

# How to Tap and Make Maple Syrup

## What Trees Can be Tapped

Maple syrup can be made from any species of maple tree. Trees that can be tapped include: sugar, black, red and silver maple and box elder trees. Of all the maples, the highest concentration of sugar is found in the sap of the sugar maple. Generally the ratio of sap to syrup for the sugar maple is 40 to 1 (40 gallons of sap yields one gallon of syrup). Other species of maple have lower concentrations of sugar in their sap. For example; it may require 60 gallons of box elder sap to produce one gallon of syrup.

## What Tools are Needed

The tools required for a small maple syrup operation are found in most homes or can be easily obtained.

They include:

- Drill (brace) with 7/16" or 3/8" drill bit
- Hammer
- Collection containers - plastic buckets, milk jugs, and coffee cans work well
- Large boiling pan (preferably low and broad)
- Candy thermometer
- Wool felt or cheesecloth filter material
- Spiles or tapping spouts - Spiles can be purchased or made from 1/2 " wooden dowels cut to 3 " lengths. Drill a 1/8 " hole through the center of each dowel and taper at one end so the spile will fit snugly into the tree tap hole. A notch should be made on the top of the wide end of the spile to support the sap collection container

## When to Tap Trees

Alternating freeze and thaw temperatures are necessary to create the pressure which causes the sap to flow when the tree is tapped. Sap runs best when temperatures drop below freezing at night and rise into the 40s during the day. In Minnesota these conditions typically occur during the month of March. However, because weather conditions vary somewhat from year to year, and from one location to another, trees can sometimes be tapped as early as mid- February or as late as April. Once temperatures stay above freezing and leaf buds appear, the maple syrup season is over.

## How to Tap Trees

Drill a hole in a tree, 2 - 4 feet above the ground. The hole should be drilled at a slight upward angle to a depth of about 3 inches. Use a hammer to lightly tap the spile into the hole. Do not hammer the spile too far into the hole as it may cause the wood around the hole to split - resulting in lost sap flow. Hang a sap container from the spile. It is best to use containers that have a cover on them to keep out rain, snow and other forest debris. Empty sap containers once a day and process sap immediately or store in a cool place out of direct sunlight until you are ready. It is recommended that you have at least ten gallons of sap before you start the evaporating process.

To determine the number of taps per tree, (too many taps in a tree may be harmful) use the following chart:

<u>Tree Diameter</u>	<u>Number of Taps</u>
less than 10"	0
10" to 14"	1
15" to 19"	2
20" to 24"	3
25" or larger	4

#### How to Process Sap into Syrup

To make syrup from maple sap is a simple process of boiling and evaporation. Since substantial quantities of water will be "cooked off," most of the boiling should be done outside, preferably over a wood-burning stove. Pour your sap into a large cooking pan. (A pan with a large surface area will increase the rate of evaporation during the boiling process.) As the water boils off, add more sap. Take care to add only small amounts of sap at a time to avoid killing the boil. Use a candy thermometer attached to the side of the pan to monitor the temperature of the sap. As the sugar in the sap becomes more concentrated, the temperature of the boiling sap will rise. When the sap darkens and the bubbles become smaller, you are approaching the final stages of boiling. At this point, pour the sap into a smaller pan and continue boiling on your indoor stove. **When the temperature of the sap reaches 219 degrees, the sap has become syrup!** To finish the syrup making process, strain the hot syrup twice through cheesecloth or felt, pour into jars and refrigerate. For longer storage, you can also use mason jars and can the syrup.