



Diffuse Knapweed (*Centaurea diffusa*)

SK Provincial Designation: Prohibited

Overview:

Diffuse knapweed is a biennial to short-lived perennial that reproduces by seed. This tap-rooted member of the Aster family is native to south-eastern Europe. It is thought to have been introduced in the late 1800s via contaminated crop seed. Seeds germinate in the fall or spring and develop low lying rosettes in the first year of growth. It is a highly competitive plant that establishes quickly on disturbed sites and can also invade undisturbed plant communities. A single plant can produce 18,000 seeds.

Diffuse knapweed is an extremely tough plant that can tolerate drought, trampling, and very rocky soils. Its roots exude a chemical that inhibits the root growth of other plants.

Knapweeds have become well known because of their almost wholesale degradation of large tracts of rangeland in the northwestern US and parts of southern BC. In winter, plant skeletons break off and tumble in the wind, spreading seed.

Diffuse knapweed can sometimes be confused with Spotted knapweed, which sometimes has white-pink flowers, but Diffuse plants are shorter, stiffer, prickly and more of a grey-green.

Habitat:

Diffuse knapweed thrives in semi-arid and arid environments with light, porous soils such as gravelly loam, and loamy sands. It is not tolerant of moist soils, flooding or shade.

Identification:

Stems: Single, erect stems with numerous branches, covered with short, stiff, white hairs. Plants grow up to 1 m tall.

Leaves: A rosette of leaves forms in the first year. Rosette and lower leaves are 5-20 cm long, rough, hairy, grayish green and deeply lobed. Upper leaves are stalk-less, alternate up the stem and become smaller toward the flowers.

Flowers: Normally a biennial, flowering occurs in the second year. Flowers are urn-shaped, creamy white or pinkish purple and borne solitary or 2-3 at ends of branches. The bracts are yellowish green and edged with small, rigid, sharp spines.

Seeds: The seeds are light brown to black and about 3 mm long.

ABOVE: Diffuse Knapweed Plant

LEFT: Diffuse Knapweed Flower

Both photos by Shauna Lehmann, SISC



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Diffuse Knapweed *(continued)*

Control:

Grazing: Rarely grazed because of its spiny nature and extremely bitter taste. Invasive plants should never be considered as forage.

Cultivation: Diffuse knapweed is not a problem in frequently cultivated or irrigated areas.

Burning: Cured infestations can be burned but the degree of control achieved from burning is uncertain.

Mechanical: Mowing prevents seed production but the remaining root will re-sprout. Digging before flowering can be effective on small infestations but will require several years to eradicate and should be accompanied by sowing desirable plants. Remove as much of the root system as possible to prevent re-sprouting. All plant material should be incinerated or bagged and sent to a waste facility. Diffuse knapweed is very abrasive and bare skin contact can cause irritation, so wear gloves and a long-sleeved shirt.

Chemical: Several herbicides are effective on diffuse knapweed when used before flowering including dicamba, aminocyclopyrachlor, aminopyralid and picloram. Residual products are the most effective. Consult the Guide to Crop Protection, your Ministry of Agriculture Regional Forage Specialist, or the Agriculture Knowledge Centre at 1-866-457-2377 for more details.

Biological: Ten biological control agents have been imported to North America; 3 moths, 3 flies, 2 weevils, 1 beetle, and 1 rust. Most are seed-feeders and one is a root-miner. Many of these have become very widespread throughout the northwestern US and southern BC but none are currently in Saskatchewan. These agents have caused dramatic reductions in plant size and therefore seed production.

TOP: Seedheads, Carey Minter, University of Arkansas, Bugwood.org

MIDDLE: Leaves, K. George Beck and James Sebastian, Bugwood.org

BOTTOM: Flowers, Joseph M. DiTomaso, Bugwood.org



1. Always follow the product labels. Pesticides should only be applied by certified pesticide applicators. The use of pesticides in any manner not published on the label or registered under the *Minor Use of Pesticides* regulation constitutes an offence under both the *Federal Pest Control Products Act* and provincial acts in Saskatchewan. For the latest information on pesticides for agricultural use in Saskatchewan, please consult the provincial *Guide To Crop Protection*, produced annually by the Saskatchewan Ministry of Agriculture.