

Black Locust (*Robinia pseudoacacia*)

Introduction

Black locust is a leguminous deciduous tree that grows from 30 to 80 feet tall. It is often attacked by stem borers and other insects, causing deformed growth and dieback. It has a shallow, fibrous root system and spreads by underground rhizomes. Young saplings have smooth, green bark; older trees have deep,



furrowed, shaggy, dark bark with flat-topped ridges. Leaves are alternate and pinnately compound with 7 to 21 leaflets. Leaflets are thin, elliptical, dark green above, and pale beneath. Smaller branches are armed with heavy, paired thorns. Flowers are pea-like, fragrant, white and yellow, and born in large drooping racemes. Seed pods are shiny, smooth, narrow, flat, 2 to 4 inches long, and contain 4 to 8 seeds. Black locust stands are easy to identify in spring because they typically form multiple-stemmed clones and are slow to leaf out. They produce showy flower clusters in May or June.

Black locust commonly occurs in disturbed habitats like pastures, degraded woods, thickets, old fields,

and roadsides. Successful reproduction via vegetative runners has contributed to the naturalization of black locust in upland forests, prairies, and savannas. Because dense clonal stands shade out most understory vegetation, such tree groves can be detrimental to native vegetation.

Origin and Spread

Black locust is native to the slopes and forest margins of Southern Appalachia and the Ozarks. It was introduced throughout Wisconsin in the early 1900's because its aggressive growth pattern and extensive root system discourage soil erosion. Black locust wood is also valued for its durability and high fuel value, and provides good forage for bees.

The tree is a translocated deciduous tree that is frequently found in upland prairies, savannas, roadsides, old fields, and woodlots in Wisconsin. Black locust prefers humid climates with sandy, loamy, well-drained soils in open, sunny locations.

Native Alternatives for Landscaping

Hawthorns (*Crataegus sp.*), Sassafras (*Sassafras albidum*), Pines: pitch, white (*Pinus rigida*, *P. strobus*) Eastern red cedar (*Juniperus virginiana*), Sumacs (*Rhus sp.*), Birches (*Betula sp.*)

Controls for the Plant

Mechanical Control

Cutting black locust stimulates sprouting and clonal spread. For this reason, additional treatments are recommended along with cutting the stems. Mowing and burning temporarily control spreading, but mowing seems to promote seed germination, and burning stimulates sprouting. Girdling is ineffective because it kills the stem but does not prevent sucker formation. Annual haying may be adequate to control first year seedlings and prevent spreading in prairie or old-field communities. Bulldozing may be an option on disturbed lands.

Chemical Control

The extensive root system of black locust spreads herbicides over large areas. Basal stem application is preferred for treatment because it is selective and easy to apply. The herbicide should be applied in a band at least 6 inches high all around the trunk approximately 12 inches from the ground. Triclopyr formulated for dilution in diesel fuel or mineral oil is currently the herbicide of choice for black locust. Both diesel fuel and mineral oil release volatile organic compounds into the immediate area. Although more expensive, mineral oil is potentially less toxic to neighboring organisms. The triclopyr/oil mixture may also be applied to a girdle cut at standing height or to cut stumps.

For small isolated plants or thick patches under 5 feet in height (such as those resulting from cutting or fire), fosamine ammonium can be applied as a foliar spray. Fosamine ammonium kills plants by inhibiting leaf bud growth and flower formation in the spring. Fosamine ammonium should be applied at the end of the growing season. In order to effectively curb regeneration, every branch or stem must be sprayed because missed stems will leaf out. Triclopyr mixed with water may also be used effectively as a foliar spray in the latter half of the growing season.

Glyphosate can be applied to foliage of actively growing trees using a hand sprayer (1-1.5% active ingredient solution). However, foliar glyphosate spray should not be applied in high quality natural areas because it is a nonselective herbicide. Black locust stems can be cut at the base with brush-cutters, chainsaws, or hand tools; stumps should be treated immediately with a 20% active ingredient solution of glyphosate. The treatment works best when applied in late summer, early fall, or during the dormant season.

Websites for Additional Information

WDNR Black Locust Factsheet

<http://www.dnr.state.wi.us/org/land/er/invasive/factsheets/locust.htm>

Wisconsin State Herbarium: Wisconsin Botanical Information System

<http://www.botany.wisc.edu/wisflora/scripts/detail.asp?SpCode=ROBPSE&Genus=Robinia&Family=Fabaceae&Species=pseudoacacia&Common=black+locust>

The Nature Conservancy: The Invasive Species Initiative

<http://tncweeds.ucdavis.edu/esadocs/robipseu.html>