

**INTEGRATED WEED MANAGEMENT
of CANADA THISTLE**



Canada thistle rosette



Canada thistle in fallow wheat ground

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INTEGRATED WEED MANAGEMENT of MUSK THISTLE

No single control method should be used in managing weeds. A combination of methods (IPM) should be used. An integrated pest management plan deals with prevention as well as control. Eradication of weed species is often not a practical goal but in most cases reducing infestation to manageable levels should be the objective.

MUSK THISTLE

(*Carduus nutans*) is biennial or sometimes a winter annual, which grows up to six feet tall. Leaves are dark green with light green midrib, deeply lobed, spiny marginate. Edges of leaves are often a grayish-silver color. The leaves extend onto the stem giving a winged appearance. Flower is terminal, solitary, 1½ - 3 inches in diameter. It is usually bent over. Flowers are deep rose, violet, or purple, and occasionally white. Flowers are subtended by long narrow, spine-tipped bracts.

Cultural

Plant competition is an effective way to prevent the invasion of Musk thistle. Proper management of perennial grasses will inhibit the establishment of this weed.

Overgrazing is a major cause of perennial weed invasion. In Douglas County, one horse requires 35 to 40 acres of pastureland if no supplemental feed is provided. Residents should consider the above facts when planning recreational or hobby activities as it pertains to horses.

A general rule of thumb to prevent overgrazing, is the take-half, leave-half principle. A stand of grass will maintain or even improve its condition if no more than one-half of its annual production is used. In other words, animals could graze until, on average, fifty percent of the grass has been utilized. Animals would then be removed until the vegetation recovers its original height.

Other cultural methods include:

- fertilization when necessary.
(A soil test is the best way to determine fertilization on a site. Contact the Douglas County Extension Office for soil test kits.)
- water management.
- where the perennial vegetation has been depleted, reseeding adapted varieties is recommended.
- disturbed areas should be revegetated as soon as possible prevent weed invasions.

Biological

At this time, three insects are available: a seed head weevil, which is common throughout the county, a rosette weevil and a leaf defoliating beetle. Others are in research at this time. It will take at least 2 species of insects to significantly impact the weed population.

Mechanical

Mowing will not kill the plant but will lessen the seed production if it keeps the seed heads from maturing. Small areas can be eradicated if the land owner digs all the plants on his property. The plants must be cut off below the soil surface and no leaves can remain attached or it will grow back. In addition, reduced vegetative matter from mowing will allow fall herbicide use to be more effective.

Herbicidal Treatments

Because of their shorter life cycle, Musk thistle plants can be effectively treated with herbicides. All herbicide treatments should be applied at the rosette stage of the plant. Generally, herbicide applications would be in early spring or fall.

Always read and follow the label!

Homeowners should use:

- Stinger @ 2 teaspoons/gal/1000 sqft. in the spring at the rosette stage.
- Confront @ 4.5 teaspoons/gal/1000 sqft. in the spring at the rosette stage.
- 2,4-D amine @ 3tbs / gal/ 1000 sqft. Repeat spring and fall for the next 3 years.
- Roundup @ 3tbs/1000 sqft. as a spot treatment. (will kill grass & should be followed by reseeding).

Ranchers and large lot owners can use:

Marshy areas and areas adjacent to water: 2,4-D 2qt/acre, Rodeo 4.5 pt/acre.

Shallow water table & in root zone of desirable trees: Redeem @, Curtail 2qts/acre, Stinger (2/3 pt/acre).

Ranchers and large lot owners:

Marshy areas & areas adjacent to water: Rodeo 4.5 pints/acre.

Shallow water table & in root zone of desirable trees: Telar @ 1.5oz + 2,4-D @ 1qt/acre. Or Redeem @ 1qt + 2,4-D @ 1qt/acre or Curtail at 3qts/acre. Transline 1 1/3 pts/acre. (non-pasture).

Non-sensitive rangeland and roadside areas: 1qt of Tordon 22K per acre (Restricted Use Pesticide) or 2qts of Banvel/acre; or 1oz of Escort/acre (spot spraying).

Small Grains: 1pt+1qt of Tordon 22K and Banvel/acre or 1-2 qts of Banvel/acre (between crops) or Stinger (ag label for Transline) @ 1/3pt/acre.

Proper calibration with a handsprayer can be done by:

1. Filling the sprayer with water to a marked level.
2. Uniformly spray an area 10ft. x 10ft.
3. Refill the sprayer measuring the amount in ounces. Multiply x 10 equals the amount per 1000sqft. Add the above amounts of herbicide to this much water for your spraying task.

Example: if homeowner Smith measures 10 ounces of water to refill the sprayer then he is spraying 100 ounces per 1000 sqft. If he wants to spray Confront, then he would add 4.5 tsp/100ounces of spray mix.

Other products are in the development stage.

All treatments will require at least 3-5 years of repetition at lower inputs each of the 3rd-5th years!