Garlic Mustard *(Alliaria petiolata)*

aka **Garlic Root, Garlicwort, Hedge Garlic, Jack-by-the-Hedge, Poorman's Mustard**

Provincial Designation: Prohibited Noxious

Overview:

Garlic mustard is a biennial native to Europe & Asia. It is believed it was introduced to North America as a medicinal & culinary herb – the young leaves have a garlicky smell when crushed. It forms a rosette the first year and then bolts early season of the second year and goes to seed by early summer. Garlic mustard reproduces by seed only, and being a member of the Mustard family is a prolific seed producer. It forms a long, thin, white taproot which has a crook just below ground level. Garlic mustard can self-fertilize or be fertilized by pollinators.

In the northeastern US it has become a dominant understory species in woodland/floodplain habitats. It is unpalatable to herbivores and seeds are viable for an average of 5 years. It produces a toxin which inhibits mycorrhizal fungi which interferes with the growth of other plants and trees.[3]

Rosettes resemble some other plants but only garlic mustard leaves have garlic odour.

Habitat:

Garlic mustard is a shade tolerant plant, but is becoming more common in full sun.[2] It prefers the less acidic, rich, moist soils of riparian woodlands.

PHOTO: King County Department of Natural Resources and Parks (www.your.kingcounty.gov)

Rosette Leaves
PHOTO: Ohio State University (www.oardc.ohio-state.edu)

Flowering Stock
PHOTO: Ohio State University (www.oardc.ohio-state.edu)

Identification:

Stems: Usually 1-2 stems per plant growing 30 to 90 cm tall, with little or no branching in upper stems.[1] Stems are usually smooth but sometimes sparsely hairy[2]

Leaves: Rosette leaves are dark green and round to heart-shaped with scalloped edges. Stem leaves are alternate, coarsely toothed, heart-shaped and 5-10 cm wide, becoming smaller upwards on the stem. Both stem and rosette leaves have long, hairy petioles.[2]

Flowers & Seeds: Flowers are borne in clusters at the tops of stems, and have 4 white petals approximately 0.5 cm long. Fruits are siliques (long pods) 2.5 to 5 cm long and contain an average of 16 seeds.[2] Seeds brown or black, oblong 2-4.5 mm X .7-2 mm.[1]

Prevention

Disturbed soil is most susceptible to rapid colonization of garlic mustard. Maintain healthy vegetative cover in habitats suitable to invasion by garlic mustard.

Control:

Grazing: Unpalatable to grazers and disturbance from trampling would increase an infestation. *Invasive plants should never be considered as forage.*

Garlic Mustard *(continued)*

Seed Pods

PHOTO: King County Department of Natural Resources and Parks (www.your.kingcounty.gov)

Flowering Stem

PHOTO: Ohio State University (www.oardc.ohio-state.edu)

Cultivation: Not likely to survive intense tillage, but has become a problem in reduced tillage situations.[2] A thick mulch of wood chips have proven effective.[3]

Mechanical: Hand pulling is very effective but most of root must be removed to prevent re-sprouting. Mowing can prevent seed production, but plants must be cut close to ground level to prevent the plant from re-flowering from leaf axils. Mowing must be repeated through the growing season to be an effective control method.[3]

Chemical:[4] Spot applications of glyphosate and triclopyr have been effective on young plants. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: A search for potential agents is ongoing.

---

1 Flora of China. *Alliaria petiolata.* www.eFloras.org

2 Ohio Perennial & Biennial Weed Guide, Ohio State University. http://www.oardc.ohio-state.edu/weedguide/singlerecord.asp?id=330

3 King County Department of Natural Resources and Parks, Noxious Weed Control Program, Best Management Practices – Garlic Mustard. http://www.your.kingcounty.gov/dnrp/library/water-and-land/weeds/BMPs/Garlic-Mustard-Control.pdf

4 Always follow the product labels. The use of pesticides in any manner not published on the label or registered under the *Minor Use of Pesticides* regulation constitutes an offence under both the *Federal Pest Control Products Act and Alberta's Environmental Protection and Enhancement Act.*