

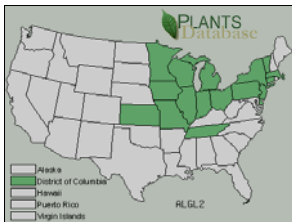


European Alder *Alnus glutinosa* L. Gaertn.

Common Names: black alder, European alder, European black alder

Native Origin: Europe, western Asia, northern Africa

Description: A quick growing tree in the birch family (*Betulaceae*) reaching 30 – 50 feet in height with a narrow, upright crown. The tree often has a multi-stemmed trunk. The bark is initially smooth and grayish green, but later turns grayish brown speckled with short, warty horizontal stripes and irregular, shallow fissures. Leathery leaves are alternate, simple, oval to orbicular, 2 -5 inches long, 2 - 4 inches wide, rounded or slightly notched tip, blunt tipped, doubly serrate margin, dark green above and lighter below with some scruffy pubescence in vein axils. Young leaves are gummy to touch. Flowers appear on the tree before the new growth in the early spring and have male and female flowers on the same plant (Monoecious). Male flowers are slender, reddish-brown catkins 1 to 1.5 inches long and female flowers are small, 1/6 inch, reddish-brown, cone-like catkins in clusters of 2–5 near branch tips. In fall fruits are cone-like woody catkins, initially green, turning brown when ripe, 3/4 inch long, egg-shaped, and contain many small winged nutlets. European alder reproduces almost entirely by mechanically dispersed seed. Average number of seeds per tree is 240,000. Root suckers are rare however fallen green branches take root in soft wetland habitats.



Habitat: It prefers wet soils with full sunlight. It is commonly found along stream banks, rivers, ponds or other wetlands. It grows in early successional forest, forest edges, floodplain forest, forest wetlands, shrub wetland, roadsides, yards or gardens. It is adaptable to poor or dry soils with pH from 5.5 to 7. The plant is hardy to winter temperatures of -28° F but 130 frost free days are required for successful growth and reproduction. It is intolerant of shade.

Distribution: This species is reported from states shaded on Plants Database map. It is reported invasive in IL, IN, MI, NY, PA, and WI. It is included on the Mid-Atlantic Exotic Pest Plant Council Plant List. It was planted on many surface mines in states such as KY and WV, some of it by the Forest Service to improve mine spoil areas (nitrogen fixation the driving concern). It is also located in KY, but not considered an invasive problem.

Ecological Impacts: European alder has been in cultivation in the northeast since colonial times. Early records have it escaping cultivation on Long Island as early as the 1870s. It is a pioneer and opportunist species that readily colonizes open ground. Its ability to be dispersed by water, and its ability to form mono-specific stands, makes it a threat to native wetland species. As a nitrogen-fixing plant, it has the ability to become established on very poor soils.

Control and Management:

- **Manual-** Cut; sprouts from the stump are common after cutting making it necessary to treat stump with herbicides
- **Chemical-** It can be effectively controlled using any of several readily available general use herbicides such as glyphosate (50% solution). Follow label and state requirements.
- **Natural enemies-** Dozens of insects and diseases have been observed on European alder but few cause serious damage: striped alder sawfly, *Hernichroa crocea*, European alder leafminer, *Fenusa dohrnii*, alder flea beetle, *Altica ambiens alni*, and woolly alder aphid, *Prociphilus tessellatus*,

References: www.forestimages.org, <http://plants.usda.gov>, www.nps.gov/plants/alien, Czarapata, Elizabeth J. Invasive Plants of the Upper Midwest, An Illustrated Guide to their Identification and Control, 2005 p. 88, www.cnr.vt.edu/dendro/dendrology/syllabus/factsheet.cfm?ID=157, www.dcnr.state.pa.us/forestry/invasivetutorial/euro_black_alder.htm, www.akweeds.uaa.alaska.edu/pdfs/potential_species/bios, http://na.fs.fed.us/spfo/pubs/silvics_manual/volume_2/alnus/glutinosa.htm