



Common Name: BUTTERNUT

Scientific Name: *Juglans cinerea* Linnaeus

Other Commonly Used Names: white walnut, oilnut

Previously Used Scientific Names: *Wallia cinerea* (Linnaeus) Alefeld

Family: Juglandaceae (walnut)

Rarity Ranks: G3G4/S2

State Legal Status: Special Concern

Federal Legal Status: none

Federal Wetland Status: FACU-

Description: Deciduous **tree** up to 70 feet (22 meters) tall and 2 feet (60 cm) in diameter. **Bark** is pale gray and smooth on young trees; gray-brown with long, narrow, vertical plates on older

trees. **First year twigs** bright green with orange-brown hairs; older twigs gray and rough; twigs cut lengthwise show a dark, chambered **pith**. **Leaf scars** triangular, with a velvety ridge along the upper edge. **Buds** at the tips of twigs $\frac{1}{2}$ - $\frac{3}{4}$ inch (1.3 - 2 cm) long. **Leaves** 12 - 24 inches (30 - 60 cm) long, alternate, with 11 - 17 toothed **leaflets**, each leaflet 1 - 7 inches (2.5 - 17.5 cm) long, dark yellow-green above, pale green and densely hairy beneath; **leaf stalk** with sticky, glandular hairs; leaves turn yellow in the fall. **Female and male flowers** on same tree; female flowers in small spikes of 6 - 8 flowers with bright red pistils and sticky pink hairs; male flowers in drooping catkins, $2\frac{3}{8}$ - $5\frac{1}{2}$ inches (6 - 14 cm) long. **Fruit** 1 - $2\frac{3}{8}$ inches (3 - 6 cm) long, oval or oblong, with a green, sticky-hairy outer shell with 8 ridges, the shell enclosing a thick-walled nut.

Similar Species: Black walnut (*Juglans nigra*) bark is very dark and braided, the leaf scar lacks a velvet ridge, the chambered pith is light brown, the buds are less than $\frac{1}{2}$ inch (1.25 cm) long, the lower surface of the leaflets are only slightly hairy, and the nuts are round. Hickory (*Carya* spp.) twigs have solid, not chambered, pith.

Related Rare Species: See nutmeg hickory (*Carya myristiciformis*) on this website.

Habitat: Cove forests with rich, moist soils; drier hardwood forests over soils high in calcium or magnesium; forests along mountain streams.

Life History: Butternut trees reach reproductive age at about 20 years, with fruit production peaking between 30 - 60 years. Some nuts are produced every year, and heavy crops of nuts occur every 2 - 3 years. Seeds are dispersed by gravity, squirrels, and other animals. Butternut trees flower April–June and are wind-pollinated. Butternut trees are infected by an exotic fungus, the butternut canker (*Sirococcus clavigignenti-juglandacearum*), which invades the bark of branches and trunks; all life stages of the tree are infected by the fungus.

Survey Recommendations: Surveys are best conducted during growing season when leaves are visible although bark, twigs, and nuts are distinctive during the fall and winter.

Range: Georgia, north to New Brunswick and Quebec, west to Arkansas, Minnesota, and Ontario. Butternut is threatened by or vulnerable to butternut canker disease throughout its range.

Threats: Infection by butternut canker, logging and clearing of habitat.

Georgia Conservation Status: Twelve sites are known, only 4 on conservation lands.

Conservation and Management Recommendations: Butternut canker has killed more than 75% of these trees in the southern U.S. Butternut does not root-sprout, therefore, an infected tree is lost forever. Support research to develop canker-resistant trees and fund genetic resource conservation programs. Avoid logging and other mechanical disturbances.

Selected References:

Chafin, L.G. 2007. Field guide to the rare plants of Georgia. State Botanical Garden of Georgia and University of Georgia Press, Athens.

FNA. 1997. Flora of North America, Vol. 3, Magnoliophyta: Magnoliidae and Hamamelidae. Oxford University Press, New York.

Kirkman, L.K., C.L. Brown, and D.J. Leopold. 2007. Native trees of the southeast. Timber Press, Portland, Oregon.

Lance, R. 2004. Woody plants of the southeastern United States: a winter guide. University of Georgia Press, Athens.

NatureServe. 2007. NatureServe Explorer. Arlington, Virginia.

<http://www.natureserve.org/explorer>

Ostry, M.E., M.E. Mielke, and R.L. Anderson. 1996. How to identify butternut canker and manage butternut trees. U.S. Forest Service, North Central Forest Experiment Station, Region 8, St. Paul, Minnesota. http://www.na.fs.fed.us/spfo/pubs/howtos/ht_but/ht_but.htm

Weakley, A.S. 2007. Flora of the Carolinas, Virginia, Georgia, and surrounding areas. University of North Carolina Herbarium, Chapel Hill. <http://www.herbarium.unc.edu/flora.htm>

Author of species account: Linda G. Chafin

Date Compiled or Updated:

L. Chafin, Apr. 2007: original account

K. Owers, Feb. 2010: added pictures

BUTTERNUT
Juglans cinerea



