



Musk Thistle *Carduus nutans* L.

Common Names: musk thistle, nodding plumeless thistle, nodding thistle

Native Origin: western Europe

Description: An aggressive, biennial herb in the aster family (Asteraceae) with showy red-purple flowers and painful spiny stems and leaves. Mature plants range in height from 1½ to 6 feet tall, and have multi-branched stems. Leaves are dark green, coarsely lobed, with a smooth waxy surface and a yellowish to white spine at the tip. The large disk-shaped flower heads, containing hundreds of tiny individual flowers, are 1½ to 3½ inches in length and occur at the tips of stems. Flower heads will droop to a 90-degree angle from the stem when mature, hence its alternate name, nodding thistle. Each plant may produce thousands of straw-colored seeds adorned with plume-like bristles by which the plant reproduces. Plants have a single taproot.

Habitat: Musk thistle grows from sea level to about 8,000 ft elevation, in neutral to acidic soils. It invades open natural areas, meadows, prairies, grassy bald, disturbed areas, old pastures, roadsides, waste places, ditch banks, old fields, and hay fields. It spreads rapidly in areas subjected to frequent natural disturbance events such as landslides and flooding but does not grow well in excessively wet, dry or shady conditions.



Distribution: This species is reported from states shaded on Plants Database map. It is reported invasive in

Ecological Impacts: The invasive nature of this aggressive plant can lead to severe degradation of native grasslands and meadows because grazing animals focus on native vegetation giving the thistles a competitive advantage.

Control and Management:

- **Manual-** Hand pulling is most effective on small populations and can be done throughout the year, but is most effective prior to the development of seeds. Flowers and seed-heads should be bagged and disposed of in a landfill to prevent or minimize seed dispersal. Minimizing disturbance to the soil during removal activities will help reduce the chance of germination of seeds stored in the soil.
- **Chemical-** It can be effectively controlled using any of several readily available general use herbicides such as glyphosate or triclopyr. Treatments should be applied during the rosette stage or prior to flowering. Glyphosate is a non-selective systemic (i.e., moves through the plant) herbicide that can kill non-target plants that are only partially contacted by spray. Triclopyr is selective to broadleaf species and is a better choice if native grasses are present. Follow label and state requirements.
- **Biological control-** Two weevils have been introduced from Europe and released in the United States, the thistlehead-feeding weevil (*Rhinocyllus conicus*) and the rosette weevil (*Trichosiromus horridus*). Have had some notable success, but may impact native thistles.

References: www.forestimages.org, http://plants.usda.gov, www.nps.gov/plants/alien, Czarapata, Elizabeth J. Invasive Plants of the Upper Midwest, An Illustrated Guide to their Identification and Control, 2005 p. 102, www.tneppc.org/Manual/Musk_Thistle.htm