UNIVERSITY of NEW HAMPSHIRE
COOPERATIVE EXTENSION

"August Big Tree of the Month - Beech"

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The American beech tree, *Fagus grandifolia*, remembered by some as the tree with messages carved in its smooth gray bark, is the NH Big Tree Committee's Big Tree for the month of August.

Daniel Boone recorded his hunting success on a beech tree along a stage road in Tennessee: 'D. Boone, Cilled A Bar, On Tree, In Year 1760.' Those who saw it could read the message until about 1880, and the tree lived until 1916 with the message scars still visible.

Boone was practicing an ancient custom. The tempting smooth bark of beech trees invites its own destruction. Young men traditionally used the trunk as a tablet for carving the time-honored embellishment of a heart with initials of their sweetheart inside. As far back as 37 BC in Rome, Virgil wrote: "Crescent illae crescetis amores," (As these letters grow so may our love,) a passage from his pastoral poems 'Eclogues.' But today such testimonials of love could lead to the tree's demise because of a recent beech tree blight that enters the tree through damaged bark.

Tom Wessels carefully explains this blight in his book, *Reading the Forested Landscape, A Natural History of New England,* 1997, Countryman Press, Woodstock, VT. Around 1890, importers first noticed the scale insect in Halifax, Nova Scotia. They thought it might have arrived on a load of beech logs from Europe.

Importing wood to North America seems an incredible idea, but by the late 1800s, the east coast was running out of wood. European beech, the tree of Virgil's poetry, is a different species (Fagus sylvatica) from American beech and is resistant to the devastation that the blight causes because it evolved with the problem.

American beech trees are defenseless and vulnerable. By World War II, the blight spread to central New England, and sadly, I have seen huge beech trees in the Adirondack Mountains in New York dying from the disease – bark cracking and loosening from the trunk with a blackish tinge around the cracks.

The Nectria fungus causes the damage to the beech bark. It is spread by beech bark scale, an insect that feeds on the tree's sap by piercing the bark and sucking out the sap. Masses of these tiny scale insects damage the bark enough to allow the entry of the nectria fungus that grows in the cambium layer of the trunk, leading to the pitting and cracking of the beech bark. The damaged bark allows the entry of other insects and fungi to finish off the tree.

Nevertheless, Jon Nute, UNH Cooperative Extension Educator, Forest Resources, in Hillsborough County, is "bullish on beech," noting that the disease isn't as bad in New Hampshire as in surrounding states. He is counting on genetic variability to enable beech trees to survive. Some trees fend off the disease by walling off the infected area with the growth of a knob. The disease also is less of a threat in elevations above 2,000 feet where the extreme cold seems to kill the scale insects.

Nute explained that beech has the additional advantage of being shade tolerant. They not only germinate in shade, but also will grow slowly in shade for years waiting for a wind blow to open up the canopy so they can leap to the sunlight.

Beech trees, along with maple and birch, are the key deciduous species of Northern hardwood forests. Because the tree readily sends up root sprouts that grow well in the shade of the mother tree, beech are often found in pure stands called a beechwood forest. It likes good soil that is somewhat alkaline. This characteristic showed pioneer farmers where to find good farming land. They then cut them down to clear the land for farming.

The pointed, sharply toothed thin leaves with straight veins that extend to the tip of a tooth are easily recognized. The leaves tend to cling to the tree in the fall, lasting well into winter, adding a shimmering pale gold color to the drab winter forest. In winter the zigzagged twigs with long, sharply pointed terminal buds are very noticeable.

Beechnuts, a favored food for bears, are surprisingly small triangular nuts with leathery, spiny husks. But they are very sweet and nutritious and attract bears that claw their way up the big old trees to find the nuts, leaving telltale scratches on the trunks. These gashes in the trunks provide another way for the necteria fungus to enter the tree.

Beech is one of the three nut producers of our forests along with oak and hickory. The three trees seem to produce nuts on different cycles, so there is usually food for the animals. A few years ago, all three species produced a bumper crops and the squirrel and chipmunk populations exploded.

Beech wood makes excellent firewood, it is very dense and the wood burns hot. It is used for many interior uses but it rots when used outside. Its clear, light colored, fine grained wood is good for many mundane utilitarian uses: tool handles, food containers, butcher blocks and flooring.

One of its most popular uses was for bentwood chairs, made from round, steamed, and bent beech wood poles. These popular chairs designed and created by Michael Thonet of Vienna in 1859 were light and durable – seldom cracked or splintered in spite of the sharp curves in the chair backs. They continue to be popular for their attractive, functional and sturdy design.

The NH Big Tree Committee is looking for healthy beech Big Tree candidates as only four counties have a county champion beech tree listed. Be on the lookout for unusually large and healthy beech trees on you summer rambles. If you find a potential big beech, over 60 feet tall with a trunk diameter of three to four feet at chest height (over 100 inches in circumference),

contact the NH Big Tree State Coordinator, Carolyn Page, carolyn_page@hotmail.com, or call her at 664-2934.

Also visit the NH Big Tree web site at: www.nhbigtrees.org for the complete list champion Big Trees. The UNH Cooperative Extension and the NH Division of Forests and Lands sponsor the NH Big Tree program in cooperation with the National Register of Big Trees through American Forests.

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