

Brush Management – Invasive Plant Control

Black Locust – *Robinia pseudoacacia*

Conservation Practice Job Sheet

VT-314



Black Locust (*Robinia pseudoacacia*)

Black Locust

Black locust has been planted in many temperate climates and is naturalized throughout the United States, within and outside of its historical range, and in some parts of Europe.

Black locust is an early successional plant, preferring full sun, well drained soils and little competition. It is commonly found in disturbed areas such as old fields, degraded woods, and roadsides. Black Locust is normally a shallow rooted species that does not produce a taproot. Thus, it is sensitive to soil conditions; its growth is adversely affected by water logged soils or compaction due to heavy grazing. Black Locust is a legume, so nitrogen-fixing bacteria associated with nodules on the roots increase nitrogen content of the soil in which the tree grows.

Black locust poses a serious threat to native vegetation in dry and sand prairies, oak savannas and upland forest edges, outside of its historic North American range. Native North American prairie and savanna ecosystems have been greatly reduced in size and are now represented by endangered ecosystem fragments. Once introduced to an area, black locust expands readily into areas where their shade reduces competition from other (sun-loving) plants. Dense clones of locust create shaded islands with little



Black Locust, Flowers

ground vegetation. The large, fragrant blossoms of black locust compete with native plants for pollinating bees.

Black locust reproduces vigorously by root suckering and stump sprouting to form groves (or clones) of trees interconnected by a common fibrous root system. Physical damage to the roots and stems increases suckering and sprouting, making control difficult. Although black locust produces abundant seeds, they seldom germinate.

Similar Natives

Prickly ash (*Xanthoxylum* spp.) has reddish buds, leaflets with teeth, and thorny petioles whereas black locust buds are hairy and white, its leaflets are smooth, and its petioles lack spines. The appearance of honey locust (*Gleditsia triacanthos*) is similar to that of black locust except their spines are unpaired and branched.

Description

Black locust is a fast growing tree that can reach 40 to 100 feet in height at maturity. While the bark of young saplings is smooth and green, mature trees can be distinguished by bark that is dark brown and deeply furrowed, with flat topped ridges. Seedlings and sprouts grow rapidly and are easily identified by long

paired thorns. Leaves of black locust are pinnately compound and alternate along the stem and are composed of seven to twenty one leaflets. Leaflets are oval to round in outline, dark green above and pale beneath. Fragrant white flowers appear in drooping clusters in May and June and have a yellow blotch on the uppermost petal. Fruit pods are smooth, 2 to 4 inches long, and contain 4 to 8 seeds.

Control

Presently there are no techniques that provide effective control of black locust mostly because of its resprouting ability. Cutting or burning generally increases sucker and sprout productivity. Consequently most management has focused on the use of chemical control which has resulted in variable success because apparent killed plants can resprout several years after treatment. Annual monitoring should be conducted and follow-up treatments made as needed.

Biological Control

Black locust is susceptible to some damage from two native insects, the locust borer and the locust leafminer. Research on the effectiveness of insects as a control for black locust is incomplete and is not considered a viable option at this time.

Mechanical Control

Non-chemical control of black locust is largely ineffective because of the plant's vigorous resprouting ability. Cutting generally increases sucker and sprout productivity. However, seedlings may be hand pulled if the entire root is removed. Repeated cutting or mowing may achieve some level of control but likely will not result in eradication.

Prescribed Burning

Burning is not a viable option by itself for control.

Chemical Control

Black locust is difficult to control because of extensive root suckering from the stump and root. The best success with herbicides has resulted from basal bark application¹. It is not as effective on larger trees. This method minimizes resprouting from roots and stumps when applied between mid-July and the end of December. Repeated treatments will likely be necessary. If possible, foliar sprays are effective when the leaves are fully expanded. For larger trees, cut down and apply herbicide into the freshly cut surfaces of the stump.

Refer to the pesticide label for complete instructions on the use and application of a given herbicide. Some applications, by rule, may only be done by a certified pesticide applicator, and/or might require the applicator hold a special permit. Private landowners can apply anything purchased at your local garden store with out having a permit so long as it is not near a water body or known public aquifer. You should contact the Vermont Agency of Agriculture Agrichemical Management Section if there are any concerns before applying any pesticides.

¹- The Nature Conservancy - Elemental Stewardship Abstract (and references therein)

Disposal

There are a few general rules of thumb that will ensure proper disposal. Be sure the plant is dead before placing in a mulch or compost pile. Either dry it out in the sun, or bag it in a heavy duty black plastic bag. If you have flowers and/or seeds on the plant, put the flowers and seed heads into the bag head first so that there is minimal risk in dispersing seed.

Information and Recommendations compiled from:

- Alien Plant Invaders of Natural Areas (NPS)
- The Nature Conservancy - Elemental Stewardship Abstract (and references therein)
- Missouri Department of Conservation. Vegetation Management Guideline.
- "Invasive Plant Management Guide." Stewardship Subcommittee of the Connecticut Invasive Plant Working Group.
http://www.hort.uconn.edu/cipwg/art_pubs/GUIDE/guideframe.htm

CAUTION: The VT Agency of Agriculture Division of Agricultural Resource Management and Environmental Stewardship, Agrichemical Management Section regulates the sale and use of pesticides in Vermont. Many labels and registrations change from year to year, so applicators will want to be sure they are using a currently, registered product. Contact the Agrichemical Section (802-828-6531) for information on pesticide registration, how to acquire a special permit, lists of currently-licensed pesticide applicators, and other information pertaining to the rules and regulations governing pesticide application in this state.