



GARLIC MUSTARD: “a serious invasive weed”

by Joel W. Allen, Cooperative Extension Educator

We’ve had numerous calls from throughout Columbia County on a number of weed problems gardeners are having this spring. Some of the weeds are “ole regulars” we’ve have for years. However, one weed that it relatively new, within the past few years, is Garlic mustard (*Alliaria petiolata*). Garlic mustard is a cool-season biennial (takes two years to complete its life cycle) herb that ranges from 12 to 48 inches in height as a mature flowering plant. The leaves and stems emit the distinctive odor of onion or garlic when crushed (particularly in spring and early summer), and help distinguish the plant from all other woodland mustard plants. Garlic mustard has been used in salads and cooking to impart a mild garlic flavor. First-year plants consist of a cluster of 3 or 4 round, scallop-edged leaves rising 2 to 4 inches in a rosette. Second-year plants generally produce one or several flowering stems with numerous white flowers that have four separate petals. Garlic mustard is the only plant of this height in our woods, meadows, under trees, in the flower bed, and along road ways with white flowers in May and June.

Garlic mustard is a rapidly spreading weed that is displacing a lot of native woodland wildflowers. It dominates the forest floor and has been displacing many native herbaceous species within a few years. This plant is a major threat to the survival of our woodland herbaceous plants and the wildlife that depend on it.

This biennial species produces hundreds of seeds per plant. The seeds are dispersed on the fur of animals (such as deer, horses, and squirrels), by wind and water, and by human activities. In our area, seeds can lie dormant for 20 months prior to germination, and may remain viable for up to five years. Seeds usually germinate in early April. First-year plants appear as basal rosettes in the summer season. First-year plants generally remain green through the following winter, making it possible to check for the presence of this plant in your woods and yards throughout the year. Garlic mustard begins its second vegetative growth early the following spring, and blooms in our area from May through June. Seeds begin to ripen in mid-July and are disseminated through August.

Minor infestations can be eradicated by hand pulling at or before the onset of flowering, or by cutting the flower stalk as close to the soil surface as possible just as flowering begins (cutting a couple inches above ground level is not quite as effective). Cutting prior to this time may promote re-sprouting. Cutting flowering plants at the ground level has resulted in about 99% mortality and generally eliminates seed production. A scythe, monofilament weed trimmer, or power brush cutter may be helpful if the infestation covers a large area. When pulling, the upper half of the root must be removed in order to stop buds at the root crown from sending up new flower stalks. Pulling is very labor intensive and can result in soil disturbance, damaging desirable species and bringing up seeds from the stored seed bank in the soil. These results can be partially prevented by thoroughly tamping soil after pulling. If, however, seed bank depletion is desired, leave the soil in a disturbed state to encourage further germination and return annually to remove the plants. In general, cutting is less destructive to the garlic mustard plant than pulling as a control method, but should be done only during flower stalk growth.. Pulling, on the other hand, can be done at any time, preferably during or just after a rain or irrigation. If flowering has progressed to the point that seeds have formed, remove the cut or pulled plants from the area and dispose of in the garbage - NOT the compost pile. Because seeds remain viable for many years, it is essential that an area be monitored and plants removed for at least five years after the initial control effect.

Severe infestations can be reduced by applying 1% to 2% active ingredient (a.i.) solution of glyphosate (a non-selective herbicide) to the foliage of individual plants and dense patches during late fall. At this time, most native plants are dormant, while garlic mustard is still green and vulnerable. Be sure to read and follow all directions on the label of the product containing glyphosate, which you select. The University of Wisconsin has a good fact sheet on this invasive weed with color photos.

You can visit it at dnr.wi.gov/invasives/fact/garlic.htm.

More weed identification and management questions can be addressed to the Master Gardener volunteers of Cornell Cooperative Extension of Columbia County, 479 Route 66, Hudson, NY 12534 by phone at (518) 828-3346 or via email at columbia@cornell.edu.