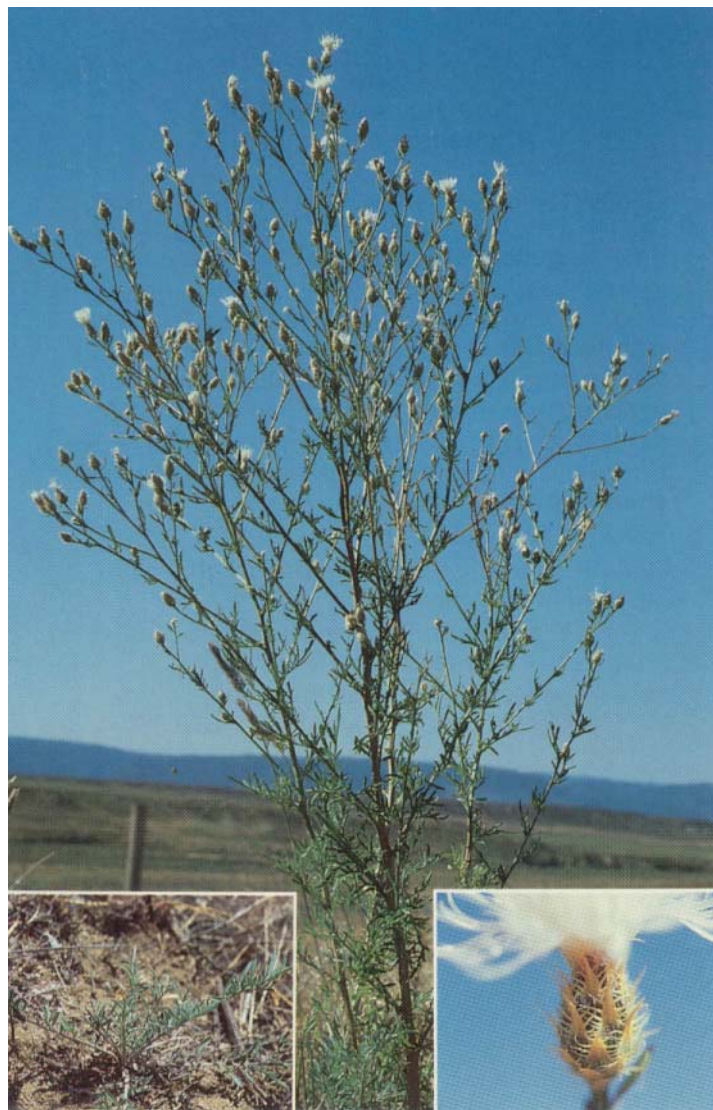


Noxious Weed: DIFFUSE KNAPWEED (*Centaurea diffusa* Lam.)



Photos by Tom Whitson, Roy Reichenbach

For more details on invasive weeds visit:

<http://www.coopext.colostate.edu/boulder/AG/agweedsspecificweeds.shtml>

Growth Habitat: Annual or biennial, bushy, up to 2 ft. tall. Rosette formed first year, flowering stalk elongates second year.

Leaves: Greyish-green, alternate, basal leaves whorled, upper leaves much reduced. Covered with fine hair.

Stem: Hairy, erect, single main stem from rootstock, branched near the base.

Flower: Solitary, usually white, sometimes pink, rose or lavender; seedhead bracts end as sharp, rigid spines.

Roots: Elongated taproot.

Seeds: Oblong, dark brown or grey with longitudinal lines.

Management: Readily controlled with herbicides however, the weeds will reinvade unless cultural techniques are used.

Biological control: Several insects are available from the Colorado Department of Agriculture. The seedhead flies *Urophora affinis* and *U. quadrifasciata* cause plants to produce fewer viable seeds and abort terminal or lateral flowers.

Root-feeding insects may have a more detrimental effect than see-feeding ones. Larvae of the root beetle (*Sphenoptera jugoslavica*) feed in the roots. Larvae of the yellow-winged knapweed moth (*Agapeta zoegana*) feed and the knapweed root weevil (*Cyphocleonus achates*) in the roots of both knapweed species.

Go to <http://www.coopext.colostate.edu/boulder/AG/agweeds.shtml> for more information about biocontrol methods.

Livestock (sheep, goats, cattle) will eat diffuse and spotted knapweed. Cattle grazing diffuse knapweed twice in spring decreased seed set by 50 percent and tumbling off-site over winter by 15 percent.

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Diffuse and Knapweed can be managed similarly. They are readily controlled with herbicides. However, the weeds will reinvade unless cultural techniques are used.

Judicious herbicide application that does not injure grasses may allow them to compete effectively with the weeds. Irrigation may help stimulate grass competition in these cases. Herbicides alone will not restore the land to a productive state. Seeding suitable perennial grasses is necessary to prevent reinvasion.

Chemical Control: Research conducted at Colorado State University indicates that Tordon 22K (picloram) at 1 to 2 pt/A, Transline (clopyralid) at 0.67 to 1 pt/A, Curtail (clopyralid + 2,4-D) at 4 to 6 pt /A, or Banvel/Vanquish/Clarity (dicamba) at 1 to 2 pt/A control diffuse knapweed. Tanks mixes of Banvel/Vanquish/Clarity plus 2,4-D at 1 pt + 2 pt/A or Banvel/Vanquish/Clarity plus Tordon 22K at 1 to 2 pt + 0.5 to 1 pt/A or Tordon plus 2,4-D at 0.75 pt + 2 pt/A all control diffuse knapweed. These tank-mixes may save money and reduce grass injury resulting from higher use rates of a single herbicide.

Spotted Knapweed and diffuse knapweed generally occupy the same area in Colorado, so the same herbicide treatments can be applied. Weed scientists at Montana State University indicate that 1 pt/A of Tordon (0.25 lb) controls spotted knapweed for two to three years, but the weed will reinvade the area unless other management techniques are used.

For more chemical control information go to: <http://www.coopext.colostate.edu/boulder/AG/agweedspecificweeds.shtml>. For more information on noxious weeds go to: <http://www.ci.boulder.co.us/environmentalaffairs/ipm/index.htm> or <http://www.ag.state.co.us/dpi>

Colorado State University Cooperative Extension. Beck, K.G. Diffuse and Spotted Knapweed. Publication 3.110. 2003
