



WNY PRISM

Partnering to Protect Western New York from Invasive Species

Best Management Practices: Mugwort & Canada Thistle

Mugwort (*Artemisia vulgaris*) and Canada thistle (*Cirsium arvense*) are herbaceous perennials with extensive root systems that facilitate the formation of dense, clonal stands. Mugwort is distinguished by its alternate, variably shaped leaves that are green above and silvery-white below, and its grooved, often hairy, green or purple stems. Canada thistle is distinguished by its alternate, oblong to lance shaped leaves that have spines along the edges, its grooved and often slightly hairy stems, and small, light purple or white flowers.

Both species primarily spread vegetatively, through rhizomes and fragmentation of roots, but also reproduce by seed. A single mugwort plant can produce up to 200,000 seeds and a single Canada thistle plant can produce from around 1,500 to 5,000 seeds. They both thrive in sun to partial shade and grow in disturbed areas like roadsides, forest edges, ditches and pastures. Canada thistle also does well in wet habitats, such as wetlands and floodplains. Once established, mugwort and Canada thistle spread quickly, forming dense monocultures, displacing native plant communities.

Integrated Pest Management (IPM) is an adaptive approach to invasive species management that involves the selection of multiple control methods and appropriate timing to meet the needs of each specific site and species. The goal is to maximize effective control and to minimize any potential negative impacts.

Management efforts should begin with an invasive species survey and site assessment. This allows for the development of a management plan and selection of appropriate removal methods. Management for most well-established species and/or infestations will require dedication over a number of years, often 3-5. Once initial control is achieved, restoration and continued monitoring will be required to maintain success.



Mugwort pictured in the photos above; Canada thistle shown in the photos at the bottom of the page.



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Management

Manual

Small, individual plants that are young, such as emerging thistle rosettes, may be removed using manual methods, but care must be taken to remove the entire root mass because root fragments can grow into new plants. Use of biotech fabric or tarps will provide suppression, but no long-term control.

Mechanical

Mechanical methods such as mowing are recommended when used in tandem with chemical removal. Mow during the growing season to deplete root reserves and prevent seeding, and then apply chemical treatment to actively growing foliage in late summer to early fall. Mechanical methods alone provide suppression only.

Chemical

Systemic herbicides like aminopyralid are very effective for mugwort and Canada thistle control and may be applied using foliar methods. Treatments should be applied in the spring with follow-up treatments in late summer or early fall. Herbicide application is most effective if applied prior to formation of flower buds.

Spread Prevention

Care should be taken to limit seed dispersal by conducting management prior to plants producing seeds. If that is not possible, cut off the top of seed heads prior to management and dispose of properly. If mowing, mow non-infested areas first and clean your mower. Mud and debris should be removed from shoe treads using a stiff bristled brush to prevent the movement of seeds.

Disposal

Plant material should be disposed of in a sealed garbage bag, placed in the sun to solarize for no less than three weeks to ensure it's no longer viable, and then placed in landfill-bound trash. Composting should not be done with these species due to their vegetative reproductive capabilities.

Restoration

Restoration efforts should take place after management has been successful to help prevent invasive species from reestablishing. Plant a mix of appropriate native species, such as dense grasses and herbaceous groundcovers.

USE PESTICIDES WISELY: Always read the entire pesticide label carefully and follow all instructions. Pesticide regulations can vary widely between regions; please contact local authorities for additional pesticide use requirements, restrictions or recommendations. Mention of pesticide products by WNY PRISM does not constitute endorsement of any material.



Photos Front: Top- mugwort leaves; Middle- mugwort stem; Bottom (left to right)- Canada thistle leaves, flowers and infestation.
Photos Back: Top- mugwort infestation prior to foliar treatment; Bottom- same area, about one year post-treatment.

Additional Resources

WNY PRISM's Restoration Seed Mixes BMP

wnyprism.org/management/best-management-practices



**PARTNERSHIP FOR REGIONAL
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