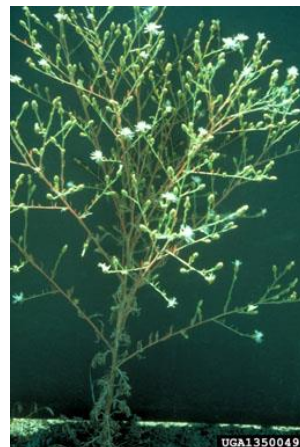




903 N. Black Avenue
Bozeman, MT 59715
(406) 582-3265

DIFFUSE KNAPWEED MANAGEMENT TIPS

Diffuse knapweed, a member of the Sunflower family, is a biennial or short-lived perennial forb with a taproot. The flowers are white or sometimes pink. The bracts surrounding the flower head have margins fringed with spines and a long, spreading stiff spine at the tip. Seedlings have finely divided leaves with small hairs. Mature leaves are alternate along the stem, grayish-green, and are covered with wooly hairs. Reproduction is by seed only. **Seeds can remain viable for several years.** Plants usually reach heights of one to two feet tall. Diffuse knapweed displaces native vegetation, increases soil erosion and reduces forage value on range and pasture lands.



Management and control efforts should focus on reducing seed production. Efforts must be planned for many consecutive years at the existing site in order to prevent seed formation/dispersal and to monitor for, and appropriately treat, any new plants that emerge.

Effective control measures for the management of diffuse knapweed include:

1. **Mechanical (hand pulling & digging):** Hand pulling and digging can be effective for small infestations. Remove as much of the root as possible and place flowering plants in bags to prevent seed dispersal. Return to the area for several years to monitor for and remove any new plants. Wear gloves when pulling or digging plants.
2. **Herbicide: Always follow directions on the label. The label is the law!** Calibrate your equipment to ensure that you are adding the proper amount of herbicide to your tank. The following herbicides are commonly used to control diffuse knapweed. **Do NOT use these herbicides in lawns, turf or ornamental settings – read the label.** *For the most effective control, apply herbicides when plants are in the rosette stage up to the early bolting stage.*

Mixing rates in small backpack or hand sprayers are as follows:

Curtail:	1 - 2 oz herbicide to 1 gallon of water.
Milestone:	1 – 1.25 teaspoons herbicide to 1 gallon of water.
GrazonNext HL:	1 oz herbicide to 1 gallon of water.
*Opensight:	1/2 - 2/3 teaspoon herbicide to 1 gallon of water.
*Chaparral:	1/2 - 2/3 teaspoon herbicide to 1 gallon of water.
DuraCor:	0.5 oz herbicide to 1 gallon of water.

Rates in large sprayers are as follows:

Curtail:	1 – 2 quarts herbicide per acre.
Milestone:	5 - 7 oz herbicide per acre.
GrazonNext HL:	1 quart herbicide per acre.
*Opensight:	2.5 – 3.3 oz herbicide per acre.
*Chaparral:	2.5 – 3.3 oz herbicide per acre.
DuraCor:	12 oz herbicide per acre.

NOTE: Adding a surfactant to your tank mix may enhance the performance of your herbicide and is required for certain herbicides (read the label). Add 0.5 - 1 oz per gallon of water for backpack sprayers or 1 – 2 pints per 100 gallons for large sprayers.

*** denotes that a surfactant is required for the herbicide to be effective**

3. **Biological (insects):** There are several insects available to feed on the seeds and roots of diffuse knapweed. This method is usually used when there are large infestations and the climate is favorable to support the insects.
4. **Cultural (revegetation):** Planting desirable plant species to compete with diffuse knapweed in susceptible areas, such as areas that have been disturbed, is highly recommended.
5. **Grazing:** Sheep and goats can be used to reduce diffuse knapweed seed production and biomass.
6. **Integrated management:** Management of diffuse knapweed is more effective when more than one strategy is used.

Reference to commercial products or trade names does not imply discrimination or endorsement by the Gallatin County Weed District.