

## War on Weeds – Weeds are Everybody’s Problem

### THE ISSUE: Musk thistle

Musk thistle (*Carduus nutans*) is a biennial or winter annual, native to Eurasia. It was introduced into the U.S. as a contaminate in soil ballast (from ships). It invades roadsides, pastures, rangeland, and other disturbed sites. It establishes particularly well when there is bare ground. Musk thistle is a significant problem especially in the eastern half of Idaho. It can form dense stands that can grow up to 6 feet tall. Evidence suggests that musk thistle produces allelopathic compounds, reducing surrounding vegetation, which leaves more bare ground and more opportunity for musk thistle to take over.



Photo courtesy of Steve Dewey, Utah State University, Bugwood.org

Musk thistle forms a rosette during the first part of its life cycle. When conditions are right it bolts, sending up flowering stems. Leaves have deep lobes, prickly toothed margins, and are dark green in color with a light green midrib. Flowers are purple to pink in color and are about 1 1/2 to 3 inches in diameter. Musk thistle has plumed seed that is easily carried on the wind, on animals, in water, by humans, on equipment, in hay, or as a contaminate in crop seed. A single plant can produce 10,000-11,000 seeds per year. Seeds can remain viable for 10-15 years.

### Integrated Pest Management (IPM) Options:

- Prevention – Learn to identify this plant. Clean equipment after leaving an infested area.
- Mechanical – Using a shovel to cut the root below the soil surface is a good way to remove musk thistle when small infestations are present. Mowing can effectively reduce viable seed production, if mowed at the correct time (when terminal heads are in the late flowering stage). Tillage is also an effective option.
- Cultural – Establish a healthy stand of beneficial plants that will compete for essential resources. Using proper grazing management strategies will allow beneficial plants to have an advantage over weeds.
- Biological – There are two biological agents that have had success suppressing musk thistle. Both are weevils (*Trichosirocalus horridus* and *Rhinocyllus conicus*), one attacks rosettes and the other destroys seed heads.
- Chemical – Refer to Pacific Northwest Weed Management Handbook at <https://pnwhandbooks.org> for herbicide recommendations (search “musk”). **Always read and follow herbicide label directions!**

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