Maple Syrup
A Taste of Nature
Sugar maple trees are unique to North America and grow naturally only in the northeastern United States and southeastern Canada. This makes maple syrup a very special product we get from Pennsylvania forests.

**HOW IT STARTED**

American Indians first discovered how to make maple syrup many years ago. They collected the sap in containers made from birch bark. They boiled it by filling a hollowed-out log with sap, then putting hot rocks into it. The American Indians did not have a way to store the sticky liquid maple syrup very well, so they boiled the syrup a little longer to make maple sugar. They used maple sugar to sweeten their food and added it to cold water for a sweet summer drink.

When the first Europeans came to North America, the American Indians taught them about making maple syrup. As time passed, the method of making maple syrup improved, but the basic process remained the same. The annual tradition of making maple syrup has been a part of Pennsylvania’s history for well over 200 years.

**MAPLE SUGARING BASICS**

In early spring each year, maple producers, also called “sugarmakers,” throughout Pennsylvania head to their woods for the start of the maple syrup season. Generally, the maple season lasts from mid-February to early April. Maple producers drill a small hole into the trunk of the tree. This is called tapping. They insert a small
spout or spile to catch the sap that begins to collect in the hole. The spout may connect to plastic pipes stretching through the woods, called tubing, or to a bucket to collect the dripping sap.

**MAKING THE SYRUP**

Sap from the sugar maple tree is about 98 percent water and 2 percent sugar, other nutrients, and minerals. To make pure maple syrup, the sap needs to be boiled to evaporate a lot of the water away. Maple syrup is 33 percent water and 67 percent sugar.

The sap starts to “run” or flow out of the holes when the weather is just right. Sugarmakers like cold nights (with temperatures below freezing) and warm days (with temperatures above freezing) so the sap will flow. Once the sap starts collecting in the buckets or flowing through the tubing, it needs to be processed right away.

Sugarmakers use evaporators to make maple syrup. An evaporator consists of two or more large, specially designed pans that are filled with sap. These pans sit over a fire of burning wood or some other fuel, which heats the sap and causes it to boil. As it boils, some of the water in the sap
turns into steam, which rises out of the sugarhouse. The sap becomes thicker and sweeter.

The sugarmaker has to watch the boiling sap very carefully because it could easily burn in the evaporator. As the sap thickens, it gets hotter. The sugarmaker knows that the maple syrup is ready when its temperature reaches 7 degrees Fahrenheit above the boiling point of water. This process requires a lot of time and energy, because it takes about 40 gallons of sap to make just one gallon of pure maple syrup!

The boiling sap is tested with precise instruments to determine if it is maple syrup. If it is thick enough to be maple syrup, it is filtered to take out “sugar sand,” which accumulates as the sap boils. Sugar sand is just minerals and nutrients that concentrate as the excess water is boiled away. If it is not filtered out, the maple syrup will appear cloudy.

**THE FINAL PRODUCT**

After the maple syrup is filtered, it is put in a container for sale, or made into other tasty maple treats. Many maple producers process their maple syrup into maple sugar, maple candy, maple cream, and even maple jelly. Pure maple syrup and other maple products have no additives, preservatives, or artificial colors. It’s all natural, and some people even call it a “taste of nature.”

Pure maple syrup is great on pancakes, waffles, and French toast. You can also enjoy it on vanilla ice cream, on steamed rice and vegetables, or other foods. It is a pure, all-natural product from Pennsylvania’s woods.

Prepared by Anni Davenport, former extension assistant in forest resources; Sanford Smith, extension specialist in natural resources and youth education; and Roy Adams, former associate professor of wood products.

Support for the printing of this document was provided by the U.S. Forest Service, the Department of Conservation and Natural Resources, and the Pennsylvania Bureau of Forestry.

Visit Penn State’s College of Agricultural Sciences on the Web: agsci.psu.edu

This publication is available from the Publications Distribution Center, The Pennsylvania State University, 112 Agricultural Administration Building, University Park, PA 16802. For information telephone 814-865-6713.

Where trade names appear, no discrimination is intended, and no endorsement by Penn State Cooperative Extension is implied.

This publication is available in alternative media on request.

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, gender identity, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 328 Boucke Building, University Park, PA 16802-5901, Tel 814-865-4700/V, 814-863-1150/TTY.

Produced by Ag Communications and Marketing

© The Pennsylvania State University 2009

Code: UH130

40 GALLONS SAP

1 GALLON SYRUP

Produced by Ag Communications and Marketing

© The Pennsylvania State University 2009

Code: UH130

RSMc09mva4255