NOXIOUS WEEDS ARE EVERYONE'S CONCERN

Noxious weeds compete with pastures and crops, reducing yields substantially. Some noxious weeds are directly poisonous or injurious to man, livestock and wildlife. The losses resulting from noxious weed infestations can be staggering, costing residents of Nebraska millions of dollars due to production losses. This not only directly affects the landowner, but erodes the tax base for all residents in the State of Nebraska.

The business of noxious weed control is everyone's concern, and noxious weed control benefits everyone. The support of all individuals within the state is needed and vital for the control of noxious weeds within Nebraska. It is the duty of each person who owns land to effectively control noxious weeds on their land.

If you have questions or concerns about noxious weeds, please contact your local county noxious weed control authority or the Nebraska Department of Agriculture.

Material derived from *Weeds of the Great Plains*, published by the Nebraska Department of Agriculture.

For more information, visit **nda.nebraska.gov**.

KNAPWEED
(SPOTTED & DIFFUSE)

NEBRASKA NOXIOUS WEED

PREPARED BY THE
NEBRASKA DEPARTMENT OF AGRICULTURE
AND THE
NEBRASKA WEED CONTROL ASSOCIATION

KNAPWEED FACTS

Common Name: Spotted knapweed (Jersey knapweed)

Growth Form: Forb

Life Span: Biennial (occasionally short-lived perennial)

Origin: Eurasia

Flowering Dates: June–September

Reproduction: Seeds

Height: 0.3–1.5 m (1–4.9 ft)

Inflorescences: Heads numerous (5–28 mm in diameter) in cymelike arrangements, terminal and axillary; involucre 8–12 mm tall, 6–10 mm wide; bracts acuminate with a terminal spine, black on the upper one-fourth; outer bracts ovate, appendages decurrent on bract margins, fringed with slender teeth; teeth pectinate; inner bracts oblong; florets 30–40

Flowers: Pink to lavender (sometimes white) corolla; those on the disk margin enlarged (1.5–2.5 cm long), sterile; fertile florets 1.2–1.5 cm long

Fruits: Achenes obovoid (2.5–3.5 mm long, 1–1.5 mm wide), olive green to pale brown to blackish with 4 yellow longitudinal lines; pappus in 1–2 series of many white bristles (1–2 mm long); bristles stiff unequal

Seeds: Small

Leaves: Alternate; simple; basal leaves (10–15 cm long), deeply pinnatifid; lobes linear to oblong, grayish-green to gray, tomentose to without hair, often minutely black gland-dotted, petiolate, withering by flowering; upper leaves reduced, linear, may be entire, black gland-dotted

Stems: Erect to ascending, many, branches ascending, pubescent to glabrate

Underground: Taproot

Where Found: Sandy soils of pastures, meadows, open woodlands, and waste areas. (NE, SD, ND, KS, MN, IA, MO, MT, WY, CO, NM; Canada: Alberta)

Uses and Values: It is unpalatable to livestock and wildlife. Its presence in hay reduces its value.

Poisoning: Prolonged consumption of fresh plant material by horses may cause chewing disease. The toxin has not been identified, but it is suspected to be a sesquiterpene lactone. Some people develop a rash after coming in contact with spotted knapweed.

Similar species: Spotted knapweed resembles diffuse knapweed (Centaurea diffusa Lam.). However, spotted knapweed bracts do not have a prominent terminal spine, and its heads are larger and showier.

IMPACT OF KNAPWEED

Spotted knapweed and diffuse knapweed are considered a major threat to the western rangeland states. Approximately 12,000 acres of Nebraska have become infested, mainly in the north central and isolated infestations occurring in other parts of the state.

Diffuse and spotted knapweed are both pioneer species which readily establish themselves on dry, disturbed soils, such as roadsides. These aggressive plants then invade good condition, native hay, and rangeland. Early spring growth makes them very competitive for soil nutrients and moisture. Evidence also indicates that allelopathic chemicals released by the knapweed inhibits the growth of surrounding vegetation.

Knapweed seed is spread when the mature plants break off at the root stock and are blown by the wind or are caught and dragged by vehicles. Infested hay can spread seed on the roadway while being transported, and on fields where the hay is fed. Individual seeds can be easily attached to, and transported by, passing wildlife. Knapweed plants have a very bitter taste and infested rangeland areas are generally not grazed by cattle or wildlife. Recreational areas have been ruined because infestations of knapweed, with rough stems and spiney seed heads, make it difficult to walk through.

CONTROLLING KNAPWEED

Mechanical and Cultural Control

Mowing will temporarily prevent plants which have reached bud stage from producing seed. The seed heads, which subsequently grow close to the ground, will mature and produce seed, unless chemical control measures are taken. Grass competition from well managed hay and rangeland will slow, but will not stop, the spread of knapweed. However, continued follow up of these areas is necessary to control new growth.

Biological Control

Experiments, using several types of insects which are natural enemies of the knapweed, are being conducted to assist in controlling the spread of these plants. Difficulty in obtaining and establishing these insects has made biological control a slow, but promising, method of control. Biological agents used to control noxious weeds shall be as effective as the use of herbicides and shall be approved by your local county weed control authority.

Disk florets are pink to lavender, and those on the margins are enlarged (1.5–2.5 cm).

Knapweed Control Summary

Chemical control, rather than biological control, is recommended for small infestations of knapweed. Although properly managed grassland will slow the spread of knapweed, these pastures and haylands must still be continually monitored to ensure that a lone knapweed plant doesn't go to seed and cause a major infestation.

Leaves are deeply divided (pinnatifid).

Herbicide Control

The use of herbicides can be an effective tool to assist in controlling noxious weeds. A person needs to identify the problem and the appropriate herbicide for the plant as well as the site that the plant is growing. If the noxious weed infestation is severe and scattered across a large area, then a broadcast application may be warranted. However, if the noxious weeds are in patches or a few scattered plants here and there, a person may be able to spot treat individual plants or patches. This approach requires less herbicide and has minimal impact on native plants and the environment. Controlling noxious weeds with herbicides in only one tool and should never be the only control option.

Additional information regarding herbicide use can be found through the Nebraska Cooperative Extension EC130 (*Guide for Weed, Disease, and Insect Management in Nebraska*) or your local county weed control authority at **neweed.org**.