



INVASIVE PLANTS OF OHIO

Fact Sheet 14

Canada Thistle

Cirsium arvense

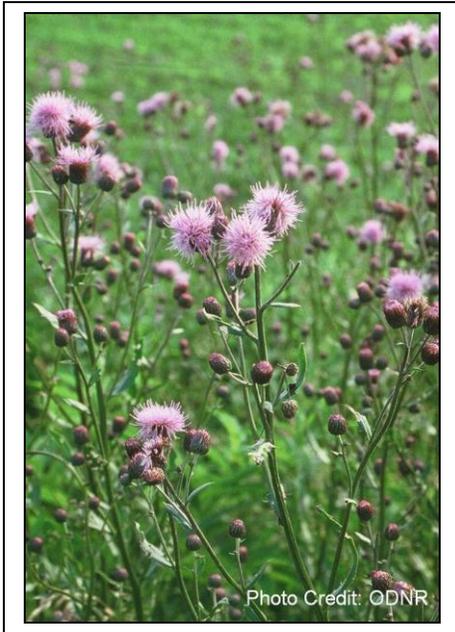


Photo Credit: ODNR

DESCRIPTION:

Canada thistle is an herbaceous perennial with erect stems 1½-4 feet tall, prickly leaves, and an extensive creeping rootstock. Stems are branched, often slightly hairy, and ridged. Leaves are lance-shaped, irregularly lobed with spiny, toothed margins and are borne singly and alternately along the stem. Flower heads that are rose-purple, lavender, or sometimes white appear from June through October generally, and occur in rounded, umbrella-shaped clusters. The small, dry, single-seeded fruits of Canada thistle are 1-1½ inches long and have a feathery structure attached to the seed base. The extensive, creeping rhizome is unique among thistles in Ohio.

Despite its name, Canada thistle is not native to Canada or even to North America. It is native to eastern and northern Europe and western Asia, and was introduced to North America in the 1600s.

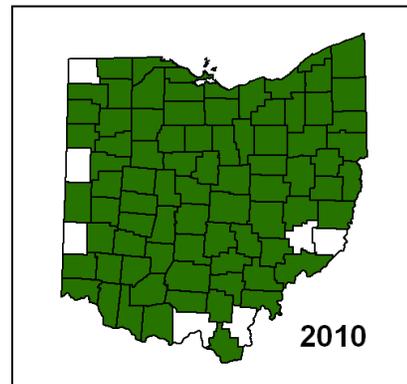
It has spread throughout the United States except in the southeast. It is listed as a Noxious Weed by the Ohio Department of Agriculture.

HABITAT:

Canada thistle grows in barrens, fens, meadows, prairies, old fields, pastures, agricultural fields, and waste places. It does best in disturbed upland areas, but also invades wet areas with fluctuating water levels, such as stream banks, sedge meadows, and wet prairies.

INVASIVE CHARACTERISTICS:

Canada thistle produces an abundance of bristly-plumed seeds which are easily dispersed by wind. Seeds may remain viable in the soil for up to twenty years. Vegetative reproduction is aided by a fibrous taproot that is capable of sending out lateral roots up to 1½ feet deep from which shoots sprout up at frequent intervals. It also readily regenerates from root fragments less than an inch in length.



Map based on records as of 2010.

CONTROL:

Mechanical:

Entire plants must be killed in order to prevent regrowth from rootstock. Hand-cutting of individual plants or mowing of larger infestations should be conducted prior to seed set and must be repeated until the starch reserves in the roots are exhausted. Plants should be pulled or cut at least three times during the growing season -- for example, in June, August, and September. The ideal time to cut plants is in the very early bud stage when food reserves are at their lowest point. Mowing large populations during flowering will reduce fruit production and dispersal.

Late spring burns effectively discourage this species, whereas early spring burns can increase sprouting and reproduction. Healthy, dense prairie vegetation can produce enough competition to reduce the abundance of Canada thistle over time.

Chemical:

Foliar application of herbicide can be used with mowing for effective control. Fall and spring application of systemic herbicides such as Roundup, Glypro, AquaNeat, or Transline, at bud stage or late season when absorption to the deep roots will occur best, is most effective. Since this thistle has a very deep and extensive root system, follow-up treatments are usually needed. Milestone, OpenSite, Telar, and Tordon have residual control and are very effective in extensive populations. In natural areas where Canada thistle is interspersed with desirable native plants, targeted or spot application of a systemic herbicide may be the most effective method. For extensive infestations in disturbed areas with little desirable vegetation, broad application of residual herbicides is the most effective method. Repeated applications are usually necessary due to the long life of the seedbank.



Thistle plant in seed

Biological:

The use of biological control with insects is not advised since the insects will likely impact native thistles. The bacterium *Pseudomonas syringae* pv. *tagetis* or Pst applied with a surfactant can be used as a biological control for Canada thistle. It is found in nature on different species of the *Asteraceae* family. The bacterium produces a toxin that affects the plant's production of chlorophyll, giving the new cells a yellow or white appearance. Research has shown that the bacterium can have a negative impact on plant height and flower bud production.

Credits and additional information:

Plant Conservation Alliance-Alien Plant Working Group
Ohio Department of Natural Resources, www.ohiodnr.gov
The Nature Conservancy, Ohio Chapter
Wisconsin DNR – <http://dnr.wi.gov/invasives/>
OIPC website, www.oipc.info