

Musk Thistle



Musk thistle or sometimes referred to as “nodding” thistle is primarily a biennial or winter annual but may occur as a summer annual. 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. The terminal flower is large (1 2 to 3 inches in diameter), solitary and usually nodding or bent over slightly. The plant is freely branched and each branch may have one flower or more in addition to the terminal flower. The flowers are purple and are "powder puff" shaped. Seed dispersal begins 7 to 10 days after blooming. 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. Musk thistle reproduces only by seed. The likelihood of new infestations will be reduced by any action to prevent the production and movement of seed.

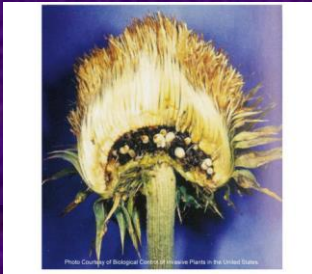
Control Practices

Mowing - Mow with a rotary mower before the first appearance of pink on the flowers. Mowing at full bloom will prevent seed production. Mow cleanly and closely and repeat as needed for control.

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 a tight container. Bury the container at a landfill or other site that will not be unearthed.

Herbicides – many herbicides are labeled for and effective on musk thistle as long as treatment occurs prior to the same time frame as mowing or digging. Please consult the District for specific recommendations to fit your needs.

Biological Control – There are two insects that have proven an effective control of musk thistle. *Rhinocyllus conicus* is a seed head weevil while *Trichosiromus horridus* is a weevil that feeds in the crown of the rosette, killing it. The seed head weevil, aka, the “Evil” weevil also feeds on seed head of some native thistles, thus the nickname. Both species are active in Johnson County.



Rhinocyllus conicus Newly hatched larvae feed through the bracts into the buds. The larvae feed on the receptacle and prevent the production of viable seeds. They complete development in 4 to 6 weeks and turn into pupae in the thistle heads. The new adult emerges in 7-10 days. These new adults do not stay on the plants for long. They seek shelter and pass the summer in hiding, and then hibernate in winter. They re-emerge in spring to lay eggs before dying. There is one generation a year



Trichosiromus horridus Newly hatched larvae feed within the mid-rib towards the center growth point of the thistle rosette. The larvae reach the growth point in 7 days and continue feeding on the young tissues, causing the center point to become dark in color. They complete development in 6-8 wks. The full grown larva leaves the plant to pupate in the soil in pupation chambers. The new adult emerges in 12-20 days. The new generation of adults appears in May or June and goes into hiding until the fall, when they emerge to feed. Some may start laying eggs until the first frost before hibernation. There is usually one generation per year.

Johnson County Weed & Pest Control District

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