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Maple Sugar Production Here Rivaled New England's

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By R. Kelly Coffey

Sugar Mountain. Sugar Grove. Sugar Hollow. Sugar Knob. The word "sugar" appears on maps of almost every region within the southern mountains. A bit of our pioneer past is evoked every time these place-names are spoken, and the names themselves reveal the natural history of those particular locations.

"Sugar" refers to the sweetener made from the sugar maple tree (Acer saccharum), an important forest food resource to the early settlers of the Appalachian frontier. Although popularly associated with New England, the sugar maple is a common, native tree in southern Appalachia, and an significant part of our cultural heritage as well.

Sugar maple thrives at higher elevations (3,000-5,500 feet) and is generally found in association with American beech. The forest saplings are very shade-tolerant, growing several years

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2002 - Issue 1 (March)

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under a dark canopy before reaching full sunlight. During the winter, the sugar maple tree stores a solution of sucrose (sugar) in its roots, in the form of watery sap.

Variation in the air temperature pumps the sap up and down within the tree trunk. As much as 250 gallons of sap rise in a mature tree whenever the daytime temperature climbs above 40 degrees, following a subfreezing nighttime temperature. Such temperature variation commonly occurs anytime between October and April.

The ideal time for tapping the sap, however, is in late winter and early spring (February-April), when the sap flows are heavier and more consistent. Many variables - such as elevation, latitude, and weather - can affect the timing of the sap flow at a particular location.

Tapping a sugar maple is a simple process. A shallow, half-inch diameter hole is drilled into the trunk and a tubular spout is inserted. When the sap rises during the day, it flows through the spout into a container hung below it. The sap, which has the appearance and consistency of water, is then boiled until most of the water evaporates, leaving behind the concentrated sucrose.

Thirty gallons of sap generally yields about 1 gallon of maple syrup, or about 5 pounds of maple sugar. Tapping a sugar maple does not harm the tree if the hole is properly drilled and the sap is not overharvested.

Palatable sugar and syrup can be made from many maple tree species, including the more common red maple (Acer rubrum). Black maple (Acer nigrum) closely resembles the sugar maple and, in fact, often hybridizes with A. saccharum. Sugar maple is the preferred species, however, because it has a higher concentration of sucrose and thus requires less sap to make the desired product.

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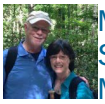
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The Sugar Camp

During the late 18th century, when the mountains were being settled, pioneers had few options for a sweetener. Refined cane sugar (the most prevalent sweetener today) could be obtained as a trade item from the West Indies, but it was considered a luxury due to its expense. Molasses - a byproduct of the cane sugar refining process - also had to be imported. Consequently, the only readily available sweeteners were those that occurred naturally in the mountains - honey and maple sugar. (Mountain residents later made molasses themselves from sorghum cane, a plant introduced to the United States from Africa in the mid-1800s. Sorghum cane, Sorghum vulgare, is a distinct species from the more tropical sugar cane (Saccharum officinarum)).

An Appalachian pioneer had only a few weeks to produce enough sugar for the entire year. Therefore, as the late winter days began to lengthen, settlers devoted all their attention to the labor-intensive procedure. Since a concentration of sugar maples would not necessarily be located close to a settler's home, she would camp out near a natural orchard of the trees, establishing what the pioneers called a "sugar camp." (Although not conclusive, some evidence indicates that maple sugar production may have been viewed at the time as "women's work.")

After the taps were set, the sap was gathered every day and poured into a large vessel over an open fire. The sap was boiled for hours, requiring constant attention in order to keep the flames alive and hot. After the liquid boiled down and the water evaporated, solid sugar crystals were left behind.

Interestingly, most sources refer to maple sugar being made in the southern mountains, not maple syrup. Presumably sugar

could be more easily stored and transported, an important consideration at a time when many people were just beginning to establish a home. Hunters found maple sugar to be a convenient source of energy. The sugar was frequently mixed with parched corn to provide a handy snack when far from the settlements.

Although maple syrup and sugar are still widely produced in New England, the practice has mostly died out in southern Appalachia, with only scattered communities and individuals still carrying on the tradition.

But at one time, the sugar maple ranked high among the most useful trees in the region. In an era when only the wealthy could afford sweets, the sugar maple provided our mountain ancestors an accessible luxury.

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