

Invasive Plants in Pennsylvania

Spiny plumeless thistle

Carduus acanthoides



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Background:

The first siting of Spiny plumeless thistle in the United States was recorded in 1878. It is considered a noxious weed in 14 states, mostly in the west and mid-west, due to its impact to native grasslands and pasturelands. It is also becoming increasingly recognized as a problem in natural areas.

Range:

Spiny plumeless thistle is native to Europe. In North America, it is distributed throughout Canada and the United States, with confirmed records in all but a handful of states in the southeast and southwest.

Habitat:

This plant does best in open and disturbed areas (vacant lots, roadsides, pipeline rights-of-way, etc.), but can also invade pastures, grasslands and natural areas.

Description:

Spiny plumeless thistle is a biennial or winter annual with prickly winged stems. Its leaves are deeply lobed with spiny, toothed margins and sparsely hairy beneath. Pink to purple or rarely white flower heads appear in terminal clusters or solitary from June through October. It can reach a height of 3-5 feet.



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Biology and Spread:

Spiny plumeless thistle produces an abundance of seeds, up to 10,000 per plant, which are quickly dispersed in the wind. First year basal rosettes appear in late summer or fall. The following year, the plant bolts. Stems are branched and densely covered with numerous alternate, spine-tipped leaves.

Ecological Threat:

Once established in an area, Spiny plumeless thistle crowds out and replaces native plants, changing the structure and species composition of plant communities and reducing biological diversity. Its presence in pasturelands can significantly decrease the availability of acceptable forage for grazing operations.

Native species of thistle (*Cirsium* sp.), some of which are rare, could be confused with Spiny plumeless thistle. Before control is attempted, the thistle species in question should be accurately identified.



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How to Control this Species:

Prevention

Management practices that limit soil disturbance and encourage diverse native plant communities will help prevent establishment of this species.

Because Spiny plumeless thistle is a biennial and only reproduces by seed, the main objective is to treat these plants early in their life cycle and avoid collateral damage to non-target species. This will prevent further seed production and give the remaining species a competitive advantage to fill that space.

Physical

If the population is small, hand pulling can be effective. In addition, cutting the plants at least 2-4 inches below the soil surface and removing cut material will prevent further resprouting.

Mowing, grazing and prescribed fire have all been used in various combinations with or without chemicals, but success is limited by intensity of efforts and timing of treatments involved.

Control efforts may be more successful when Spiny plumeless thistle is under environmental stress, such as during droughts and floods, or after a very severe winter.

Chemical

Herbicide treatment is best done in the fall, or spring when plants are in the rosette stage.

Aminopyralid (Milestone), which is a broadleaf specific option that is also tolerated by many native forb species, can be applied at a rate of 3% for rosette stage in late fall and early spring or up to 5% for bolted plants in late spring/early summer. A non-selective option is a combination of glyphosate (Rodeo) and triclopyr (Triclopyr 3) with a surfactant.

Repeated applications are usually necessary in order to exhaust the seed bank.



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