Canada Thistle Fact Sheet

Common Name: Canada Thistle
Alternate Name: Creeping Thistle
Scientific Name: *Circium arvense*
Legal Status: Prohibited-Eradicate

Canada Thistle was added to the Maryland Noxious Weed Law in 1984. It is one of four thistle species on the noxious weed list. The law prohibits the import and transport of noxious weeds throughout the state and requires infested lands be managed for their eradication or control.

What is Canada Thistle?

Canada thistle is an aggressive perennial broadleaf weed with an extensive, fast growing, rhizomatous root system that continuously produces new shoots. Each plant has a deep, fibrous taproot with wide spreading lateral roots. It spreads vegetatively in circular patches forming dense, clonal stands. New plants can also become established from small root fragments that have been broken and moved by tillage. Thistle seed is dispersed by wind, water, birds, and other animals. Once established, it spreads quickly replacing native plants and decreasing diversity.

Canada thistle invades cropland, pastures, rangeland, roadsides, and other disturbed areas. It poses an economic threat to the agriculture industry. It reduces crop yields by competing for light, moisture and nutrients. It reduces forage production in pastures and rangeland, degrades wildlife habitat, and can hinder reforestation and landscape efforts.

Appearance

Canada thistle **emerges as rosettes** in the fall or early spring, eventually bolting (putting up a flowering stalk) and growing 2 to 5 feet tall. Stems are upright, slender and branching towards the top. **Spines are absent on the grooved stems**, but may have fine hairs. Leaves are alternate, lance-shaped, irregularly lobed, with wavy, spiny toothed margins, a waxy upper surface and a smooth or soft woolly lower surface.

Stages of Canada thistle: a) young plant (rosette) b) mature plant c) buds d) flower e) seed heads

Male and female flowers occur on separate plants (dioecious). The small flower heads (less than 1 inch in diameter) are **vase-shaped, purple-pink** (occasionally white) in color and **clustered at the tops of the stems**. Peak flowering occurs from late May through June. The brownish seeds are attached to a **white feathery pappus** (tuft of hairs) which aid in wind dispersal. Seed production generally ranges from 1,000 to 1,500 seeds per plant, and they can remain viable in the soil for up to 20 years.

Prevention

1. Early detection is key to prevent invasion. **Scout your land frequently** in the early growing season. Look for thistle plants along field margins and fencerows.
2. **Use certified weed-free seed, hay, straw, and soil** to ensure the seed is not contaminated with Canada thistle seed.
3. **Avoid bare ground and minimize soil disturbances** from vehicles, machinery and over grazing in non-cropland areas. Promptly revegetate disturbed areas with desirable perennial forage species.
4. **Inspect for visible seed tufts and clean equipment** before leaving infested areas.

Key ID Characteristics		
Flowers		*Cluster of purple-pink or white flowers (< 1 inch in diameter), spineless bracts*
Stems		*Grooved, not spiny, may have fine hairs*
Leaves		*Oblong, irregularly lobed, tips have small spines*
Roots		*deep taproot and lateral roots (rhizomes)*

These characteristics distinguish Canada thistle from bull thistle, plumeless thistle and musk thistle.

Management

Managing Canada thistle requires a multi-year, integrated control strategy. The key to controlling this thistle is to eliminate seed production and to reduce the plant's nutrient reserves in its root system.

- ***Chemical*** *(Most Effective).* **Apply a selective post emergent broadleaf herbicide in the spring and fall.** The best time to apply a foliar herbicide is during the 1) bud stage (late May - mid-June) because of the greatest leaf surface area and plant growth and 2) rosette stage (September/October) because it maximizes herbicide movement to the root system. Thistle plants can be sprayed during the rosette stage in early spring to kill aboveground growth, but root kill is minimal. For in-crop weed control, **select a herbicide-tolerant seed variety**.

- ***Mechanical***. **Mow/cut at early bolt stage or at bud stage** and then again every 21 days during the growing season (minimum three times). Repeated mowing weakens stems, prevents seeding, and depletes root reserves.*

- ***Biological***. In rangelands and hay meadows, **use a short-term intensive prescribed grazing** in the spring during the seedling and rosette stage.*

- ***Cultural***. **Planting a competitive dense cover/smother crop** (i.e. alfalfa, winter wheat or other forage grasses) may help to suppress seedling development. For small infestations, you can use tough synthetic tarp to exclude light and prevent seed germination.

* Consider combining with herbicide treatment, after shoots regrow to further enhance Canada thistle control.

Note: Land under the Conservation Reserve Program should consult with USDA Farm Service Agency on weed control and management.

Resources

MDA has entered into an agreement with many counties in the State to provide technical assistance to landowners.

Many of the programs provide herbicide application to landowners on a fee-for-service basis. **To learn whether your County has a Weed Control Program**, visit https://mda.maryland.gov/plants-pests

For **weed identification** and **herbicide recommendations**, contact your local Extension office at: https://extension.umd.edu/locations

Scan the QR code for more ID photos.

Maryland Department of Agriculture
Plant Protection & Weed Management
50 Harry S. Truman Pkwy
Annapolis, MD 21401
(410) 841-5920

University of Maryland Extension | AgFS Agriculture & Food Systems