

Nodding Plumeless Thistle, Musk Thistle



Jane Hargreaves

Nodding plumeless thistle (*Carduus nutans* L.) is a variable biennial or annual herb characterized by sharp spines on leaves, branching stems, bracts surrounding lavender flowers that sometimes nod to one side, thus, the common name, and plumed seed heads. Leafy rosettes first appear in spring or fall and form a deep, hollow taproot. Rosettes bolt within 6 months to 6 feet (2 m) high with midplant branches topped by one to a few composite flower heads that yield thousands of plumed seeds per plant. The plumes blow away on most, leaving the seed in the head, thus, the common name “plumeless.” Spring seedlings can produce seeds in the same year while the more common fall rosettes overwinter to produce flower stalks the next spring. Seed dispersed by wind, water, livestock, human activity, and ants with viability exceeding 10 years in the soil. Most seed dispersed near the plant and with seed head fall. Rosettes also have axillary buds that produce sprouts when disturbed. Resembles the invasive bull thistle [*Cirsium vulgare* (Savi) Ten.] that has hairs on the upper leaf surfaces and the perennial Canada thistle [*C. arvense* (L.) Scop.] that has rhizomes, does not appear in the rosette form, and the flower/seed head bracts are not spiny except the most outer.

Management strategies:

- Bag and dispose of plants and seed heads in a dumpster or burn.
- Treat when new plants are young to prevent seed formation.
- Pull, cut, and treat when seeds are not present.
- Minimize disturbance within miles of where this plant occurs, and anticipate wider occupation when plants are present before disturbance.
- Manually pull when soil is moist to ensure removal of all roots.

Recommended control procedures:

- Thoroughly wet all leaves with one of the following herbicides in water with a surfactant: Transline^{*†} as a 0.5-percent solution (2 ounces per 3-gallon mix) applied during the rosette stage or prior to flowering, Garlon 3A or a glyphosate herbicide as a 2-percent solution (8 ounces per 3-gallon mix), Milestone VM^{*} as a 0.5-percent solution (2 ounces per 3-gallon mix), or Overdrive^{®*} as a 0.8-percent solution (0.3 ounce per 3 gallon mix) applied at the rosette growth stage.

* Nontarget plants may be killed or injured by root uptake.

† Transline controls a narrow spectrum of plant species.