

Backyard Sugaring

A crash course in making maple syrup at home

Why Make Syrup When It's Cold Outside?

Maple syrup is made in late winter/early spring when the maple trees have the highest concentration of sugar stored in their sap. The tree uses the sugary sap as an antifreeze to keep its cells from freezing and breaking, a condition that would be similar to getting frost bite on your fingers if you didn't wear gloves in the winter. In February and March, daytime temperature begin to rise above freezing during the day and fall below freezing at night. This ebb and flow of warm and cold temperatures causes sap to move through the tree's sapwood, the live layer of wood under the bark. When temperatures are consistently warm day and night, the trees consume all the sugar in their sap for energy before the first leaves emerge. Long story short, we must harvest sap now before the tree awakens in spring and consumes the sugar stored in its sap!

Choosing Suitable Maple Trees

Maple trees must be at least 10-12" in diameter to safely tap without harming the tree. When picking your trees, keep the following in mind: 1.) Avoid trees really close to the road and 2.) Consider how far you'll have to transport sap from the tree to where you will store/cook it. Not good with winter tree ID? Remember to mark your trees next fall before the leaves come down when maple trees are easy to ID. Consult a field guide to trees or ask someone who knows how to ID trees in winter so you don't waste time tapping the wrong trees!

Tapping a Maple Tree

What you will need:

Maple trees, Drill (Cordless, Cordless, or Manual), Drill bit (sized for your spiles), Hammer, Spiles, aka Spouts (5/16" or 7/16" diameter), Clear tubing (optional), Buckets with lids or sap collection bags

Pick a spot on the south (sunny) side of the tree. Try to drill above a big root or below a big limb. Drill the hole at a height that is comfortable for drilling and handling the collection vessel. Drill the hole at a slight upward angle. Drill 2-2.5" deep. After drilling through the bark, the wood shavings should be light brown or tan indicating you're drilling into live sapwood. Clean the hole of debris/wood shavings. Tap the spile into the hole. Hang or attach the collection vessel.

How Many Trees Should I Tap?

The real question is, "How much syrup do I want?" Trees must be at least 10-12" in diameter to consider for tapping. You can set one tap for every 10-12" of tree. For example, a 24" diameter tree could have 2 taps.

A single tap will give about 10 gallons of sap. In general the sap to syrup ratio is 40:1. The exact ratio of sap to syrup depends on tree species, sugar content of individual trees, weather, etc. You can figure out roughly how much syrup will be produced by using the equation:

of taps X 10 gallons = gallons of sap collected

4 X 10 = 40 gallons of sap = 1 gallon of syrup

10 gallons of sap = 1 quart of syrup

Collecting Sap

No matter how you collect at the tree, sap needs to be collected and stored until you're ready to boil. Sap must stay out of direct sunlight, stay cold, and be cooked down as soon as possible to avoid spoiling. Packing stored sap in food safe containers in a snow bank or unheated building can extend its shelf life. Good sap is crystal clear. Spoiled sap is cloudy or has an oily sheen on top. You must cook the collected sap before it spoils!

Sap to Syrup

What you will need:

Heat source (outdoor grill, fire pit, propane burner, etc.), Cooking vessel (deep pans, stock pots, lobster pots, etc.), Small sieve with handle, Thermometer (temperature range adequate for syrup or candy), Filter media (cheese cloth, coffee filters, syrup filter, etc.), Jars with lids for finished syrup

Maple sap is primarily water (95-99%) with a little sugar (<2%). Maple syrup is 35% water and 65% sugar, so you have a lot of water to evaporate! Boiling may take hours or days depending on the cooking method employed and the amount of sap you have to boil. Whatever you do, DON'T BOIL INDOORS...unless you hate your kitchen and prefer to renovate later in the spring due to mold, water damage, etc. from all of the steam.

When cooking the sap maintain a low, controlled boil. Continue adding more fresh sap as the level of the cooked sap lowers. This consolidates more syrup into one finished batch. Skim foam from sap/syrup periodically with sieve. When you've run out of stored sap, or your cooking vessel looks full of "syrup", you're almost ready to finish.

You can finish your syrup outdoor or indoors – at this point there's not too much steam for your home to handle in most circumstances. Finished syrup will boil at 7° above the boiling point of water. As syrup approaches this temperature, the bubbles in the syrup are very tiny and the product is very prone to boil over (like milk) if you're not careful! Monitor the temperature closely when in the finishing stage so you don't over-cook your syrup. Like a steak, you can always cook it longer if needed, but you can't fix it if it's over-cooked. When the appropriate temp is reached, filter the syrup to remove particulates such as mineral sand that precipitated from the boiling sap.

Filtering Syrup

Pour the hot syrup through a filter such as coffee filters, layers of cheese cloth, or a purchased filter media for syrup. Pre-moisten your filter with water for more efficient filtering. Pour the warm, filtered syrup into clean, sterile jars and seal with a lid. Any food-safe container can be used, but canning jars work well for preserving the syrup without refrigeration. Other containers will need to be refrigerated or frozen to maintain freshness.

Resources

Equipment, Supplies, and Information

Sugar Bush Supply Co. www.sugarbushsupplies.com

Leader Evaporator www.leaderevaporator.com

Lehman Hardware www.lehmans.com

Search your local hardware store

How-to

www.tapmytrees.com

Hobby Maple Syrup Production - Ohio State University Extension Fact Sheet

Maple Syrup Production for the Beginner - Cornell Cooperative Extension

YouTube.com videos