-by-step procedure to make maple syrup.

Equipment Needed

- Sap buckets or pails - 3 to 4 gallon capacity - and covers. These can be found at many hardware stores or local sugarhouses and maple supply companies. Buckets are not required. Many backyard hobbyists have found creative ways to collect sap using a various range of food-grade containers. Be sure any container used for sap collection is food-grade and lead free.
- Spouts with hooks to hang the buckets. Spouts are available in sizes either 7/16 of an inch or 5/16 of an inch.
- 1 deep pan for boiling sap. The pan should be food-grade, lead free and should be able to hold at least 3 or 5 gallons of sap. The sides of the pan should be high to keep smoke out of the boiling sap and to prevent the sap from spilling over into the fire.
- An outdoor fireplace in which the pan can sit upon.
- A large piece of white felt or a maple syrup filter.
- Firewood.
- Canning jars or maple syrup containers for storing the finished syrup.
- A portable, cordless drill and a 5/16 or 7/16 inch bit (bit size should be the same as spout size)
- A candy thermometer
- A hydrometer and cup are not necessary, but can be very useful
- A hammer, preferably a rubber mallet
- A small block of wood
- 2 or 3 large containers capable of storing extra sap. These containers should be clean and food-grade.

When to Tap

The sugaring season in the Monadnock region runs from mid to late February to late March and sometimes into April. This season however, is rarely typical. Rather than having a standard length or start time, the sap in maple trees begins to flow when the trees sustain temperatures during the day of around 40°F and nights that drop below freezing. It's difficult to predict when the sap is going to flow, so maple sugar producers keep a close eye on the weather forecast and some even tap on a traditional calendar day regardless of the weather – a common day in this area is to tap the maples on President's Day in February.

Tapping

- Both sugar maple and red maple trees can be tapped and the sap used to make maple syrup. Select trees that are healthy and greater than 12 inches in diameter. Trees that are 12 to 18 inches can have one tap; trees greater than 18 inches can have 2 taps. Trees with large, spreading crowns will be the best producers of sap.
- To tap a maple tree you will need to drill a hole into the tree. Drill into the maple using the 5/16 or 7/16 inch bit at a convenient height. The drill should be tilted slightly upwards to create a sloping hole. Drill no more than 3 inches into the wood. The wood chips from the drill hole should be clean and white. If you drilled into decaying wood, the chips will be discolored and you should re-drill your tap hole on a different part of the maple to avoid areas of decay.
- Tap the spout into the hole using a hammer and a block of wood. The block of wood should be between the spout and the hammer. Be sure to tap the spout into the tree. If the spout is hammered into the tree, the bark may split and severely damage the maple.
- Once the spout is tapped snugly into the taphole, hang the sap bucket on the spout and attached the bucket covers to keep out debris. You are now ready to collect sap. Remember to always remove spouts from the tree at the end of the sugaring season to allow the tree to heal and never plug the holes with foreign objects.

Boiling

- Set up your fireplace to accommodate your boiling pan. Construct the fireplace from cement blocks or bricks of size so the boiling pan or kettle can rest on them above the fire. Smoke from the fire can often be a problem if it comes in contact with the boiling sap resulting in syrup with a smoky taste and a darker color. To draw off the smoke, a chimney can be constructed using a stovepipe.
- Sap should be collected daily and, if possible, boiled daily. If you can't boil when you collect your sap, store it in a large container in a cool place. Sap will spoil if it's not kept cool and if it's kept for too long.
- When you are ready to boil, fill your pan half way full with sap, then light a fire under the pan in the fireplace. Keep the fire hot. As the sap boils, it will lose water through the evaporating steam. Keep adding additional fresh sap as the water boils away. This is a lengthy process – 10 gallons of sap will produce 1 quart or ¼ gallon of syrup, a 40:1 ratio.
- When finished adding sap, keep boiling sap until it reaches a temperature that is 7.5 degrees above the boiling temperature of water. Usually the boiling temperature of water is 212 degrees, but elevation and atmospheric pressure can increase or decrease that temperature. The temperature of boiling maple syrup is usually 219.5 degrees. A hydrometer can also be used to verify the syrup's density. Once your boiling sap has reached the correct temperature, take the pan off fire and stop boiling.
- If the syrup you made didn't reach the boiling temperature of syrup, it will be too thin and spoil. If the syrup was boiled too long and too hot, it will be too thick and crystallize.
- Hot, finished syrup should be filtered through a wool felt filter to remove sugar sand – also known as niter - and any other particles in the syrup.
- Once filtered, the hot syrup can be bottled. Syrup should be bottled between the temperature of 185 to 195 degrees to prevent spoilage and microbes from developing. If the syrup cools below 185 degrees, you can reheat the syrup to the proper bottling temperature on the stovetop. Be sure to fill the container to the top and, once sealed, flip the container over to ensure all surfaces inside are touched by the hot syrup to sterilize the container.
- Once bottled, let cool and you are ready to enjoy your own backyard maple syrup!

Above is the basic procedure for making maple syrup in the backyard. Care should be taken to ensure you are boiling safely. Be sure you are following your town's local fire department's ordinances and recommendations and you have your proper safety equipment.

If you have specific questions about this procedure or about your maple trees, feel free to contact the Cheshire County Extension Forester, Steve Roberge at 352-4550 or steven.roberge@unh.edu .