

Garlic Mustard

A very common invasive plant across Indiana is Garlic Mustard. It poses a severe threat to native plants and animals in forest communities in much of the Midwestern U.S. Many native wildflowers such as spring beauty, wild ginger, bloodroot, Dutchman's breeches, hepatica, toothwort, and trilliums complete their life cycles in the springtime and occur in the same habitat as garlic mustard. Once introduced to an area, garlic mustard outcompetes those native plants by aggressively monopolizing light, moisture, nutrients, soil and space. Wildlife species that depend on these early plants for their foliage, pollen, nectar, fruits, seeds and roots, are deprived of these essential food sources when garlic mustard replaces them. Humans are also deprived of the vibrant display of beautiful spring wildflowers.

Garlic mustard is a cool season biennial herb with stalked, triangular to heart-shaped, coarsely toothed leaves that give off an odor of garlic when crushed. First-year plants appear as a rosette of green leaves close to the ground. Rosettes remain green through the winter and develop into mature flowering plants the following spring. Flowering plants of garlic mustard reach from 2 to 3-½ feet in height and produce button like clusters of small white flowers, each with four petals in the shape of a cross.

Garlic mustard reproduces only by seed. Most seeds germinate within the first or second year after being produced but can remain viable in the soil seed bank for up to five years. Seeds require prolonged exposure to cold before they can germinate. Seeds germinate in the spring and form low growing rosettes of dark purple to green, kidney-shaped leaves with scalloped edges. Leaves grow on stalks that are a half to 2 inches long.



First Year Plants

Beginning in June, seeds are produced by second year plants in erect, slender pods and become shiny black when mature. By mid July, when most garlic mustard plants have died, they can be recognized only by the erect stalks of dry, pale brown seedpods that remain, and may hold viable seed, through the summer.



Second year Plant in early June as it nears seed setting and completion of its life cycle.

Control of Garlic Mustard requires commitment over a period of years. The goal is to prevent seed production until those stored in the soil are gone. Pulling by hand is possible for light infestations but it is important to remove the entire root system because new plants often sprout from root fragments. Hand pulling is about the only solution when native vegetation is present and the desire is to save the natives. This is best done when the soil is moist and by grasping low on the plant and pulling or tugging gently until the main root comes loose from the soil. When hand-pulling is not practical, flowering stems can be cut at ground level or within several inches of the ground, to prevent seed production. If stems are cut too high, the plant may produce additional flowers at leaf axils. Once seedpods are present, but before the seeds have matured or scattered, the stalks can be clipped, bagged and removed from the site to help prevent continued buildup of seed stores.

For very heavy infestations and where the risk to desirable plant species is minimal, application of the systemic herbicide glyphosate is Seffective. Herbicide may be applied at any time of year, including winter (to kill overwintering rosettes), as long as the temperature is above 50 degrees F. and rain is not expected for about 8 hours. Extreme care must be taken not to get glyphosate on desirable plants as the product is non-selective and will kill almost any plant it contacts. Spray shields may be used to better direct herbicide and limit non-intentional drift.

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