

Making Maple Syrup at Home

It's maple syrup time again, and Chippewa Nature Center is getting ready for another productive season! The beauty of making maple syrup is that you don't need a fancy operation like the big producers who make hundreds of gallons. The process can actually be quite simple, and can be done by almost anyone right at home!

The weather for a good maple syrup season usually starts in late February and lasts through the month of March. In order for sap to flow up and down the tree, the temperatures need to be warm in the day (40° F and above) with nights below freezing (in the 20° to 25° range.)

Sugar and Black Maple trees, also known as "hard maples," are the best producers of the sweet sap that is boiled into syrup. The sugar content in these trees is among the highest and averages 2 to 4%. The "soft maples" (Red and Silver Maples) usually have less than 2% sugar content in their sap and aren't considered good producers. Remember, approximately 40 gallons of hard maple sap is required to make just one gallon of syrup!



To collect a tree's sap, holes are drilled into the tree with a hand brace fitted with a 7/16" bit. Holes should be drilled 2 inches deep (on a slightly upward slant) 2 to 4 feet off the ground.

A new hole shouldn't be placed directly on, above or below an old one, and should be 6 to 8 inches away from any previous year's taps.

Following these simple rules will ensure a healthy tree with no large scarred areas. The tree will heal old tap holes on its own -- just remember to remove all spiles at the end of the season!

To ensure healthy trees, only tap trees that are more than 12 inches in diameter. If a tree is 18 inches and up, two taps may be used. Some syrup producers place three taps in trees over 25" in diameter. We do not recommend this as it may have adverse effects on the tree.

Once a hole is drilled, a metal spile with a hook is hammered into the tree. Galvanized metal buckets are then hung from the hooks and you're ready for the sap to flow! To keep out most debris like sticks and leaves (and birds or squirrels) a metal lid can be fitted to the top of the bucket.



The processing of turning sap into syrup is one of evaporation. Heat is used to concentrate the sugar in sap by boiling off the excess water. The use of heat also gives the syrup its characteristic maple color and flavor that are trademarks of 100% pure maple products.

In large operations, an evaporator pan is continually fed with maple sap from large tanks attached with a copper tube. In smaller operations, a "batch method" is used. In this method, sap is added to the evaporator pan by hand as necessary to replace that lost by evaporation. When enough sap has been concentrated, the pan is "finished off" to produce syrup of the correct density (finished syrup consists of 66% sugar.)



CNC Volunteer Herm Gieseler demonstrates the old fashioned batch method at Maple Syrup Day



Drawing off a batch of finished syrup from CNC's modern evaporator pan in the Sugarhouse

To begin the evaporation process, fill a large shallow pan with sap (traditional kettles or large saucepans can also be used.) Heat the sap to the boiling point, taking care not to burn or scorch it in the bottom of the pan. It is important to have adequate ventilation in the room when boiling, as large quantities of steam are created in this process!

As the level of sap in the pan is lowered through evaporation, just add more sap to the bubbling pan. This process is continued until most of the sap is highly concentrated and its temperature begins to rise above the boiling point of water. (Throughout the boiling process you may occasionally need to skim the surface of the boiling liquid to remove surface foam and other materials.)

Finished syrup is created when the temperature of the boiling sap is seven degrees above the boiling point of water (usually about 219° F.) As the boiling sap approaches this temperature, it is very important to carefully monitor the pan to prevent burning and overheating. It is best to use a candy thermometer calibrated to at least 227° F to monitor the boiling sap.

One you reach the finishing point of your batch, the syrup is ready for filtering and packaging. To ensure a pure product, syrup should be run through a wool filter when hot to remove any suspended particles (such as “sugar sand.”) Before canning, the syrup should be heated to at least 180°F to kill any bacteria that may cause it to spoil.

The process of making maple syrup is a fun and rewarding activity that can be enjoyed by almost anyone. If you have any questions about maple syrup-making, we invite you to call us for information at (989) 631-0830.

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