

Diffuse knapweed

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



Key ID Points

1. Floral bracts have yellow spines with teeth appearing as a comb along the spine margins.
2. Flowers are white or lavender.
3. Seedlings have finely divided leaves.

Diffuse knapweed Identification and Management



Mature plant

Identification and Impacts

Diffuse knapweed (*Centaurea diffusa*) 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, diffuse knapweed 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. Once the plant dries up, it breaks off at ground level and becomes a tumbleweed allowing seeds to be dispersed over long distances. A prolific seed producer, diffuse knapweed can produce up to 18,000 seeds per plant. Therefore, the key to managing this plant is to prevent seed production.

Diffuse knapweed can grow 1 to 3 feet tall, and is diffusely branched above ground. This gives the plant a ball-shaped appearance and tumbleweed mobility when broken off. Leaves are small, and are reduced in size near the flowering heads. Flowers are mostly white, sometimes purple, urn-shaped, and are located on each branch tip. Bracts that enclose the flowerheads are divided like teeth of a comb, and are tipped with a definite slender spine.

Upon drying, the bracts become rough, rendering them injurious to the touch. You can expect to see flowers from July through August. Seed set usually occurs by mid-August.

Diffuse knapweed 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.

Diffuse knapweed tends to invade disturbed, overgrazed areas. It may also be found on rangeland, roadsides, riparian areas, and trails. It is a tough competitor on dry sites and rapidly invades and dominates disturbed areas. Once established, diffuse knapweed outcompetes and reduces the quantity of desirable native species such as perennial grasses. As a result, biodiversity and land values are reduced, and soil erosion is increased.

On the backside of this sheet are diffuse knapweed 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.



Diffuse knapweed rosette with taproot

Centaurea diffusa

**CULTURAL**

Establishment of selected grasses can be an effective cultural control of diffuse knapweed. 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**

The seedhead weevil (*Larinus minutus*) and the gall-forming fly (*Urophora affinis*) provide fair to good control when used in combination with each other. Expect to wait at least 3 to 5 years for the insects to establish and achieve optimum results. This is an option for large infestations. To obtain the insects, contact the Colorado Department of Agriculture, 970-464-7916.

**MECHANICAL**

Any mechanical or physical method that severs the root below the soil surface will kill diffuse knapweed. Mowing or chopping is most effective when diffuse knapweed 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.

Integrated Weed Management:

Diffuse knapweed is best controlled in the rosette stage. For small infestations, diffuse knapweed can be controlled by severing its taproot 1-2 inches below the ground. Control can be enhanced by a follow-up application of herbicides to the surviving rosettes.

It is imperative to prevent seed production. Do not allow diffuse knapweed flowers to appear.

Management must be persistent in order to deplete the seed bank in the soil.

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	5-7 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.
2,4-D Amine	1 qt./acre or 1 oz/gal water	Apply to spring/fall rosettes - before flowering stalk lengthens. DO NOT apply when outside temperatures will exceed 85 degrees. 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.
Tordon 22K *this is a Restricted Use Pesticide*	1-2 pts/acre or 0.75 oz/gal water	Apply to spring rosettes through mid-bolt and in fall to rosettes. DO NOT apply near trees/shrubs/high water table.

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