



THISTLES

(*Cirsium* sp.,
Carduus nutans)

Thistles **grow in dense patches** and reduce the vigor and establishment of grassland plantings and riparian buffers that are planted to improve wildlife habitat. As they establish in an area, invasive thistles **displace other plant species** through shading, competition for soil resources and possibly through the release of chemical toxins poisonous to other plants. The spiny nature of these plants renders them unpalatable to wildlife and livestock and **reduces the forage potential** of pastures.

IDENTIFY

THISTLE | David Cappaert, Michigan State University, Bugwood.org



CHARACTERISTICS

Invasive thistles, listed as noxious weeds in PA, include: Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), and musk thistle (*Carduus nutans*). Canada thistle is a noxious weed in Delaware. Musk thistle and bull thistle are biennials—germinating in the summer and overwintering in the rosette stage, then bolting and flowering in the spring. Canada thistle is a perennial. Thistles are adapted to a wide range of soil conditions, and spread vigorously by windborne seeds and by way of an extensive, creeping root system.

Thistles grow erect, have spiny foliage, and bear prominent pink or purple flowers with narrow, spine-tipped bracts. They produce seed attached to downy ‘umbrellas’ that carry them on the wind, much like dandelion seed. The stems of Canada thistle are smooth, while the other common weedy thistles in Pennsylvania have spiny ‘wings’ on their stems. Invasive thistles are native to Europe, western Asia, and northern Africa. They were introduced to the eastern U.S. during colonial times.

WHERE FOUND

Thistles typically grow on open disturbed soil or heavily grazed land in areas such as meadows, field, roadsides, and building sites.



MUSK THISTLE
Ricky Layson,
Ricky Layson Photography, Bugwood.org



THISTLE
Brandywine Conservancy



CANADA THISTLE
Mary Ellen (Mel) Harte, Bugwood.org

CONTROL

CHEMICAL METHOD

Managing thistle requires a treatment of the herbicide *Stinger* during the growing season to prevent seedhead development. The best time for the application is early fall, just before the flower develops. For larger infestations, mow once during the growing season, and then follow up three weeks later with an application of *Stinger*.

MANUAL METHOD

Mow in spring, then again in early fall before flower development. Mow as low to the ground as practical. Spot mowing may be necessary in grassland plantings.

RECOMMENDED

To eliminate thistle you must repeatedly injure and exhaust its root system. A successful control program requires multiple seasons and multiple treatments within a season. Most successful programs combine biological control with manual controls such as timely mowing or reseeding with competitive desirable plants. Suppression

of thistles may require altering land use. Preventing establishment is an effective method for controlling thistle. High-intensity, short-duration rotational grazing reduces thistle populations by promoting a dense, competitive stand of forages. A dense stand of grass minimizes thistle’s ability to get established from seed.

REMEMBER

When removing, **be careful** not to remove or destroy desirable species.

REPLANT

Replant area with native alternatives. Native pasture thistle (*Cirsium pumilum*) and field thistle (*C. discolor*) can still be found in southeastern PA and DE.

(Read and follow all herbicide labels carefully before use.)

SOURCES
The National Sustainable Agriculture Information Service—ATTRA (<http://attra.ncat.org/attra-pub/thistlecontrol.html>)
U.S. Dept. of the Interior, National Park Service, Plant Conservation Alliance (www.nps.gov/plants/)
Pennsylvania Dept. of Conservation of Natural Resources (www.dcnr.state.pa.us)
Univ. of Georgia Center for Invasive Species and Ecosystem Health (www.invasive.org)