



# Extension Extra

ExEx 8084  
Updated June 2002  
Plant Science

COLLEGE OF AGRICULTURE & BIOLOGICAL SCIENCES / SOUTH DAKOTA STATE UNIVERSITY / USDA

## Biennial Thistle (Musk, Plumeless, Scotch, Bull)

by Leon J. Wrage, Extension agronomist -- weeds, and  
Paul O. Johnson, Extension IPM coordinator

Biennial thistles produce seedlings during the summer and fall. Plants overwinter as rosettes and produce a flower stalk the next spring, seed, and die. Musk and plumeless are the most serious of the biennials. They produce a heavy seed crop and seedling vigor is very good. Treatments suggested have provided over 90% control into the next season and have reduced seedling emergence considerably during the next year.

### BEST RESULTS:

**GOOD FALL PRECIPITATION.** Fall rain triggers new seedling emergence and rosette growth. Treating in dry fall seasons is less effective.

**LATE FALL APPLICATION.** Delay spraying until late fall for maximum seedling emergence. Rosettes remain green and active even after early fall freezes. Applications can be made during October and even early November most years.

**RESIDUAL HERBICIDE.** Treatments with residual herbicides are most consistent. Using 2,4-D alone control emerged plants; however new seedling emergence makes it necessary to treat again in the spring.

### GRASS PASTURE/RANGE (Follow Label Grazing Restrictions)

Tordon 22K	.5 pt	Fall before killing frost. (\$5.95).
Banvel or Banvel+2,4-D	1-2 pt	Fall before killing frost. Tank-mix with 1 lb/A 2,4-D when using low rate. (\$13.60-19.90).

### BIOLOGICAL AGENTS

**Rhinocyllus conicus**, a seed weevil has become established in most musk thistle infestations across the state. The insect was released during the 1970's. Adults deposit eggs on the underside of flower bracts; larvae destroy seed as seed develops in the base of the flower head. The insect substantially reduces seed production in infestations. Applying herbicides to new rosettes will not directly interfere with maintaining the population in the area if there are sufficient plants in fencelines or adjacent areas for the insect to complete its life cycle.

## HERBICIDES

**Tordon 22K 2L** (picloram) is approved for use in noncrop, grass pasture, and range. It has foliar activity and extended soil residual. High rates are primarily for spot treatment. Bromegrass stunting or thinning may be noted with rates over 1 qt/A. **RESTRICTIONS:** Avoid drift to trees or sensitive crops. Avoid water contamination. Do not apply into water or on inner banks of irrigation or drainage ditches where water used for irrigation or domestic purposes may be contaminated. Avoid application on coarse soil (loamy sand or sand) or where the aquifer is shallow. **RESTRICTED USE PESTICIDE.**

**Banvel 4L or Vanquish 4L** (dicamba) is approved for use in noncrop areas, grass pastures, and range. Dicamba has foliar activity and extended soil residual. **RESTRICTIONS:** Do not use in trees. Remove meat animals from treated areas 30 days before slaughter. Do not graze treated areas for 7 days or harvest hay for 37 days after application for lactating dairy animals. Note other label precautions. Vanquish is a DGA salt of dicamba with reduced volatility.

**2,4-D** is mixed with dicamba for fall spraying. **RESTRICTIONS:** Do not graze dairy cattle on treated areas for 7 or 14 days after application, depending on 2,4-D product label. Note other label precautions.

**This publication and others can be accessed electronically from the SDSU College of Agriculture & Biological Sciences publications page, which is at <http://agbiopubs.sdstate.edu/articles/ExEx8084.pdf>**



Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the USDA. Larry Tidemann, Director of Extension, Associate Dean, College of Agriculture & Biological Sciences, South Dakota State University, Brookings. SDSU is an Affirmative Action/Equal Opportunity Employer (Male/Female) and offers all benefits, services, and educational and employment opportunities without regard for ancestry, age, race, citizenship, color, creed, religion, gender, disability, national origin, sexual preference, or Vietnam Era veteran status.

ExEx 8084- pdf by CES. August 1997; updated June 2002.