



Big Tree of the Month

Butternut (*Juglans cinerea*)

ANNE KRANTZ, NH Big Tree Team

The name butternut sounds good - like candy (Butter Nut candy bars of the 1950s made by Hollywood Candy Co.), or pretty - a soft yellow-orange color for clothes. So it is sad to learn that butternut trees are fast fading from their native habitat, North American forests, due to a deadly fungal canker disease. Although it's nearly impossible to find a healthy butternut tree today in New Hampshire, a lovely one was discovered recently in a residential neighborhood in Manchester.

Like black walnut trees, butternut trees are shade intolerant and grow in full sun, growing rapidly as young trees. They become nice shade trees with a straight trunk and a full symmetrical high crown. The large compound leaves cast applied shade and turn yellow in the fall.

Like most nut trees, they are deep rooted and not easily transplanted. But early farmers planted the nuts near farmhouses to make it easier to gather the nuts in the fall. The oily butternuts were used in baking and candy making, especially maple-butternut candy in New England. Husks were used to make a soft orange-yellow dye for work clothes, and the wood was used in fine cabinetry and later for veneer.

Butternut trees are smaller than black walnuts and generally shorter lived – 75 years. But they are hardier in cold climates and are found further north in New Hampshire. The long oval-shaped nuts are an easy way to identify the tree – quite different from the round black walnuts. Both nuts have a very hard shell.

Last fall I collected a handful of butternut nuts from under a local tree. I stored them on the screened porch all winter. Now that I understand how rare they are, it just occurred to me that I should taste one, although they aren't at all appetizing looking in their dried-



up brown husks. I rubbed off the husk and tried cracking the shell with a nut-cracker with no success. Hammers make such a mess and mush of the nuts, so I tried cracking it in the vise, which worked nicely.

The nut was larger than expected and not at all shriveled. No odor, so I bravely tried it and found it tasty, more like an English walnut than the sharp distinctive taste of the black walnut. Obvious this is why butternuts once were so popular and commonly sold in markets in the fall. Definitely a loss.

Before butternut canker disease virtually ended the harvesting of butternut trees, the moderately hardwood that saws and carves easily and has a

natural golden luster, was popular for furniture, cabinetry, instrument cases, interior woodwork, including hand-carved wall panels and trim.

Butternut trees began to decline rapidly in the 1960s due to the mysterious fungal canker disease of unknown origin. Branches would die giving the crown an untidy appearance. Spread of the sticky fungal spores is accomplished in a variety of ways, such as insect movement, birds, mammals, and rain splash.

Kyle Lombard, NH Division of Forests and Lands, Forest Health Section, reports most butternut trees grow well when young, especially if growing on rich, well-drained soils. However, as time passes the tree growth slows allowing the disease to get a foothold. By the time a butternut is greater than 10 inches in diameter, it's already in a state of decline.

The Division conducted a research project in the 1990s to try to save butternut trees by finding what they hoped were resistant trees to graft onto black walnut root stock to create a seed orchard of resistant butternut trees. The hope was that these resistant trees could be cross pollinated to produce resistant seed, a process called "intraspecific tree breeding". Obviously, this is a very lengthy process to grow seed/nut producing trees and then grow trees from these 'resistant' nuts to see if they are resistant trees.

Unfortunately, this complicated and expensive research has been abandoned by the Division because the potentially resistant trees used for the scions have not maintained their healthy status.

Melanie Joy Moore in her recent thesis "Inhibition by Butternut Bark Extracts and Viability of Conidia" Feb 2014 summarized ongoing research: "Experiments and research to save the butternut continue in some other states including Oconto River Seed Orchard, Wisconsin, run by the US Forest Service, Region 9, The Ontario Ministry of Natural Resources, Canada, a public/private effort in VT, The Hardwood Tree Improvement Research Center based at Purdue University in Indiana in conjunction with the US Forest Service where they have been involved with setting up grafted orchards in several other states (Missouri, Pennsylvania, Ohio, and West Virginia). There are butternut progeny seed tests in Indiana and Michigan. They are also involved in increasing resistance using hybrid butternuts and backcrossing

to a more native form." So there is still interest and hope that the unique and useful American butternut tree can be saved.

To view the New Hampshire record for big butternut trees, go to NHbigTree.org and click "State and County Listing of Big Trees." You will find information about the program with a link to the list of state and county champions. If know of a healthy BIG butternut (either planted or growing naturally in a forest), follow the instructions for submitting a Big Tree nomination for measuring by a county team. The Big Tree committee always welcomes the discovery of any kind of native tree that seems larger than those on the list.

ABOUT THE AUTHOR



Anne admits, "I literally stumbled into the fascinating Extension Tree Steward Program, and followed with the comprehensive Master Gardener training." Participating in a special training in 2009, Anne became the first team of volunteers to answer

homeowner questions at the Education Center – an activity she continues to love.

"Because of these excellent education opportunities I now serve on my conservation commission, the NH Pesticide Board and the Rivers Management Advisory Council. I have also enjoyed the New Hampshire Extension Big Tree Program – just found a flowering native chestnut tree this morning!"

—Anne Krantz

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