



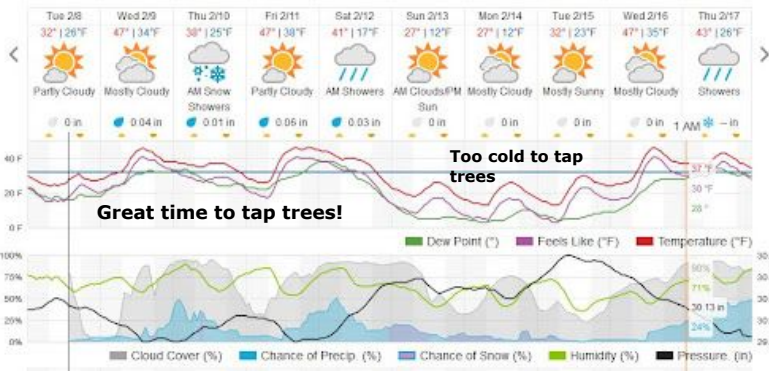
A full bucket of sap

Tree Sap is a food

- Many trees produce an edible sap. While mostly water, sap contains sugars and many vitamins and minerals. Traditionally enjoyed as a beverage, sap has many uses.
- Sap has been as a food for thousands of years in cultures all over the world utilizing many species of trees. Sap has been used by animals as a food for millions of years. Examples in human history include: many species of maple (Asia, N. America), birch (Asia, N. Europe, N. America), and palm trees (SE Asia, E. Africa).

Trees Species you can Tap in Western Pennsylvania

- Maples - Sugar, Red, Silver, Norway, Box Elder
- Birch - Black & Yellow
- Walnut - Black and Butternut



When to tap

- **Maples + Walnuts**
 - Anytime it is below freezing at night and around 40 degrees during the day. Between leaf drop and the buds open. December to March.
 - The main season in Western PA is **February**
- **Birch**
 - April - Soil temperatures start to warm up above freezing
 - Forest floor starts to green up with life



A Teaching log. Note the angle of the spile, so sap can drain out into your bucket..

How to tap

1. Identify a healthy tree more than 12" in diameter
2. Drill into the tree about inch inch deep - Use a 1/2" or 7/16" drill bit.
 - Drill at an upward angle (so sap can flow out using gravity)
 - Drill deep enough so the tap doesn't fall out. Don't go more than ~1.5" deep.
 - Note: Sap wood is the outside layer!
3. Tap your spile into the tree with a hammer
4. Watch the sap flow! Now hang your bucket or can on a string to collect your sap.

Cooking with sap!

- The easiest way to use sap is to cook with it. Use sap in place of water when you cook.
 - Try cooking sap with: Carrots and vegetables, Baked Beans, Polenta, Soup, Sweet Potatoes, Roasted chicken, and beef.
 - Try making your favorite beverages with sap: coffee, tea, even beer



Tapping the fence yard between the hammock and chicken coop

Where to tap trees

- If you are lucky you may have a tree in your yard. Some ideas to find trees to tap:
 - Begin by learning winter tree ID (classes, books)
 - Ask your neighbors if you can tap their trees.
 - Look around spaces you have access to that may have maples: school, work, church, community garden, cemetery.
 - Ask for permission before you tap.

How to boil sap into syrup

- You'll Need a few things
 - Spiles, sap buckets, sap barrels
 - A Boiler and fuel
- Sap is ~2% sugar. Boiling concentrates the sap to 67% sugar. This takes a long time. 40 gallons (or more) of sap will turn into 1 gallon of syrup. That's 39 gallons of water to evaporate, it's a good idea to do this outdoors.
- Concentrating sap into syrup can take 8 - 12 hours depending on your boiler, wood, and attention.



Sap on the boiler. Wood fire

Resources:

- [The Tree Identification Book](#), George W.W. Symonds
- [The Sugarmakers Companion](#), Machael Farrel



The trees are all tapped

A Collection of sap barrels



A DRILL



Examples of wooden spiles. You can purchase metal spiles