



Bristly Locust

Robinia hispida



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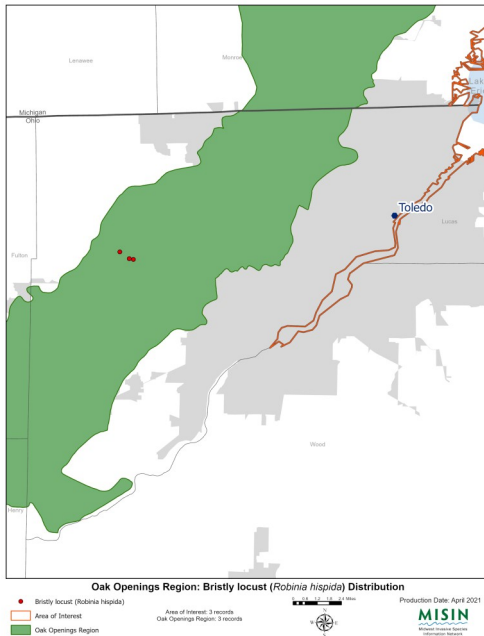


Alert

BMP assembled June 2021
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OO CWMA Coordinator

This Best Management Practice (BMP) document provides guidance for managing bristly locust in the Oak Openings Region of Northwest Ohio and Southeast Michigan. This BMP was developed by the Green Ribbon Initiative (GRI) and its partners & uses available research & local experience to recommend environmentally safe control practices.

INTRODUCTION AND IMPACTS — Bristly locust (*Robinia hispida*) is also commonly referred to as rose acacia or mossy locust and is native to the southeastern U.S. (i.e. KY, TN, VA, MD, NC, SC, GA, AL, FL). Bristly locust (br. locust) is a deciduous shrub or small tree (2-10 ft tall) of the legume family (Fabaceae) and is strongly related to black locust (*Robinia pseudoacacia*). It is a shrub/tree which fixes nitrogen and all parts of the plant are poisonous. "Showy flowers and bristly stems and fruits likely made it an attractive addition to the garden trade" (www.minnesotawildflowers.info). Records show that it was collected in Van Buren County, Michigan in 1906 (michiganflora.net), a location approx. 125 miles west of the Oak Openings Region (OOR). Today, br. locust is found in the Ohio OOR aggressively colonizing within a few high quality sites (usu. oak savanna and xeric sand barrens) at Kitty Todd Nature Preserve (a property of The Nature Conservancy (TNC)). This is currently the only reported site where invasions are a serious concern in the Oak Openings Region; it has formed dense colonies through root suckering. Thus, records have been recorded in only 1 of the 7 OOR counties (data from MISIN, Midwest Invasive Species Information Network). According to MISIN, the nearest recorded location to the OOR records is in Barry Co., Michigan, over 100 miles away. Land managers in Ohio are indicating that observations are limited but the CWMA Coordinator believes this species should be placed on the target list for several years to map the distribution in the OOR and to target any populations in sensitive habitats for treatment.



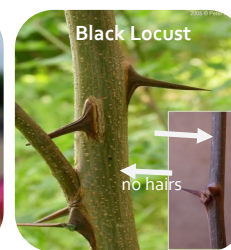
There is limited data on widespread targeting of br. locust where it has naturalized, however, some data is present online that supports reasons for focusing control efforts on this species in the OOR (beyond OOR field observations). The Wisconsin Dept. of Natural Resources (WDNR) considers br. locust a **restricted** plant which can "cause or have the potential to cause significant environmental or economic harm or harm to human health". [WDNR](http://www.wisconsin.gov) goes on to list a few important characteristics of br. locust as an invasive species: "tolerant of many soils", is a nitrogen-fixer which "alters soil chemistry", it root suckers "creating dense thickets"

and that its "seeds remain viable in the soil for 1-10 years".

SIMILAR SPECIES - A similar native tree in the U.S. is black locust (*Robinia pseudoacacia*); however, it is also considered adventive in Michigan and (adventive) to the Ohio portion of the OOR where it can be aggressive like br. locust. Although leaves of both species are similar, black locust has smooth branchlets, where bristly locust's branchlets are hispid, having stiff spreading (reddish) hairs. Black locust also has white flowers where bristly locust has showy pink to rose-purple flowers. Another species less common to the OOR (only known to occur irregularly in the Michigan section of the OOR) is clammy locust (*Robinia viscosa*) which has sessile to subsessile warty glands on the branchlets (not hispid) (michiganflora.net).



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HABITAT— In the OOR, br. locust is only recorded from a few locations within one property, TNC's Kitty Todd Preserve. At Kitty Todd, healthy, aggressive colonies are found in rare oak savanna and xeric sand barrens communities, as well as, more disturbed sites with high sunlight (i.e. forest gaps, old field edges). In general, br. locust prefers well-drained sites.

IDENTIFICATION - Habit: A deciduous shrub or small tree growing 2 - 10 ft. tall. With medium to fast growth, it is a thicket-forming suckering shrub. Having stems that are densely clothed w/ reddish, thick hairs and slender thorns paired at stem junctions (w/ leaves), and also colorful pink-rose flowers, and pinnately compound leaves, this species is hard to confuse with others.



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Leaves: Alternate, pinnately compound; 9-13 entire (no teeth), elliptical leaflets; 7-9 in. long, green color above and paler below.

Stems: Slender, zigzag and covered in bristly red hairs, later turning a gray-brown in color; buds sunken, no spines.

Flowers: Perfect, attractive, rose colored pea-like in hanging clusters, with yellow spot in the center, appearing in late spring (late May to June).

Seeds: flat pod, 2-2.5 in long and very bristly. Pods w/ 3 to 5 seeds.

Roots: root suckering, and more vigorous when mowed (or cut).

Bristly Locust												
Timeline	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Life History	dormant		growth begins		pink-rose flowers present		veg. growth, flowers maturing to pods		seedpods mature		dormant	
Chemical Treatments: cut-stump (CS) or basal bark (BB)	cut-stump or basal bark		sap begins to flow: CS, BB potentially less effective		cut-stump or basal bark							
Chemical Treatments: foliar					foliar spray on plants of short height; *mowing (or burning) without follow-up foliar spray can promote spread and lead to larger colonies							

REPRODUCTION AND DISPERSAL— It is though that bristly locust is mainly a concern in areas where it is left untreated or regularly mowed, in fact mowing without treatment can cause a colony to quickly expand and roots to sucker and spread out of control. Mowing increases the population and should be avoided unless populations are small and a follow-up foliar spray is planned during the growing season. Seed reproduction is a concern and potentially increases control efforts. Several varieties of bristly locust occur, some producing more seeds than others. **Thoroughly cleaning equipment is a critical prevention measure for bristly locust in the OOR. Land managers should consider incorporating pre- and post-project equipment cleaning into contracts.**

REPORTING— Bristly locust is an alert species in the OOR due to limited populations and potential threats to the globally rare communities it has regularly invaded at Kitty Todd Nature Preserve. Reporting locations of br. locust is essential for its management and control. In fact, with only one reported site in the MISIN database, focusing efforts to map new or unreported populations will give a better understanding of distribution and threat level. To report or to find out specific ways you can help map occurrences, contact [MISIN](#), GRI (OO-CWMA) or your county CWMA or CISMA. Early detection of br. locust invasions will limit the future effort needed to reduce established populations.

CONTROL— Management efforts must focus on control of colonies (no mowing (or fire?) without a planned foliar-herbicide follow-up) and also the prevention of seed production and dispersal. Keeping populations regularly treated with herbicide (cut-stump or basal bark treatment is recommended) will reduce colonies and the production of seed. Efforts to control br. locust in the OOR are underway, with research and best practices guided by control efforts for similar woody species (e.g. black locust, buckthorns, etc.). The table below is a guide, with some concentrations researched and known

Herbicide	Trade Names	Trial Concentration
Glyphosate	Roundup®, Glypro® AquaNeat®	foliar: 3.5% by volume cut stump: 26.9% AI* or 50% by volume
Triclopyr	Garlon 3a	foliar: 1.5% - 2.5% by volume cut stump: 22% AI or 50% by volume basal bark: 13.2% AI or 30% by volume
Aminopyralid*	Milestone	foliar: 0.15% - 0.25% by volume *do not use around desirable legumes

*AI = active ingredient

to be effective, while others are expected to have good results but not yet proven effective (e.g. mimic the treatment for black locust).

Chemical: It is the responsibility of the applicator to comply with herbicide labels and regulations when planning chemical treatment. Where appropriate, use herbicides approved for aquatic areas. Also, use herbicides with the appropriate non-ionic surfactant.

Foliar or Backpack Spraying—

This technique works best when the majority of branches and leaves are below chest height. If a foliar application is the preferred method but the shrubs are too tall, it is recommended to switch the treatment to either the cut-stump or basal bark method. Mowing will increase root suckering and colony density.

Cut-stump or basal bark— cut-stump: apply herbicide immediately after cutting (water-based solution) with a wand or dabber; basal bark— apply an oil-based herbicide to the lower stems/base of the plant (no cutting is necessary); effective on any age of shrub

Mechanical: *Pulling*: likely effective on seedlings and small saplings of small pops.;

Digging—Not recommended. Might be reasonable if the size of the pop. is very small and stems are young in age.

Girdling— br. locust is a shrub with a habitat of producing lots of small stems; girdling is not a good or efficient technique for this growth pattern.

Mowing only — mowing without herbicide treatment is a primary cause of colony expansion and spread (examples of this activity has increased the size of populations at Kitty Todd Nature Preserve). Although not recommended, mowing during Aug. thru Sept. may result in less vigorous response.

Biological: limited info. found. Dozens of insects (e.g. borers) and diseases have been observed but only a few cause serious damage.

Prescribed Fire: limited info. found, however this may also be a major cause of spread at the Kitty Todd Nature Preserve.

DISPOSAL— limited information



Wisconsin DNR -
br. locust shrub invasion