

# Musk thistle

Adams County  
Weed Department  
9755 Henderson Rd  
Brighton, CO  
80601  
303-637-8115



## Key ID Points

- 1 Broad, spine-tipped bracts located under the flower
- 2 Flowering heads are terminal, solitary, and usually nodding
- 3 Grows up to 6 feet tall

## Musk thistle Identification and Management



Musk thistle during the flowering stage. This stage typically occurs in the early summer. Seed production will follow and effective management options will then become limited.

## Identification and Impacts

Musk thistle (*Carduus nutans*) is a non-native biennial forb that reproduces solely by seed. A biennial is a plant that completes its lifecycle within two years. During the first year of growth, musk thistle appears as a rosette in spring or fall. During the second year in mid to late spring – the stem bolts, flowers, sets seed, and the plant dies. A prolific seed producer, musk thistle can produce up to 20,000 seeds per plant. Therefore, the key to managing this plant is to prevent seed production.

Musk thistle can grow up to 6 feet tall. The leaves are spiny, waxy, and dark green in color with a light green midrib. The flowers are purple, large in size (1.5 to 3 inches in diameter), nodding, and terminal. The flowers are surrounded by numerous, lance-shaped, spine-tipped bracts. You can expect to see flowers from late May and June. Seed set usually occurs in June or July.

Musk thistle is designated as a “B” list species on the Colorado

Noxious Weed Act. It is required to be either eradicated, contained, or suppressed depending on the local infestations. For more information visit [www.ag.state.co.us](http://www.ag.state.co.us).

Musk thistle tends to invade disturbed, overgrazed areas. Once a pasture is infested, the livestock carrying capacity for that area is significantly decreased.

Musk thistle may also occur on rangeland, roadsides, ditches, riparian areas, and trails.

On the backside of this sheet are musk thistle management recommendations. If you have any questions or would like more information, please contact the Adams County Weed Department at 303-637-8115. Please visit our website [www.adamscountyextension.org](http://www.adamscountyextension.org).



*Carduus nutans*

**CULTURAL**

Establishment of selected grasses can be an effective cultural control of Musk thistle. Contact your local Natural Resources Conservation Service for seed mix recommendations. Maintain healthy pastures and prevent bare spots caused by overgrazing. Bareground is prime habitat for weed invasions.

**BIOLOGICAL**

Livestock tend to avoid grazing on musk thistle, although horses and cattle have been known to eat the flowerheads. Biological control insects, such as the seed head weevil and the crown weevil are effective on large infestations. When used together, these insects provide fair to good control. Insects can be obtained at no charge from the Colorado Department of Agriculture. Please call 970-464-7916 or visit [www.ag.state.co.us](http://www.ag.state.co.us)

**MECHANICAL**

Mowing or chopping is most effective when musk thistle plants are at full-bloom. Be sure to properly dispose of the flowering cut plants, since seeds can mature and become viable after the plant has been cut down. Grubbing or digging the plants below the root crown level is effective as well. Do this while the plant is in the rosette stage.

*Integrated Weed Management:*

*The key to managing musk thistle is to prevent seed production. Dense musk thistle stands can be treated by spot use of herbicides and by a persistent mechanical program.*

*Due to the long seed viability of musk thistle, up to 10 years, control methods may have to be repeated for many years to completely eliminate an infestation.*

**HERBICIDES**

The following are recommendations for herbicides that can be applied to range and pasturelands. Always read, understand, and follow the label directions. The herbicide label is the LAW!

*Rates are approximate and based on equipment with an output of 30 gallons per acre. Please read label for exact rates.*

HERBICIDE	RATE	APPLICATION TIMING
Milestone	3-5 ounces/acre or 1 teaspoon/gal water	Spring at rosette to early bolt stage and/or in the fall to rosettes. Add non-ionic surfactant @ 0.32oz/gal water or 1 qt/100 gal water.
Escort XP	0.5-1 ounce/acre or 0.25-0.50oz/2gal water	Apply in the spring during rosette to bloom stage or in the fall to rosettes. Add non-ionic surfactant @ 0.32oz/gal water or 1qt/100 gal water.
Redeem R&P	1.5-2 pints/acre or 0.75 oz/gal water	Apply from rosette to early bolt stage of growth and/or in the fall to rosettes. Add non-ionic surfactant @ 0.32oz/gal water or 1qt/100 gal water.
2,4-D Amine	1 qt/acre or 1.0 oz/gal water	Spring/fall rosette - before flowering stalk lengthens. DO NOT apply when outside temperatures will exceed 85 degrees F. Add a non-ionic surfactant @ 0.32oz/gal water or 1 qt/100 gal water.

# Musk thistle