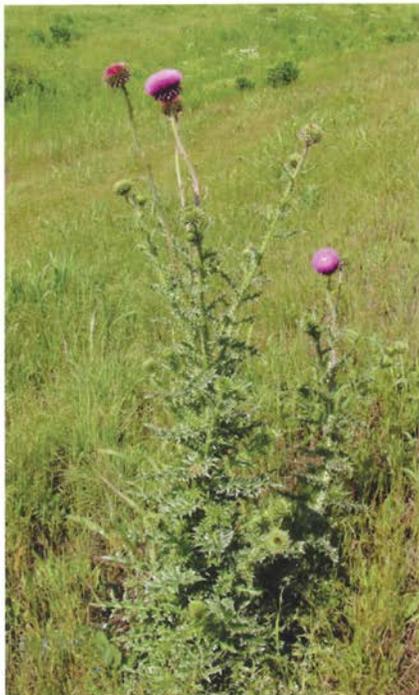

MUSK THISTLE

A Noxious Weed In Kansas

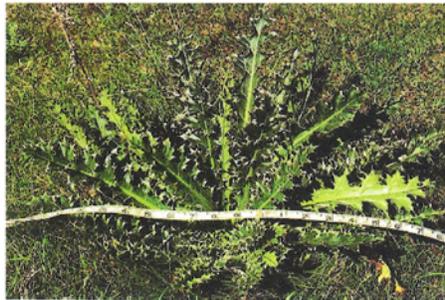


HISTORY

Musk thistle (*Carduus nutans* L.), a native of Europe was documented in Kansas in Washington Co. in 1932. Musk thistle is a noxious weed in all counties in Kansas. The law requires that all persons and organizations prevent the spread of and eradicate it on all lands owned or supervised by them. Any livestock feed material containing musk thistle seed shall not be sold, offered for sale, bartered or given away except to processors or where the grain or hay will be consumed on the same farm where grown.

LIFE CYCLE

Musk thistle normally requires two years to complete its life cycle (i.e. biennial or winter annual). Occasionally, the plant completes its life cycle in one growing season (i.e. summer annual). The typical biennial musk thistle exhibits itself the first year in the form of a rosette, a cluster of tightly packed leaves laying flat on the ground.



Rosettes vary in diameter from a few inches to three feet. Musk thistle over winters as a rosette. During the rosette stage (either fall or spring) musk thistle is most susceptible to chemical control. In its second

year of growth, the musk thistle plant will leave the rosette stage as its stem elongates (bolts) toward the mature, flowering plant with a large fleshy taproot that is corky and hollow near the ground surface. Chemical control is less effective during the bolted stage and chemical susceptibility continues to decline as the plant reaches maturity.

LEAVES

The leaves of musk thistle are deeply lobed, hairless, and are dark green with a light green mid-rib. A silver gray leaf margin is characteristic of each spine tipped lobe. The leaf base extends down the stem to give the plant a winged appearance.



FLOWER (HEADS)

Musk thistle is the first of the Kansas thistles to bloom in the spring. Flowering begins in mid-May and continues through early July. Each head consists of many tightly packed rose to purple colored flowers encased in a series of spine-tipped, green bracts. The terminal (uppermost) head is 1 1/2-3 inches in diameter, solitary, and general bent over or nodding. The plant is freely branched and each branch may have one flower or more in addition to the terminal flower. Flowering begins with the terminal head and progresses downward. Musk thistle heads are distinguished by their "powder puff" shape.



SEEDS

Disposal of seeds begins approximately 30 days after blooming of the head. Seeds are straw colored, oblong, and 1/8 inch in length. The seeds are attached to parachute-like hairs (pappus) which allow for their dispersal by wind currents. The potential for seed production is enormous. Large plants can potentially produce 15,000 seeds with approximately 50% of those being viable.

CULTURAL CONTROL

Mowing– Mow with a rotary mower before the first appearance of pink on the flowers. Mowing at full bloom will prevent seed production. Mowing cleanly and closely and repeat as needed for control. Shall be approved first by your County Noxious Weed Department.

Hand Cutting-Digging– Cut between the first appearance of pink and the first appearance of brown on the pappus of the earliest head. Dig the root at least two inches below ground level and remove all soil from the roots. Pick heads that are beyond the bud stage and place in tight container. Bury the container at a landfill or other site that will not be unearthed. If burning the heads, make sure they are not wet, which may leave viable seed.

BIOLOGICAL CONTROL

Two insects for biological control of musk thistle are approved but must meet requirements set forth in K.A.R. 4-8-41. Shall be approved first by your County Noxious Weed Department.



CHEMICAL APPROVED FOR CONTROL

The following herbicides may be used for cost-share with landowners.

HERBICIDE	APPLICATION TIME	REMARKS
Banvel	Fall or Spring	Apply during rosette stage of growth. Add 2,4-D in the spring to improve control.
Escort	Fall or Spring	The addition of 2,4-D will improve control during late spring or when plants are under stress.
Tordon 22K	Fall	Apply before the soil freezes.
Tordon 22K + 2,4-D	Spring	Must add 2,4-D during spring applications and increase rates for improved control.
2,4-D	Fall or Spring	Apply during rosette stage of growth, use Amine or LV Ester formulations.
Milestone	Fall or Spring	Apply prior to soil freeze up.

PRECAUTIONS

Carefully read and follow all label directions, warnings and precautions regarding safety, wind conditions, use rates, grazing limitations, and hazards.

FACTORS FOR PREVENTION AND CONTROL

- The first line of defense against musk thistle should be proper grazing management.
- Fertilization of cool-season forages is also an important practice in reducing a musk thistle invasion.
- Purchase feed grain or hay from reputable neighbors or dealers.
- Properly clean equipment before leaving an infested field.
- Apply herbicide(s) when musk thistle plants are in the rosette stage and rapidly growing with favorable soil moisture.
- For ground applications apply with 10 to 20 gallons of carrier per acre.
- For aerial applications apply herbicide(s) with 3 to 5 gallons of carrier per acre.
- Retreat with the herbicide(s) or cultural treatment to prevent seed production and reduce new infestations.

FOR FURTHER INFORMATION,
CONTACT YOUR LOCAL COUNTY
WEED DIRECTOR:

ACKNOWLEDGMENTS

County Weed Directors Association of Kansas
