

The MIPN Invasive Plant Control Database

<https://mipncontroldatabase.wisc.edu/>

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President of Midwest Invasive Plant Network





Outline

- Why created
- Review process information
- How to use it
- How you can help make it better

| Common Name | Scientific Name ▲ |
|--|---|
| tree-of-heaven | Ailanthus altissima |
| garlic mustard | Alliaria petiolata |
| wild chervil | Anthriscus sylvestris |
| Japanese barberry | Berberis thunbergii |
| hill mustard | Bunias orientalis |
| creeping bellflower | Campanula rapunculoides |
| plumeless thistle | Carduus acanthoides |
| musk thistle | Carduus nutans |
| Asian bitterweet | Celastrus orbiculatus |
| spotted knapweed | Centaurea stoebe |
| Canada thistle | Cirsium arvense |
| European marsh thistle | Cirsium palustre |
| bull thistle | Cirsium vulgare |
| poison hemlock | Conium maculatum |
| field bindweed | Convolvulus arvensis |
| common teasel | Dipsacus fullonum |
| cut-leaved teasel | Dipsacus laciniatus |
| Russian olive | Elaeagnus angustifolia |
| autumn olive | Elaeagnus umbellata |
| quackgrass | Elytrigia repens |
| leafy spurge | Euphorbia esula |
| glossy buckthorn | Frangula alnus |



Acknowledgements

Founding members of MIPN



Kate Howe



*Kate Howe, Coordinator,
Midwest Invasive Plant Network*

People affiliated with MIPN

Upper Midwest 2016 Plenary Session



UMISC
Upper Midwest Invasive Species Conference

2018

JOINT CONFERENCE

NAISMA
North American Invasive
Species Management Association

JOIN US FOR THE
LARGEST INVASIVE SPECIES
CONFERENCE IN NORTH AMERICA!

October 15–18, 2018

Mayo Civic Center | Rochester, MN

www.umisc.net

SAVE THE DATES

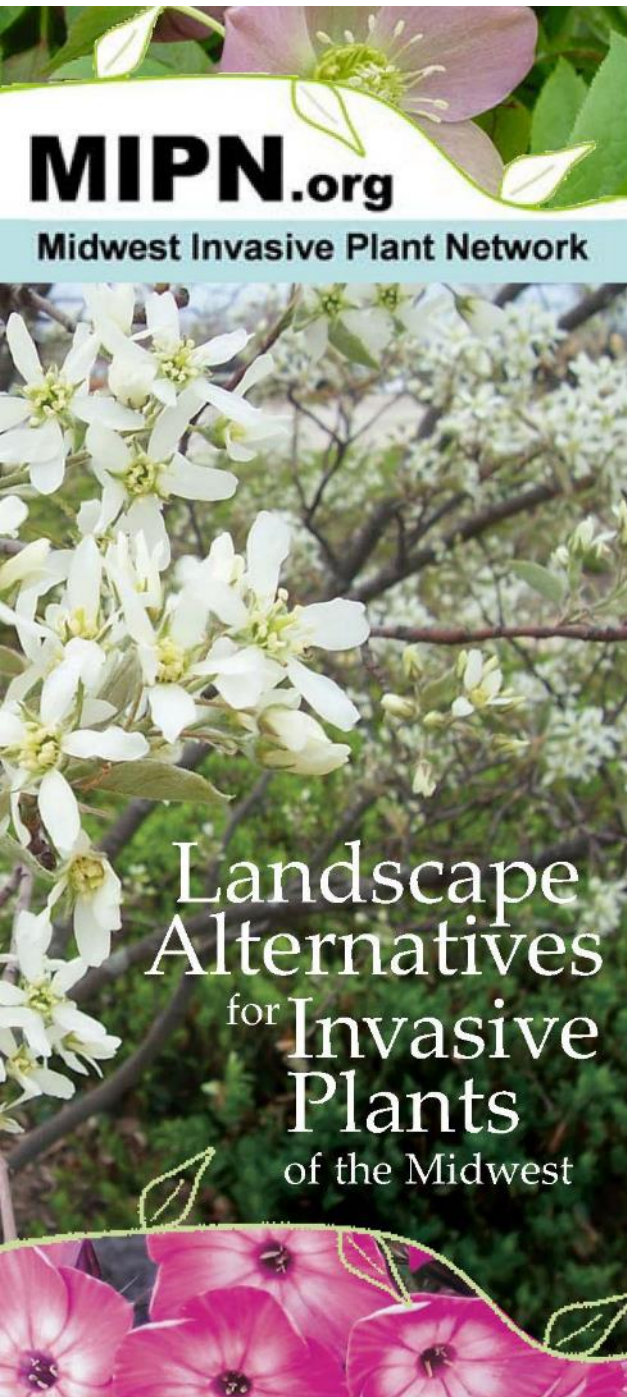


I became president of MIPN in 2009

MIPN's mission statement: *"to reduce the impact of invasive plant species in the Midwest."*

Specific goals

- Develop prevention measures (invasive ornamentals)
- Promote EDRR
- Promote reporting/sharing observations
- Serve as a bridge between the researchers and land managers



Prevention Measures

- Brochure published in 2010
- Turned into App 2012
 - Updated in 2014
- Updates planned
 - Add aquatic plants 2018
 - Add more woody plants 2019





Promote EDRR

A Field Guide to **Invasive** Plants of the Midwest



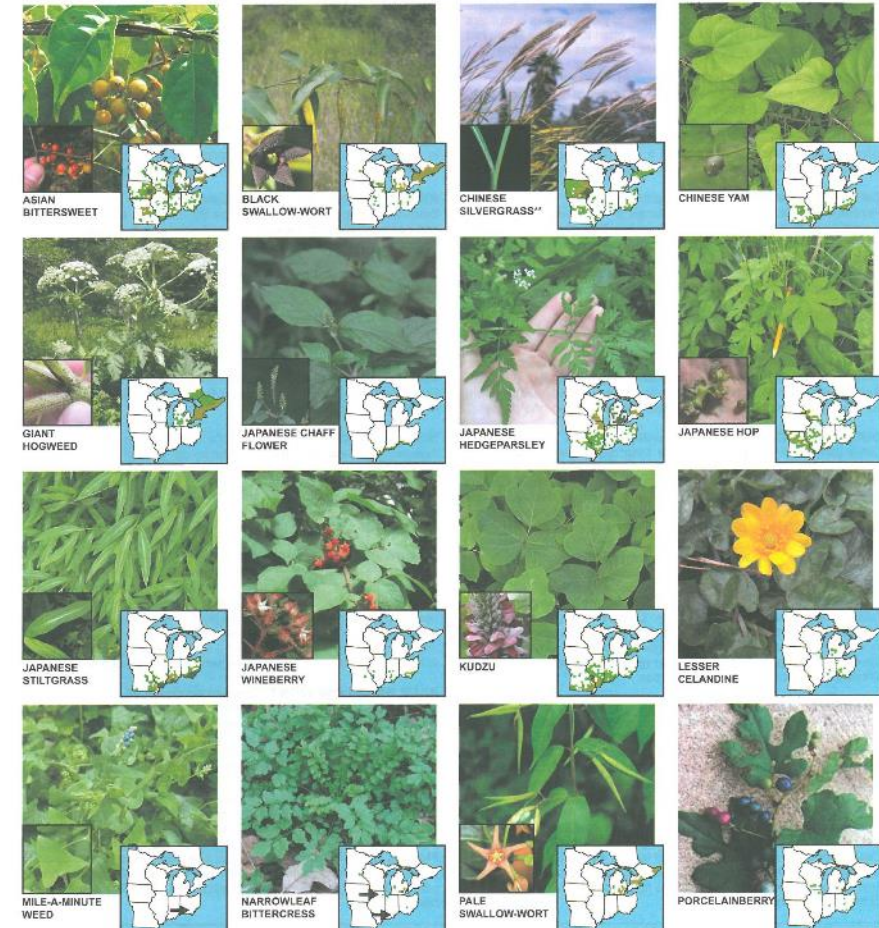
Edited by Katherine Howe, Mark Renz, Kelly Kearns, Jennifer Hillmer, & Ellen Jacquot

KEEP A LOOKOUT!

for **NEW INVASIVE PLANTS** in the Midwest!

Early detection and eradication can prevent an invasion. The maps show current reported distribution in the Midwest, including Ontario.*

☐ Not known
 ☒ Isolated (→ = single county reports)
 ☒ Locally abundant
 ☒ Widespread



To report a sighting, please contact: www.GLEDN.org

*For Chinese silvergrass, please report escaped populations only, not intentional plantings.

*Updated May 2012

See reverse side for species descriptions



PROMOTE REPORTING AND DATA SHARING



Statistics

616,497 County Reports

425,601 Point Reports

1,284 Species

Bridge between researchers/land managers

Education _____

Land Manager and Researcher Perspectives on Invasive Plant Research Needs in the Midwestern United States

Mark Renz, Kevin D. Gibson, Jennifer Hillmer, Katherine M. Howe, Donald M. Waller, and John Cardina*

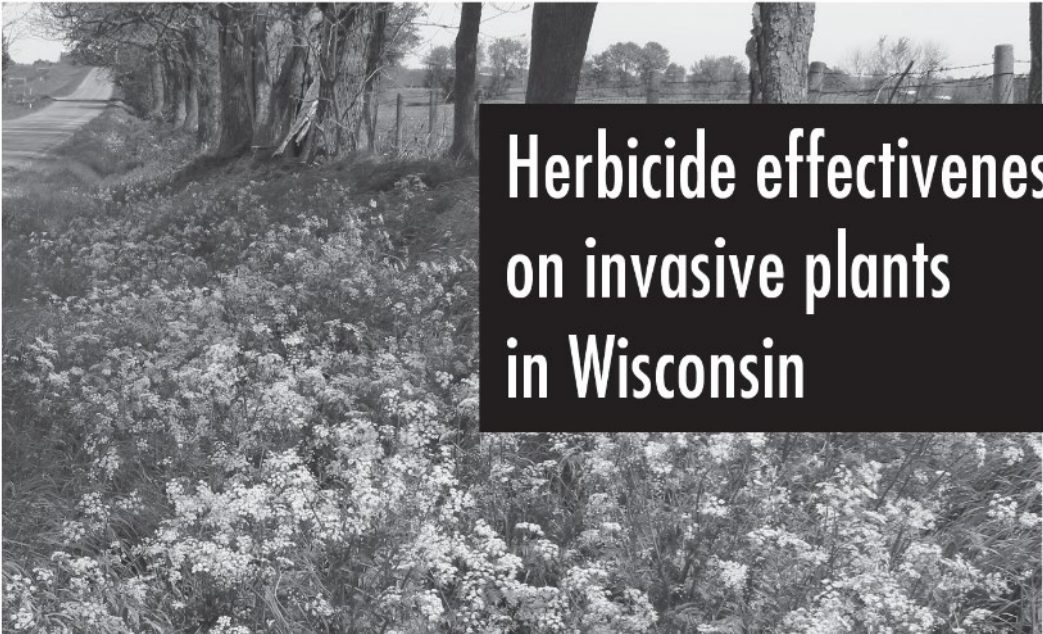
In 2006, the Midwest Invasive Plant Network's Research Committee conducted a web-based survey to help identify research needs and interactions between land managers and researchers working to manage invasive plants in the Midwest. Of 192 responses, 30% identified themselves as researchers and 70% identified themselves as managers. Researchers and managers rated working together on invasive plant issues as high or medium in importance, but neither group rated the current level of cooperation as high, with over 90% describing current cooperation as low or medium. Both groups self-associate, with 89% of researchers working with other researchers and 77% of managers working with other managers. "Lack of time" and "lack of money" were the main issues limiting researchers and land managers from working more closely together: money was a greater constraint for researchers and time was more important for land managers. To help researchers and land managers work more effectively together, both groups favored opportunities to develop research-based projects at land managers' sites, with funding from a cooperative grant program. Open-ended responses suggest that on-site experiments and demonstrations of management methods could help researchers and land managers interact more effectively. Researchers rated basic biology as more important than land managers did, but neither group judged testing theories of invasion as a high priority. "Social/political factors" and "risk assessment" were viewed as less important despite their clear relevance in the introduction and spread of invasive plants.

Key words: Survey, cooperation, research priorities.



What should MIPN do NEXT?

- Repeated comments by stakeholders that detailed control information is lacking



Herbicide effectiveness
on invasive plants
in Wisconsin

Tatarian honeysuckle (*Lonicera tatarica*)

Dense, multi-stemmed shrubs, deciduous shrub that is 6-12' tall. Young stems are slightly hairy and light brown while older stems may have shaggy, peeling bark and are often hollow between the nodes.



Mechanical: Small to medium sized plants can be dug or pulled by hand or with a leverage tool. Prescribed burns in spring kill seedlings and top kills older plants.

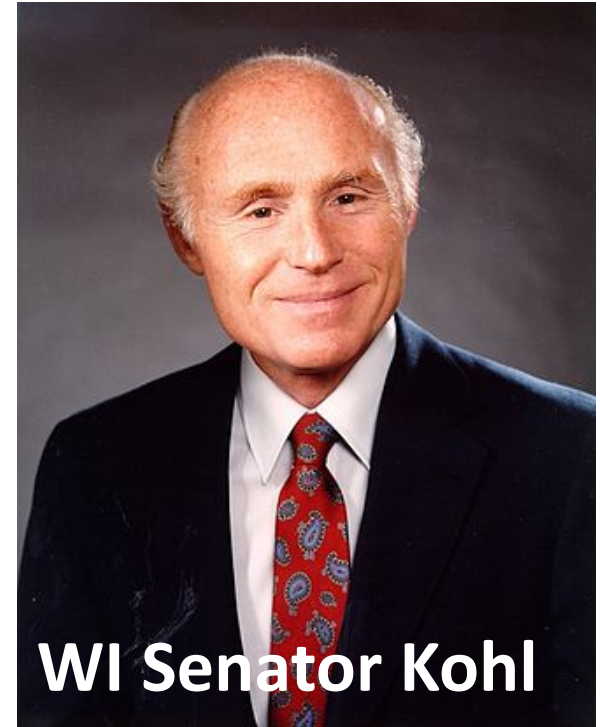
Chemical: Cut-stump treatment with glyphosate; cut-stump treatment or basal bark treatment around each stem of the plant with triclopyr ester. Treat foliage with glyphosate in early spring prior to leaf out of native species.

Herbicide effectiveness on invasive plants in Wisconsin (A3893)

| Commercial name | Common name (active ingredient) | Burdock | Canada goldenrod | Chinese lespedeza | Common tansy | Crown vetch | Curly dock | Dames rocket | Field bindweed | Garlic mustard | Giant hogweed | Giant ragweed | Hawktweeds | Hill mustard | Japanese hedge parsley | Japanese knotweed | Knapweed spp. |
|-----------------|---------------------------------|---------|------------------|-------------------|--------------|-------------|------------|--------------|----------------|----------------|---------------|---------------|------------|--------------|------------------------|-------------------|---------------|
| Banvel | dicamba | G | F/G | P | G | G | F/G | G | F/G | F | P/F | F/G | F/G | — | — | F/G | F/G |
| Butyrac | 2,4-DB | — | F/G | — | — | — | F | N | N | — | — | — | — | — | — | — | — |
| Chaparral | aminopyralid + metsulfuron | G/E | G/E | F/G | G/E | G/E | G/E | G | — | G/E | G | G | G/E | G | G | G/E | E |
| Cimarron Max | metsulfuron + 2,4-D + dicamba | G/E | G/E | G | G | G | G/E | — | F/G | — | — | F | — | G/E | — | — | F/G |
| Cimarron Plus | metsulfuron + chlorsulfuron | G/E | G/E | — | E | G | — | — | — | — | — | — | — | — | — | — | — |
| Crossbow | 2,4-D + triclopyr | G/E | F/G | G | F/G | G | G/E | — | F/G | — | — | G/E | — | G | — | — | F/G |
| Curtail | 2,4-D + clopyralid | G | F | — | G | G | F | — | — | — | — | G | F/G | — | — | — | G |
| Escort | metsulfuron | G/E | G/E | F/G | G | G | G/E | G | P/F | G/E | G | P | — | E | E | — | F |
| Forefront | 2,4-D + aminopyralid | G/E | F/G | P | F/G | E | G/E | — | — | — | — | E | E | — | — | — | E |
| Fusilade | fluazifop | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Garlon | triclopyr | G/E | F/G | G/E | P | G/E | F/G | G | F | G | G | G/E | — | G | G | F/G | P/F |

We wrote grants to develop a new resource.....

- Combined several grants to among MIPN stakeholders to
1. Collect and summarize control information
 - species in MIPN Field Guide
 2. Summarize and put in a searchable database



WI Senator Kohl



Created database

2009-2011

- Targeted professionals and others asked to provide for control recommendations
- Goal to provide detailed information
 - Reduce recommendations that aren't very effectiveness
 - Inform people about recommendations that
 - are overly aggressive
 - have severe restrictions on how to use

Example of overly aggressive





How was it developed?

Staff collected and summarized known control information

- Scientific literature
- Conference presentations
- Input from herbicide industry, consultants, land managers

Key attributes were added to management information

- Effectiveness in season and year after treatment
- What time of year you can use it
- Habitat type you can use it in
- User skillset needed to use



Information was reviewed!!

Information was reviewed prior to publication

-**Four Reviews** were conducted for each species

- Two for edits and general comments.
- Two specialists for target plant species

Once reviewed, information entered into a searchable database.



THANK YOU REVIEWERS

- Diana Alfuth
- Jane Anklam
- Roger Becker
- David Beckman
- Kristin Bilar
- Jesse Bennett
- Kevin Bradley
- Carmen Chapin
- Bob Clancy
- Jerry Clark
- Brian K Davidson
- Jerry Doll
- Stephen Enloe
- Chris Evans
- John Exo
- Bill Halfman
- Matt Hanson
- Bob Hartzler
- Kevin Hendrickson
- Chris Henze
- Brad Herrick
- Jennifer Hillmer
- Kate Howe
- Ellen Jacquart
- Guy Kyser
- Courtney LeClair
- Rodney Lym
- Susan Mahr
- Bob Masters
- Kari L Maxwell
- Mark Mayer
- Patti Nagai
- Glenn Nice
- Vijai Pandian
- Wayne Pauly
- Ron Rathfon
- Jim Reinartz
- Laura Van Riper
- Scott Reuss
- Gene Schriefer
- Erik Ulaszek
- Suzanne Wade
- Jessica Wickland
- Brock Woods



49 Species in the database

| | | | |
|---------------------|------------------------|------------------------|-------------------------|
| Amur honeysuckle | common teasel | Japanese hedge parsley | purple loosestrife |
| Asian bittersweet | creeping bellflower | Japanese honeysuckle | quackgrass |
| Bell's honeysuckle | crown vetch | Japanese hop | sericea lespedeza |
| bird's-foot trefoil | cut-leaved teasel | Japanese knotweed | spotted knapweed |
| black locust | dame's rocket | Japanese stiltgrass | spreading hedge parsley |
| black swallowwort | European marsh thistle | leafy spurge | Tatarian honeysuckle |
| border privet | field bindweed | Morrow's honeysuckle | tree-of-heaven |
| bull thistle | garlic mustard | multiflora rose | white sweetclover |
| Canada thistle | glossy buckthorn | musk thistle | wild chervil |
| common buckthorn | hill mustard | narrow-leaved cattail | wild parsnip |
| common privet | hybrid cattail | plumeless thistle | yellow sweetclover |
| common tansy | Japanese barberry | poison hemlock | |



What it does not do

- Determine if the control measure is suitable for your specific site
- Obtain the appropriate permit or license



Limitations of this Database

- Methods that take multiple years to be effective are rated as providing poor control in database.
 - Effectiveness summarized to 1 YAT
- Integrating control methods often yield the best control.
 - Not emphasized in this database.





Let's check it out!

<https://mipncontroldatabase.wisc.edu>



Case Studies

how you can help!



[Add new user Case Study](#)



Valuable experiences can be shared!

We ask for the following info:

- **Who** is submitted the information
 - name, email, associated organization/company
- **What** you did (treatment methods) **Be specific as possible**
 - infestation size, date/season of application, and stage of plant growth.
 - If chemical method include active ingredient, product name, and application rate
- **Where** - location and habitat type
- **Effectiveness** - How effective was the given treatment?
 - percent control, make sure to include time after treatment (multiple if available)

Description

Treatment Description -

I rent goats out for natural weed and brush control in southern Wisconsin. They love to eat buckthorn. They defoliate as much of the plant as they can reach, even bending over 12 foot tall saplings to strip the leaves off. They like to chew the bark off buckthorn and will girdle it. Although they chew bark year round, the heaviest bark stripping occurs in winter and late spring when they are bored with eating hay. They also damage bark by rubbing their horns on it. The goats are contained and concentrated on the site with portable electric net fencing. Fence energizers run off of deep cycle batteries that can be connected to solar chargers. They need to be monitored and given water and minerals daily. Fences need to be checked at least once a day to make sure nothing has compromised it such as; branches falling on it, the wind working it loose and causing it to sag, wild animals knocking it down, or people moving it. Most predators will avoid the electric fence but livestock guardians such as donkeys, llamas or dogs may be needed at some locations with large predators or at large domestic dogs.

Habitat Type -

My goats have cleared buckthorn from dense thickets, under large oak trees, and in more open areas like abandoned pastures and orchards. Although they also eat broadleaf weeds and some grasses, they will usually eat the buckthorn first. The goats pose little, if any, threat to mature trees with thick bark but they will strip bark from fruit trees and young maples. They will also, at times, strip bark from young conifers. They enjoy eating green conifer needles. Unlike forest mowers and chemical applications, goats are friendly to small animals, amphibians and ground nesting birds. They are quiet and their manure turns noxious weeds into microorganism rich living fertilizer. Goats are reported to digest 99% of the seeds they eat.

Effectiveness -

The time it takes for goats to defoliate everything they can reach depends on the biomass of the site. However, based on a two summer long research study I conducted under a grant from SARE, the goats average 300 square feet per goat per day. This is for the first grazing of a buckthorn thicket after it leafs out in May. Trees they can't reach will need to be cut down. The goats will defoliate the dropped trees, making branch removal easier. Sprouts from the stump will be eaten by goats in later treatments. Most of the time the buckthorn will sprout new leaves in about 30 days. When goats are put back on the buckthorn 4 to 7 weeks after they first defoliated it, an area they defoliated in two or three days will be defoliated again in five to ten hours. Even grazing only once per year will reduce the size and vigor of buckthorn infestations. Two to three grazings the first year have been recommended by other researchers (University of Wisconsin 2011-2012). Some buckthorns have been killed after one grazing but partial recovery of the plant is more common. Repeated grazing will eventually bankrupt the plant's food reserves and kill it.



Why we need your help!

Only 5 case studies submitted (3/19/2018)

1. Greg Corace: glossy buckthorn (*Frangula alnus*)
 - glyphosate
2. Kim Hunter: common buckthorn (*Rhamnus cathartica*)
 - Goats
3. Brandon Wirsig: sericea lespedeza (*Lespedeza cuneata*)
 - Escort
4. Christian Nelson: common buckthorn (*Rhamnus cathartica*)
 - glyphosate
5. Bill Minter: Asian bittersweet (*Celastrus orbiculatus*)
 - Prescribed burning



Future of MIPN control database

- Continuing to add species/information
 - Added these species since launch:
 - Japanese barberry, cattails, autumn/Russian Olive
- Updating existing information
 - Fire info update in 2016
- Challenges in continued support
 - Grant-based funding
 - Fundraising events to improve
 - User charges





Thank you for your time!
Questions?

Visit:

<https://mipncontroldatabase.wisc.edu/>



INVASIVE PLANT CONTROL DATABASE



WELCOME TO THE INVASIVE PLANT CONTROL DATABASE

This website contains information on how to control many invasive plants common to the Midwestern United States. Information was collected from both scientific literature and expert opinions and summarized by the Midwest Invasive Plant Network (MIPN), in partnership with the Mark Renz lab from the University of Wisconsin-Madison. Methods that are uncommon, do not provide sufficient control, or lack information for determining effectiveness on target species are omitted. For each species, information was reviewed by four individuals, including two identified as experts on control of that species. Information is searchable by several fields to improve the user's ability to find pertinent information. To view the search feature, you must first select an invasive plant. Additionally, users have the option of entering personal experiences with managing specific species (see "add new case studies" under search results). These case studies will be visible to all users once verified by MIPN staff.

We make no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability, or availability with respect to the information or products on the website. Any reliance you place on such information is therefore strictly at your own risk. References to pesticide products on this website are for your convenience and are not an endorsement or guarantee of one product over another.

[Start Search](#)



Search for a species



WELCOME TO THE INVASIVE PLANT CONTROL DATABASE

This website contains information on how to control many invasive plants common to the Midwestern United States. Information was collected from both scientific literature and expert opinions and summarized by the Midwest Invasive Plant Network (MIPN), in partnership with the Mark Renz lab from the University of Wisconsin-Madison. Methods that are uncommon, do not provide sufficient control, or lack information for determining effectiveness on target species are omitted. For each species, information was reviewed by four individuals, including two identified as experts on control of that species. Information is searchable by several fields to improve the user's ability to find pertinent information. To view the search feature, you must first select an invasive plant. Additionally, users have the option of entering personal experiences with managing specific species (see "add new case studies" under search results). These case studies will be visible to all users once verified by MIPN staff.

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Step 1: Select Plant

Step 1: Select a species by choosing a common or scientific name from the list, or by typing a name in the search box.

☒ Free Form Search ☐ Common Name List ☐ Scientific Name List

gar

Select Plant

garlic mustard (*Alliaria petiolata*)

bull thistle (*Cirsium vulgare*)

common privet (*Ligustrum vulgare*)

common tansy (*Tanacetum vulgare*)

via e-mail: mipninfo@gmail.com | For a full listing of plants: [Plant Lookup](#)

accuracy, reliability, suitability, or availability with respect to the information or products on the website. Any reliance you place on such information is therefore strictly at your own risk. References to pesticide products on this website are for your convenience and are not an endorsement or guarantee of one product over another.

Step 1: Select Plant

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☒ Free Form Search ☐ Common Name List ☐ Scientific Name List

Alliaria petiolata

Select Plant

[Reset Search](#)

Step 2: Select Search Parameters

Step 2: Select search parameter(s) of interest. If no parameters are selected all control methods will be displayed. For effectiveness ratings, methods that meet or exceed the criteria selected will be displayed.

Under the Search Results you will find

- Plant Identification information – information on species identification, including photographs and a current distribution map.
- Ecological Threats – threats posed to natural ecosystems by this species.
- Case Studies – Detailed success (and failures) on how to control specific species contributed by experienced personnel.
- Non-chemical and chemical control methods that fit the selected search criteria. **Please note you are responsible for using pesticides in accordance with the label directions and state and federal laws.** Herbicide availability and registered uses vary from state to state. Contact your state department of agriculture for information on the correct use and licensing required for any pesticide application.

You may reset the search criteria or the species you have selected at any time by selecting the corresponding links on the right hand side of the page.

Are you a novice?: 

☒ Yes

☐ No

Habitat Type:

☐ Aquatic

☐ Forest

☐ Pasture/CRP

☐ Prairie

☐ Right of Way

☐ Riparian/Wetland

Seasons:

☐ Winter

☐ Spring

☐ Summer

☐ Fall

Effectiveness (in season): 

☆☆☆☆

Effectiveness (year after treatment): 

☆☆☆☆

Search Control Methods

Search Results

ALLIARIA PETIOLATA (GARLIC MUSTARD)

[Plant Identification information >](#)

[Display Ecological Threats >](#)

[< Hide Case Studies](#)





[Add new user Case Study](#)

Case Studies

No case studies are entered for selected plant.

Non-Chemical controls

| New (Type) | Description |
|---|---|
| <p>Type - Mowing</p> <p>User Type - Professional</p> <p>Effectiveness - in season  year after treatment </p> | <p>Mowing as low as possible timed before the emergence of flowers can suppress garlic mustard. Plants may resprout and still flower. Monitor populations and repeat mowing if concerned about seed production. Care must be taken not to mow when mature seeds could be present as this will spread the seed. Mowing will not eradicate first year plants as they resprout. While mowing has been reported as an effective means of suppression there is no data on how many years of mowing are required to control a population.</p> |
| <p>Type - Prescribed burning</p> | <p>Burn in spring before desirable vegetation begins growing, but after garlic mustard seedlings have emerged. Burning will control seedlings, but survival of second-year plants is variable depending upon fire intensity. Burning can stimulate germination of seedlings, but intensive management of these seedlings after the burn</p> |

Search Results

[< Hide Plant Identification Information](#)

Scientific Name *Alliaria petiolata*

Common Name garlic mustard

URL (website)

Region Map



- ☒ Widespread – The species is commonly seen in the majority of counties.
- ☒ Locally abundant – The species is present or frequently seen in the state but is not in the majority of the counties.
- ☒ Isolated – The species is not commonly seen but is present in solitary populations.
- ☐ Not known – Not reported to occur in the state.

Description

Herbaceous biennial with stems 1-4' tall as flowering plant. First year plants form a basal rosette that remains green through the winter. Second-year plants produce one to several flowering stems.

Leaves

First year plants are 2-4" tall rosettes with 3-4 heart-shaped leaves, with a toothed margin. Second year plants produce a flowering stalk with 2-3" wide alternate, triangular leaves. Foliage emits a distinct onion or garlic smell when crushed.

Flowers

Late spring to early summer of second year, producing numerous small, white, four- petaled flowers.






Roots

Taproot that often has a distinctive S-shaped curve near the top of the root.

Similar species

Creeping charlie (*Glechoma hederacea*) is often confused with garlic mustard, but its prostrate growth with stolons allows for differentiation from garlic mustard.

Non-Chemical controls

| New (Type) | Description |
|---|---|
| <p>Type - Mowing</p> <p>User Type - Professional</p> <p>Effectiveness - in season  year after treatment </p> | <p>Mowing as low as possible timed before the emergence of flowers can suppress garlic mustard. Plants may resprout and still flower. Monitor populations and repeat mowing if concerned about seed production. Care must be taken not to mow when mature seeds could be present as this will spread the seed. Mowing will not eradicate first year plants as they resprout. While mowing has been reported as an effective means of suppression there is no data on how many years of mowing are required to control a population.</p> |
| <p>Type - Prescribed burning</p> <p>User Type - Professional</p> <p>Effectiveness - in season  year after treatment </p> | <p>Burn in spring before desirable vegetation begins growing, but after garlic mustard seedlings have emerged. Burning will control seedlings, but survival of second-year plants is variable depending upon fire intensity. Burning can stimulate germination of seedlings, but intensive management of these seedlings after the burn can dramatically reduce garlic mustard seeds in the soil. A hand-held propane torch can be effective for treating seedlings.</p> |
| <p>Type - Removal</p> <p>User Type - Professional</p> <p>Effectiveness - in season  year after treatment</p> | <p>Pulling or cutting the root from the stem before flowering are effective individual plant control techniques. Pull if soil conditions allow for the removal of the tap root. Pulling second-year plants is easier than pulling first-year rosettes. Alternately, cut the entire taproot with a sharp shovel or spade 1-2" below the surface. If flowers are present, bag material and dispose of it in a landfill to avoid potential for seed spread.</p> |

| | | |
|---|---|--|
| <p>Type - Foliar</p> <p>User Type - Novice</p> <p>Effectiveness - in season ★★★★★ year after treatment ★☆☆☆☆</p> | <p>Active Ingredient (A.I.): glyphosate</p> <p>Common product name: Roundup Pro; many others (Aquatic: Rodeo; AquaNeat)</p> | <p>Rate - (broadcast) 0.75 - 1.5 lb a.e./A (spot) For a 3 lb a.e./gal product. 1 - 3% (0.03 - 0.09 lb a.e./gal)</p> <p>Timing - Apply to rosettes in fall or spring, bolting, or flowering plants. Use higher rates when air or soil temperatures drop below 40°F to maintain control.</p> <p>Remarks - Fall applications will only control rosettes and will not control seedlings that emerge in the spring.</p> <p>Caution - Use product labeled for aquatic use if potential exists for solution to contact surface waters. Applications can result in bare ground as glyphosate is not selective. Overspray or drift to desirable plants should be avoided, as even minute quantities of the spray may cause severe injury to plants.</p> |
| <p>Type - Foliar</p> <p>User Type - Professional</p> <p>Effectiveness - in season ★★★☆☆ year after treatment ★☆☆☆☆</p> | <p>Active Ingredient (A.I.): bentazon</p> <p>Common product name: Basagran; Basagran T/O</p> | <p>Rate - (broadcast) 16 - 32 fl oz/A (0.5 - 1 lb a.e./A) (spot) Equivalent to broadcast rates.</p> <p>Timing - Apply to rosettes in fall or spring to bolting plants.</p> <p>Caution - Do not apply directly to water or to areas where surface water is present. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Overspray or drift to desirable plants should be avoided, as even minute quantities of the spray may cause severe injury to plants.</p> |
| <p>Type - Foliar</p> <p>User Type - Novice</p> | <p>Active Ingredient (A.I.): triclopyr</p> <p>Common product name: Garlon 4; Element 4 (Aquatic: Sedge 34; Element 4M)</p> | <p>Rate - (broadcast) 16 - 32 fl oz/A (0.5 - 1 lb a.e./A) (spot) 1 - 2% (0.04 - 0.08 lb a.e./gal)</p> <p>Timing - Apply to rosettes in fall or spring to bolting plants.</p> |

List of species

| For a full listing of plants: [Plant Lookup](#)

- Will take you to the species page
- Created link that you can email
 - Customized searches allow link to be sent too!

| Common Name | Scientific Name ▲ |
|--|---|
| tree-of-heaven | Ailanthus altissima |
| garlic mustard | Alliaria petiolata |
| wild chervil | Anthriscus sylvestris |
| Japanese barberry | Berberis thunbergii |
| hill mustard | Bunias orientalis |
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| autumn olive | Elaeagnus umbellata |
| quackgrass | Elytrigia repens |
| leafy spurge | Euphorbia esula |
| glossy buckthorn | Frangula alnus |



Search criteria

- Effectiveness –star rating = percent of the original population eliminated (percent control)
- “In season”
 - percent control the year the method is carried out
- “Year after treatment”
 - percent control the year after with no subsequent treatment.
 - Includes resprouting and seedling emergence.



entering personal experiences with managing specific species (see "add new case studies" under search results). These case studies will be visible to all users once verified by MIPN staff.

We make no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability, or availability with respect to the information or products on the website. Any reliance you place on such information is therefore strictly at your own risk. References to pesticide products on this website are for your convenience and are not an endorsement or guarantee of one product over another.

Step 1: Select Plant

Step 1: Select a species by choosing a common or scientific name from the list, or by typing a name in the search box.

☒ Free Form Search ☐ Common Name List ☐ Scientific Name List

[Reset Search](#)


Step 2: Select Search Parameters

Step 2: Select search parameter(s) of interest. If no parameters are selected all control methods will be displayed. For effectiveness ratings, methods that meet or exceed the criteria selected will be displayed.

Under the Search Results you will find

- Plant Identification information – information on species identification, including photographs and a current distribution map.
- Ecological Threats – threats posed to natural ecosystems by this species.
- Case Studies – Detailed success (and failures) on how to control specific species contributed by experienced personnel.
- Non-chemical and chemical control methods that fit the selected search criteria. **Please note you are responsible for using pesticides in accordance with the label directions and state and federal laws.** Herbicide availability and registered uses vary from state to state. Contact your state department of agriculture for information on the correct use and licensing required for any pesticide application.

You may reset the search criteria or the species you have selected at any time by selecting the corresponding links on the right hand side of the page.

Are you a novice?: 

☒ Yes

☐ No

Habitat Type:

☐ Aquatic

☐ Forest

☐ Pasture/CRP

☐ Prairie

☐ Right of Way

☐ Riparian/Wetland


Seasons:

☒ Winter

☐ Spring

☐ Summer

☐ Fall

Effectiveness (in season): 

★★★★☆

Effectiveness (year after treatment): 

★☆☆☆☆

**Non-Chemical controls**

No non-chemical controls match search criteria.

Chemical controls

| New (Type) | Ingredients | Directions |
|--|---|--|
| Type - Foliar User Type - Novice Effectiveness - in season ★★★★★ year after treatment ★☆☆☆☆ | Active Ingredient (A.I.): glyphosate Common product name: Roundup Pro; many others (Aquatic: Rodeo; AquaNeat) | Rate - (broadcast) 0.75 - 1.5 lb a.e./A (spot) For a 3 lb a.e./gal product. 1 - 3% (0.03 - 0.09 lb a.e./gal) Timing - Apply to rosettes in fall or spring, bolting, or flowering plants. Use higher rates when air or soil temperatures drop below 40°F to maintain control. Remarks - Fall applications will only control rosettes and will not control seedlings that emerge in the spring. Caution - Use product labeled for aquatic use if potential exists for solution to contact surface waters. Applications can result in bare ground as glyphosate is not selective. Overspray or drift to desirable plants should be avoided, as even minute quantities of the spray may cause severe injury to plants. |