NOXIOUS WEEDS ARE EVERYONE'S CONCERN

Noxious weeds compete with pastures and crops, reducing yields substantially. Some noxious weeds are directly poisonous or injurious to man, livestock and wildlife. The losses resulting from noxious weed infestations can be staggering, costing residents of Nebraska millions of dollars due to production losses. This not only directly affects the landowner, but erodes the tax base for all residents in the State of Nebraska.

The business of noxious weed control is everyone's concern, and noxious weed control benefits everyone. The support of all individuals within the state is needed and vital for the control of noxious weeds within Nebraska. It is the duty of each person who owns land to effectively control noxious weeds on their land.

If you have questions or concerns about noxious weeds, please contact your local county noxious weed control authority or the Nebraska Department of Agriculture.

Material derived from *Weeds of the Great Plains*, published by the Nebraska Department of Agriculture.

For more information, visit **nda.nebraska.gov**.

MUSK THISTLE

NEBRASKA NOXIOUS WEED

PREPARED BY THE
NEBRASKA DEPARTMENT OF AGRICULTURE
AND THE
NEBRASKA WEED CONTROL ASSOCIATION

MUSK THISTLE FACTS

Common Name: Musk thistle (Don Krause thistle, nodding thistle, nodding plumeless thistle)

Growth Form: Forb

Life Span: Biennial (occasionally annual)

Origin: Eurasia

Flowering Dates: May–August

Reproduction: Seeds

Height: 0.5–3 m (1.6–9.8 ft)

Inflorescences: Heads, globose (3–7 cm in diameter), terminal, nodding; heads 1–2 on upper branches, 2–9 heads on lower branches; outer involucral bracts 1.5–4.5 cm long and 5–7 mm wide, outer and middle involucral bracts with a constriction; peduncles not winged

Flowers: Rose purple to white disk florets (2–4.5 cm tall), developing from the outer edge to the center

Fruits: Achenes, yellowish brown (3–5 mm long), one edge straight and the other curved; pappus bristles white (1.5–2.5 cm long); seeds 1

Seeds: Small

Leaves: Alternate; blades simple; rosette blades lanceolate to elliptic (5–25 cm long, 1.5–9 cm wide), margins deeply serrate to pinnately lobed (lobes often white), surfaces without hair, veins extending past margins as spines; upper blades (1–15 cm long) like rosette blades except clasping the stem

Stems: Erect, highly branched, with spiny wings (5–20 mm wide)

Underground: Taproot, fleshy, stout

Where Found: Widespread throughout the Great Plains and is especially abundant in the east central portion in pastures and prairies, open woodlands, and fertile lowlands. (NE, SD, ND, KS, OK, TX, MN, IA, MO, MT, WY, CO, NM; Canada: Alberta, Saskatchewan and Manitoba)

Uses and Values: Musk thistle is unpalatable to livestock. Its seeds are eaten by songbirds, and it is a butterfly plant.

Poisoning: None

Historical: In Eurasia, dried flowers of musk thistle have been used to curdle milk. The pith of second year plants and roots of first year plants are occasionally boiled and eaten.

Other: Musk thistle is an escaped ornamental and is classified as a noxious weed throughout the region. Seeds may mature in heads after control. Therefore, control by hand or with herbicides must be done before heading, or heads must be collected by hand and burned.

IMPACT OF MUSK THISTLE

Musk thistle currently infests 280,000 acres in Nebraska. While pastures and rangeland tend to carry the largest infestation levels, other areas can equally provide a favorable habitat for this invasive plant species.

Musk thistle was first identified in Nebraska in 1932 at a field day in Seward County. In 1940-41 a botanical survey found this plant in Richardson County.

Landowners and producers spend millions of dollars each year to control musk thistle. This plant competes for water and nutrients while depleting grass and forage that is utilized by livestock, wildlife and recreationists. We can all do our part by controlling musk thistle infestations or by reporting uncontrolled infestations to your local county noxious weed control authority.

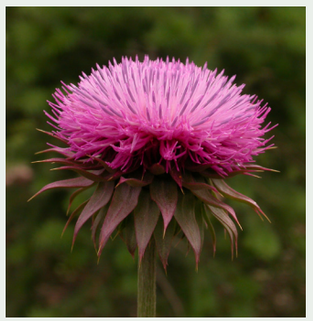
Musk thistle leaves (left) are not deeply serrate and lack hairs, while plumeless thistle leaves (right) are deeply serrate and have hair on the underside.

CONTROLLING MUSK THISTLE

Mechanical and Cultural Control

Infested areas that have been allowed to reach the bud or bloom stage can be mowed to temporarily prevent seed development. However, some plants within the infested area will be less mature and will require additional control measures.

Musk thistle does not usually become a problem in spring planted crops. However, some problems have been encountered in no-till situations. Fall sown crops can become infested with musk thistle that may set seed prior to harvest. The Nebraska Crop Improvement Association has rejected wheat fields for certification because of the presence of musk thistle.



Heads are globed-shaped, and the florets are usually rose-purple.

Properly managed grassland that is well fertilized and not overgrazed is the most cost efficient and profitable control method available today. However, these well managed grasslands are not exempt from infestations and require continued monitoring to ensure that noxious weeds are not allowed to grow.

Biological Control

Natural enemies (biocontrol agents) for the control of musk thistle have been used since 1972 in Nebraska. These agents work slowly and results may not be seen for many years. These agents are considered a tool to assist in the control of musk thistle and should never be relied on to completely control any noxious weed. The use of biocontrol agents needs to be approved by your local county noxious weed control authority.

Musk Thistle Control Summary

A combination of two or more control methods is the best approach to take when controlling musk thistle. By utilizing several control options your odds become greater that more musk thistle will be controlled. Musk thistle is capable of producing thousands of seeds that may lay dormant for several years. Continued monitoring and follow-up control measures are essential for maintaining musk thistle infestations at a low level.

Herbicide Control

The use of herbicides can be an effective tool to assist in controlling noxious weeds. A person needs to identify the problem and the appropriate herbicide for the plant as well as the site that the plant is growing. If the noxious weed infestation is severe and scattered across a large area, then a broadcast application may be warranted. However, if the noxious weeds are in patches or a few scattered plants here and there a person may be able to spot treat individual plants or patches. This approach requires less herbicide and has minimal impact on native plants and the environment. Controlling noxious weeds with herbicides in only one tool and should never be the only control option.

Additional information regarding herbicide use can be found through the Nebraska Cooperative Extension EC130 (*Guide for Weed, Disease, and Insect Management in Nebraska*) or your local county weed control authority at **neweed.org**.