

American Beech

Can science bring this silver pillar of eastern forests back to its earlier grandeur?

By Edna Greig

American beech (*Fagus grandifolia*) is an eastern North American forest tree that has a characteristic smooth, silvery gray bark that's easy to spot, even from a distance. Beech is especially conspicuous after autumn leaf fall because its leaves persist on the tree through winter. Beech leaves first turn a rusty orange in autumn and fade to a light tan by winter's end. The leaves make a pleasant rustling sound when stirred by a winter breeze.

Beech usually is found on moist, well-drained uplands and lowlands, often with sugar maple and yellow birch. It can grow 70 to 80 feet high with a stout 2- to 3-foot diameter trunk. Beech leaves are oblong with prominent parallel veins that end in small, incurved teeth on the margins. The smooth, thin bark of beech is susceptible to injury from fire, sunscald, freeze cracks, insects, and physical damage caused by animals or humans. The bark's light color reflects the winter sun's rays and helps to minimize the temperature fluctuations that can cause freeze cracks.

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A double-trunked giant American Beech

ture parts. Beech makes excellent firewood because it burns long and clean.

Unfortunately, in many parts of its range, American beech is declining due to beech bark disease, an introduced blight. The disease starts when tiny beech scale insects (*Cryptococcus fagisuga*) pierce the bark to feed on sap, creating small wounds. The scale insects carry a *Neonectria* fungus which then penetrates the wounds and destroys inner bark tissue. Beech bark disease is believed to have entered Nova Scotia around 1890 on imported European beech (*Fagus sylvatica*) logs or ornamental trees. The disease then spread southward and westward, reaching Maine around 1935.

It may also have entered New York City separately, spreading northward through Westchester County and into the Catskills by the 1940s. In infected areas, up to 50% of trees have been killed and another 30% to 40% have been weakened. Many larger trees have died, but smaller root sprouts have survived, though weakened and deformed.

So, the forests still have beech trees, but they are not of the size and vigor as in the past. On a small positive note, scientists have found that 5 to 20% of trees in a given area are resistant to beech bark disease. They are working to improve beech health by culling the diseased trees and propagating and planting resistant trees.

Let's hope the scientists succeed so that American beech can return to its grandeur of earlier times.



Bristly husks contain nutritious nuts.

An introduced blight has weakened this familiar native tree.

Beech reproduces vegetatively by sending up sprouts along its wide-spreading surface root system, sometimes forming groves. Beech also reproduces by seed. The fruit is a soft-bristled, four-part husk that matures in late summer and usually contains two triangular nuts. Beeches produce an abundant nut crop every five years or so, making a thick blanket of husks on the ground beneath the trees. Many mammals and birds relish the nuts. Before their extinction, passenger pigeons flocked in large numbers to beech groves to devour the nuts.

People and their livestock also have enjoyed beech nuts. Early farmers released their hogs into beech groves to fatten up on the nuts. Meat from these hogs had a unique flavor that was prized in local markets. The Beech Nut Company of upstate New York (now best known for its baby food) got its name from its 19th-century origins as a maker of beech nut-fattened smoked ham products.

The wood of beech is hard and tough although it does warp and split. Its toughness made it a popular factory flooring material for years. The wood also is easily bent after steaming and is used to make curved furni-

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