

# Seek & destroy GARLIC MUSTARD

**Garlic Mustard (*Alliaria petiolata*) is a highly invasive, non-native plant that spreads easily by seed.** It was likely introduced to the U.S. for culinary or medicinal use. Garlic Mustard takes over woodlands by out-competing and deterring the growth of native plants.



Woodland invasion by Garlic Mustard.

## HOW TO IDENTIFY GARLIC MUSTARD

Garlic Mustard is a short-lived perennial with a two-year life cycle.

### Appearance:

#### 1st Year Plant

In its first year, Garlic Mustard plants grow leaves in rosettes (clusters).

**The leaves have a rounded kidney-shape and grow close to the ground.**



Leafy rosette of a first-year plant.



Close-up of heavily veined leaves.



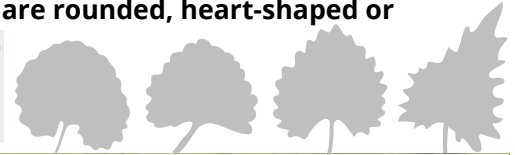
Leaf edge has rounded teeth in the first year.

### Appearance:

#### 2nd Year Plant

In its second year, Garlic Mustard grows flowering stems that produce seeds.

**Second-year plants have leaves that are rounded, heart-shaped or triangular.** A single plant may produce thousands of seed, and each seed may remain viable in the soil for a decade!

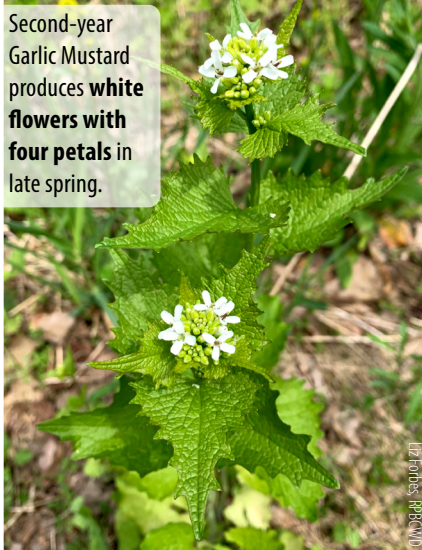


### The Nose Knows!

Crush the leaves of Garlic Mustard and you'll smell a distinct **garlic-like smell.**



Second-year plants have leaves with sharp-toothed or round-toothed edges.



Second-year Garlic Mustard produces white flowers with four petals in late spring.

A second-year Garlic Mustard plant has leaves of varying size and shape. **Leaves on the flowering stalk are typically pointed at the tip.**



Regardless of shape, all leaves will be green (when alive) and many-veined with wavy or scalloped edges.

During seed development, the seed pods of Garlic Mustard look like skinny green beans.



Seeds in a mature Garlic Mustard pod.



If you're controlling a large area of Garlic Mustard, focus first on second-year plants to reduce seed production.

# HOW TO CONTROL GARLIC MUSTARD

## 1 Identify Garlic Mustard



Compare suspect plants to images of Garlic Mustard. Try to confirm identification with a smartphone app such as Seek by iNaturalist.

Multiple plants may look like Garlic Mustard including the two species on the right. The ultimate test is to crush a leaf to check for a garlic smell.

**If it doesn't smell garlicky, it's not Garlic Mustard!**

### Lookalikes

#### Creeping Charlie, *Glechoma hederacea*

- Non-native; also called Ground Ivy.
- Minty, herbal odor.
- Look for creeping stems.
- Tiny pale purple flowers.



#### Common Blue Violet, *Viola sororia*

- Native woodland plant.
- Does not have much odor.
- Leaf edges are less crinkly than Garlic Mustard.
- Flowers have five purplish petals.



## 2 Select a Control Method

A combination of methods may work best for large infestations.

### Pull by Hand Method

**Best for:** First-year and second-year plants

**Technique:** Grasp plant at its base just above the roots. On large plants, place a finger on the S-shaped curve of taproot to aid in pulling. Focus on second-year plants first, then move on to first-year plants. Try to pull up ALL roots. Any root fragments left behind will likely grow into a new plant in a few weeks.



**Timing:** Spring to early summer (before seeds mature). Easiest with moist soil.

**Notes:** Place pulled plants in thick, black trash bags (or double-bag with thinner bags). Minimize soil disturbance by tapping soil and native plants back in place after pulling.



### Herbicide Method

**Best for:** First-year and second-year plants

**Technique:** Carefully aim to spot-spray leaves with an herbicide containing a 2% solution of the active ingredient of glyphosate or triclopyr. Leave plant in place to die; no need to pull and dispose of dead plant.



**Timing:** First-year plants: Early spring or late fall when native plants are dormant. Second-year plants: Early spring (before flowering is best) and when native plants are dormant.

**Notes:** Always follow herbicide label directions! Avoid herbicide drift by minimizing spray pattern. If Garlic Mustard has begun to grow seed pods, pull it instead of spraying. Sprayed pods can still seed out!

## 3 Dispose of Pulled Garlic Mustard

Dispose of pulled Garlic Mustard at a noxious weed disposal site approved by the Department of Agriculture. Find one by visiting [www.mda.state.mn.us](http://www.mda.state.mn.us) and searching for "noxious weed disposal."

**DO NOT place pulled Garlic Mustard in your home compost pile.** After it's pulled, it may re-root or continue to produce seeds!



## 4 Prevent the Spread

Your shoe treads may be hiding the tiny seeds of Garlic Mustard. **Clean your shoes!** Don't track Garlic Mustard seeds into new areas.

When visiting parks, be sure to use boot brush stations if they're installed at a trailhead. You may also consider purchasing a handheld boot brush. A horse hoofpick with brush works great too!

