Thistles of Nebraska

Prepared by

Nebraska Weed Control Association

and the

Nebraska Department of Agriculture

Introduction

Thistles have long been a concern to agriculture and to the public in general. Canada thistle has been on the Noxious Weed List since 1873. Landowners and homeowners realize this plant was a serious problem and needed to be controlled. It wasn't until 1959 that the rapid infestation rate of musk thistle brought out the public concern of thistles in Nebraska.

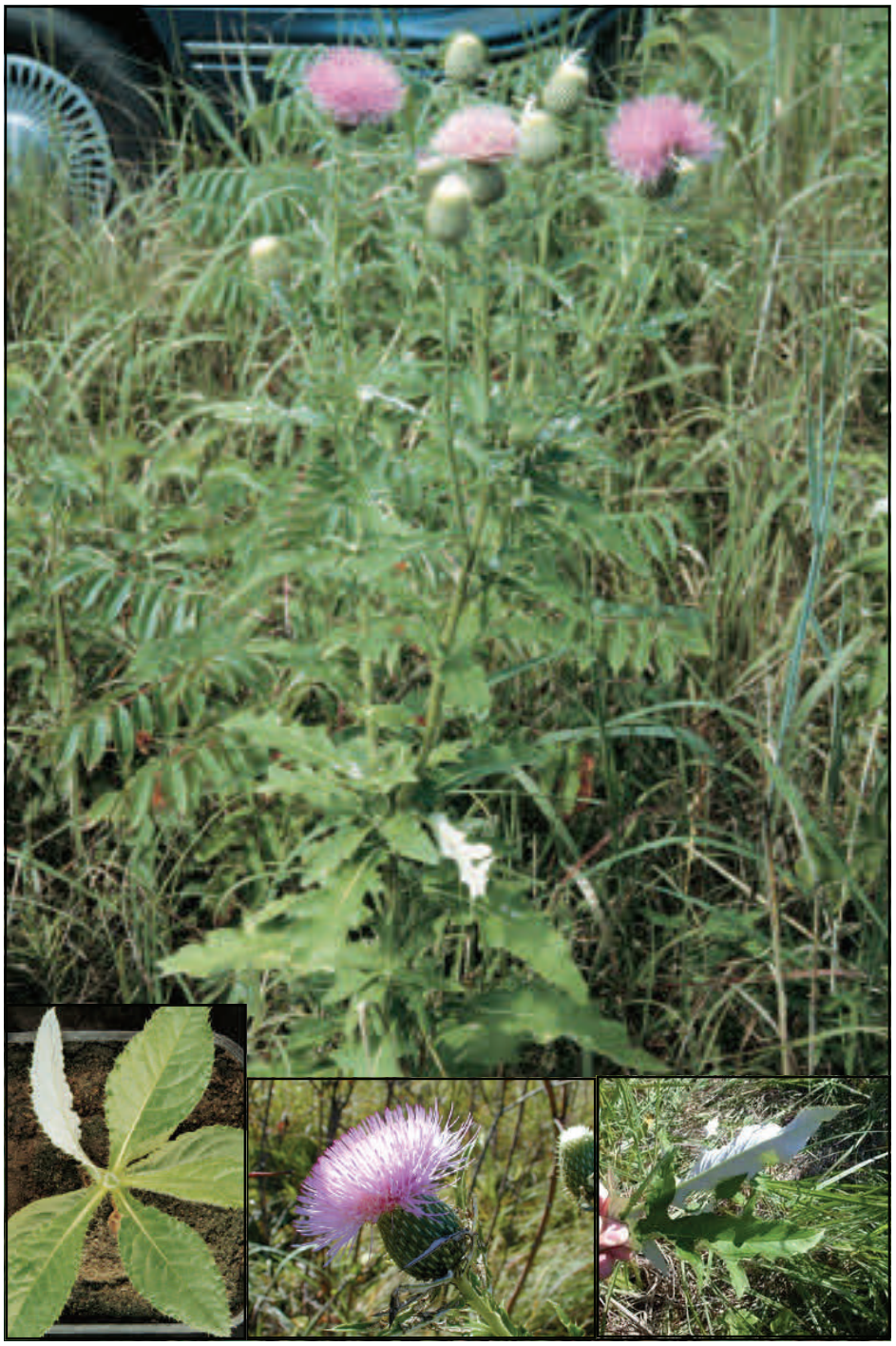
Thistles, in general, get a bad rap whenever the word "thistle" is mentioned. However, all thistles are not bad for the environment or agriculture. There are 10 species identified in the state – 5 of these occurred in North America before settlement by Europeans. The other five are considered "nonnative or introduced" thistles. Humans have been a primary cause for the introduction of these nonnative species. They were brought to this country sometimes on purpose, or in contaminated seed and grain. When this happened, the plant's natural enemies were not introduced at the same time. This allowed the nonnative plants the opportunity to produce large seed banks before action was taken to control these unwanted plants. It will continue to take mankind many years to bring nonnative thistles under control in Nebraska. This will only happen if everyone works together.

Control methods vary from one thistle to another. Some may be controlled by mechanical methods and others may require herbicide applications. Several control measures should be used at the same time to improve results. Proper pasture management is the most cost effective and productive of all control measures. This method can be time consuming and may take several years before results are noticed. This involves improved grass stands and rotational grazing to ensure healthy forage for livestock. Proper pasture management also improves water quality and wildlife habitat. Biological control is another tool, but it should never be the only control measure utilized. It needs to be incorporated with other control measures to ensure success. Herbicides have been used for many years. They can be effective, but application timing is critical to receive optimum control.

Most thistles can be found almost anywhere throughout the state. This guide has been developed in association with the Nebraska Weed Control Association and the Nebraska Department of Agriculture to aid in the identification of the 10 thistles in Nebraska. It is divided into two sections: The first being "Native Thistles" *(blue pages)* and the second being "Nonnative Thistles *(tan pages)*. " Only by proper identification can one effectively control thistles in Nebraska.

References

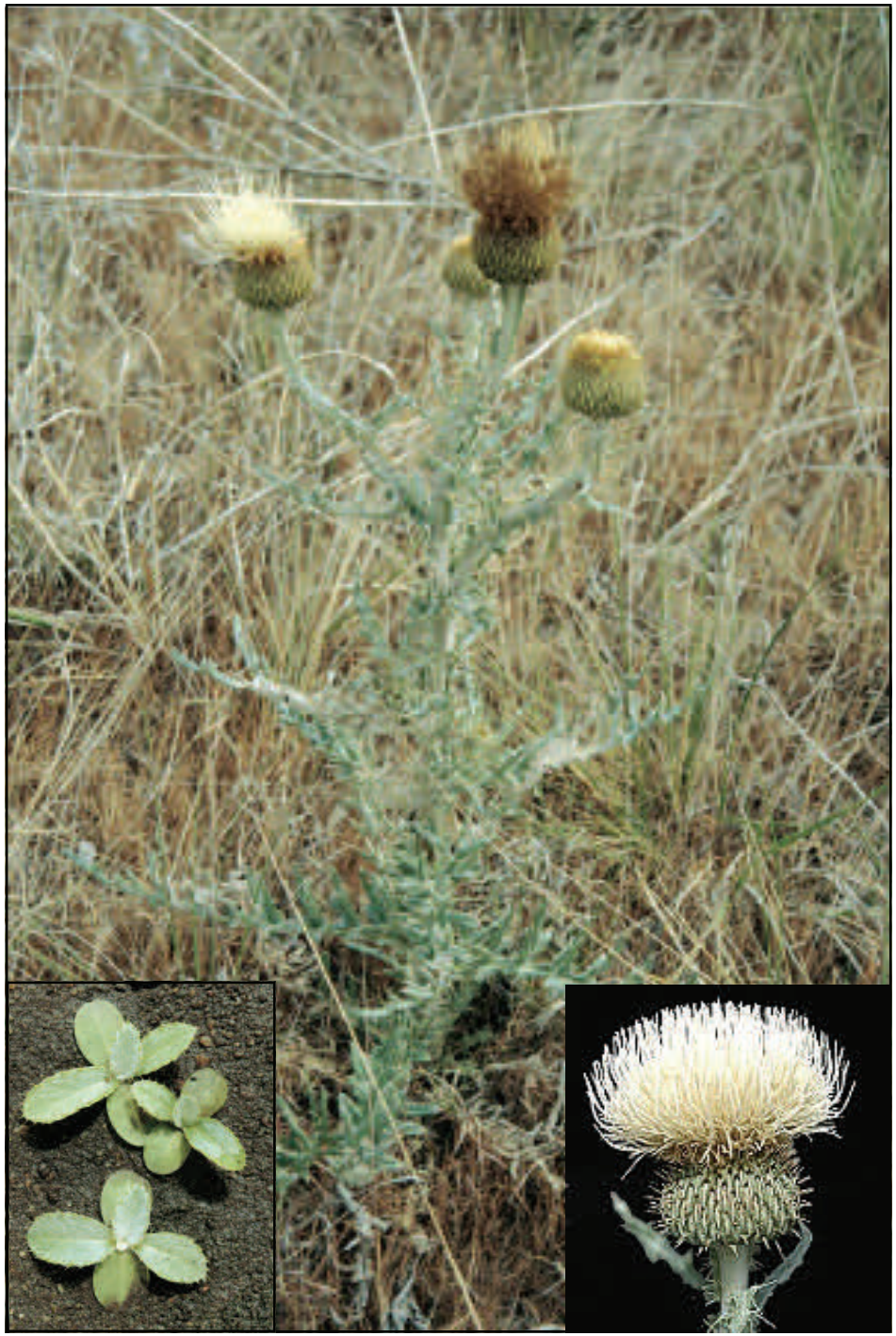
Weeds of the Great Plains, Nebraska Department of Agriculture



Tall Thistle *Cirsium altissimum* (L.) Hill

Native

Common Name: Tall Thistle (roadside thistle)
Growth Form: Forb
Life Span: Biennial
Origin: Native
Flowering Dates: July-September
Reproduction: Seeds
Height: 4-5 ft.
Flower: Dark to light purple (infrequently white) disk florets
Leaves: Upper-leaf surface is bright green and hairless (usually) and the lower surface is densely white tomentose.
Underground: Taproot, fleshy
Where Found: Eastern and central Great Plains, and it does not occur in the northwestern or southwestern portions of the region. It grows in open lowlands, ditch banks, roadsides, and waste areas.
Uses and Values: Tall thistle is an important butterfly plant, and its seeds are eaten by songbirds.
Poisoning: None
Other: Tall thistle is sometimes confused with field thistle which grows in the extreme eastern Great Plains. Field thistle has more deeply pinnatifid stem leaves with linear-lanceolate lobes. Tall thistle may be confused with the earlier flowering musk thistle.



Platte Thistle *Cirsium canescens* Nutt.

Native

Common Name: Platte thistle (prairie thistle)
Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering Dates: May-July
Reproduction: Seeds
Height: 1.3-2.6 ft.
Flower: Yellowish-white to rarely pale lavender disk florets
Leaves: Both leaf surfaces are covered with hair. Seedling leaves are entire while later leaves become more deeply lobed.
Underground: Taproot, deep, slender to stout
Where Found: Platte thistle is most common on sandy and gravelly soils of pastures, rangeland, waste areas, roadsides, and disturbed sites.
Uses and Values: Platte thistle is a butterfly plant, and its seeds are eaten by songbirds. Its foliage is not eaten by livestock, deer, or prong-horn.
Poisoning: None
Other: Platte thistle is generally not considered to be a problem weed, but sometimes is it mistaken for the more weedy species of thistles.

Flodman Thistle *Cirsium flodmanii* (Rydb.) Arthur

Native

Common Name: Flodman thistle

Growth Form: Forb

Life Span: Biennial (or short-lived perennial)

Origin: Native

Flowering Dates: July-September

Reproduction: Rhizomes and Seeds

Height: 1-3.3 ft.

Flower: Deep purple to sometimes pink (rarely white) disk florets.

Leaves: Upper surfaces of leaves are green, and the lower surfaces are gray.

Underground: Rhizomes with numerous buds

Where Found: Central and northern Great Plains on moist to dry open sites on pastures, rangeland, and disturbed sites.

Uses and Values: Flodman thistle has no forage value for cattle or wildlife. Horses occasionally eat the flowers. Butterflies visit the flowers, and the seeds are eaten by several species of songbirds.

Poisoning: None

Historical: Lakota Native Americans peeled and ate the stems. Roots of the rosettes were eaten raw or cooked.

Other: Flodman thistle is not as aggressive as Canada thistle. It does not withstand cultivation. Only rarely is it considered to be a problem weed.

Yellowspine Thistle *Cirsium ochrocentrum* A. Gray

Native

Common Name: Yellowspine thistle
Growth Form: Forb
Life Span: Biennial (short-lived perennial)
Origin: Native
Flowering Dates: July-August
Reproduction: Seeds and rarely from tuberous rootstocks
Height: 1.3-4.9 ft.
Flower: Purple to pink or rose (rarely white) disk florets
Leaves: Leaf margins are toothed and tipped with yellow spines.
Underground: Taproot, slender to stout, rarely branching at its tip; rarely with tuberous rootstocks
Where Found: Central and southern Great Plains, scattered northward, in dry sandy or gravelly soils in pastures, rangeland, roadsides, and open disturbed areas.
Uses and Values: The spines make yellowspine thistle unpalatable to livestock. It is a butterfly plant, and its seeds are eaten by songbirds.
Poisoning: None
Historical: Some Native Americans boiled the flowers of yellowspine thistle in water and applied the liquid to burns and skin sores.
Other: Yellowspine thistle is not a serious weed and seldom occurs in large enough and dense enough stands to require control.

Wavyleaf Thistle *Cirsium undulatum* (Nutt.) Spreng.

Native

Common Name: Wavyleaf thistle (gray thistle)
Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering Dates: June-July
Reproduction: Seeds and root buds
Height: 1.3-3.3 ft.
Flower: Purple to pinkish-purple or white disk florets
Leaves: Lower surfaces of the leaves are lighter in color than the upper surfaces, and the margins are wavy.
Underground: Taproot, simple, deep
Where Found: Throughout the Great Plains on abused rangeland, prairies, pastures, meadows, and disturbed sites. Wavyleaf thistle grows in a broad range of soil textures.
Uses and Values: Wavyleaf thistle has little or no forage value. Horses may eat the flowering heads, and songbirds eat the seeds. It is visited by butterflies. Wavyleaf thistle is sometimes grown as an ornamental. The flowering heads are used in fresh flower arrangements, and the fruiting heads are used in dry floral arrangements.
Poisoning: None
Historical: Some Native Americans made a tea from the roots and drank it to treat diabetes and stomachache.
Other: Wavyleaf thistle is not a serious weed

Plumeless Thistle *Carduus acanthoides* L.

Nonnative — Nebraska Noxious Weed

Common Name: Plumeless thistle (spiny plumeless thistle)
Growth Form: Forb
Life Span: Biennial (or winter annual)
Origin: Eurasia
Flowering Dates: June-August
Reproduction: Seeds
Height: 3-4 ft.
Flower: Purple, rarely white or yellow, disk florets
Leaves: Deeply serrate to nearly the midrib.
Stems: Spiny-winged peduncles under the heads of plumeless thistle is a characteristic separating if from the similar musk thistle.
Underground: Taproot, stout, fleshy
Where Found: Primarily in the east central Great Plains and scattered farther west. It grows in pastures, rangeland, and non-cropped areas.
Uses and Values: Plumeless thistle is an important plant for butterflies. Its seeds are eaten by numerous species of songbirds.
Poisoning: Plumeless thistle may accumulate nitrates, but it is unpalatable to livestock.
Other: Plumeless thistle is an aggressive weed and is similar to the closely related musk thistle. Plumeless thistle is a noxious weed in many states. It rarely flowers during its first year of growth.

Musk Thistle *Carduus nutans* L.

Nonnative — Nebraska Noxious Weed

Common Name: Musk thistle (nodding thistle, nodding plumeless thistle)

Growth Form: Forb

Life Span: Biennial (occasionally annual)

Origin: Eurasia

Flowering Dates: May-August

Reproduction: Seeds

Height: 1.6-9.8 ft.

Flower: Rose purple to white disk florets developing from the outer edge to the center.

Leaves: Margins deeply serrate to pinnately lobed (lobes often white), surfaces without hair, veins extending past margins as spines.

Underground: Taproot, fleshy, stout

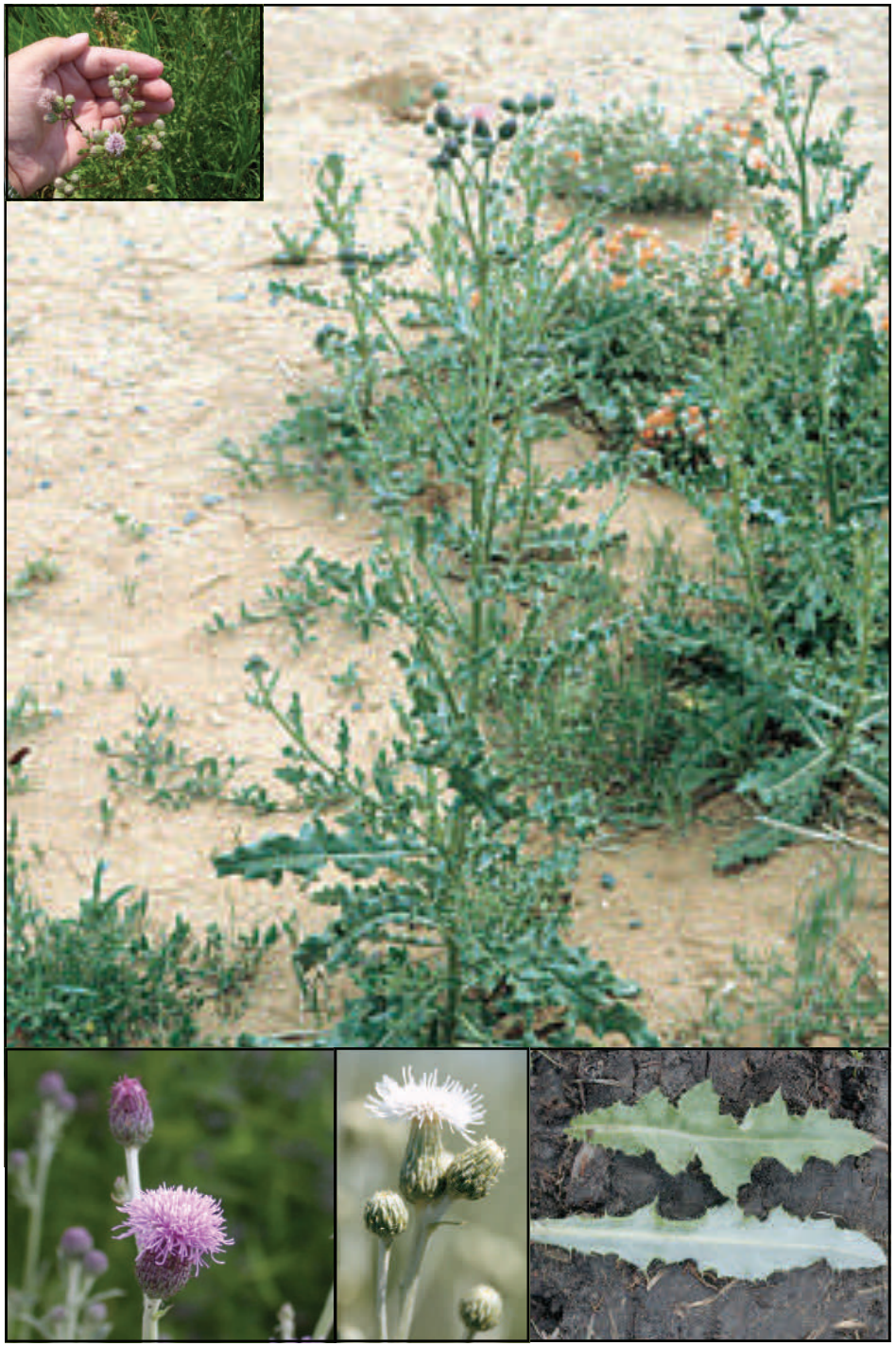
Where Found: Widespread throughout the Great Plains. It grows in pastures, rangeland, open woodlands and fertile lowlands.

Uses and Values: Musk thistle seeds are eaten by songbirds.

Poisoning: None

Historical: In Eurasia, dried flowers have been used to curdle milk. The pith of second-year plants and roots of first-year plants are occasionally boiled and eaten.

Other: Musk thistle is classified as a noxious weed throughout the region. Seeds may mature in heads after control. Therefore, control by hand or with herbicides must be done before heading, or heads must be collected by hand and burned. Seeds germinate in the fall or spring forming a rosette of leaves.



Canada Thistle *Cirsium arvense* (L.) Scop.

Nonnative — Nebraska Noxious Weed

Common Name: Canada thistle (creeping thistle, Californian thistle, field thistle)

Growth Form: Forb

Life Span: Perennial

Origin: Eurasia and North Africa

Flowering Dates: June-August

Reproduction: Rhizomes and Seeds

Height: 1-3.9 ft.

Flower: Pink to purple (rarely white) disk florets

Leaves: Leaf margins are shallowly to pinnately lobed to entire with short spines on the margins.

Underground: Rhizomes, fleshy, extensive, creeping

Where Found: Central and northern Great Plains on rangeland, pastures, cropland, ditch banks, roadsides, mud flats, stream and lake banks, and disturbed sites. Canada thistle can be especially abundant in deep and moist soil.

Uses and Values: Canada thistle seeds are eaten by songbirds. . It sometimes furnishes nesting cover for rails and shorebirds.

Poisoning: Canada thistle has been reported to accumulate toxic levels of nitrates.

Other: Canada thistle is an aggressive weed and is classified as a noxious weed throughout the Great Plains. This species is dioecious *(staminate and pistillate flowers on different plants),* thus large patches may not produce any seed. However, the patches may continue to become larger because of the creeping root system.

Bull Thistle *Cirsium vulgare* (Savi) Tenore

Nonnative

Common Name: Bull thistle (common thistle, spear thistle)
Growth Form: Forb
Life Span: Biennial
Origin: Eurasia
Flowering Dates: July-September
Reproduction: Seeds
Height: 1.6-6.5 ft.
Flower: Dark purple to rose or pinkish-purple (rarely white) disk florets
Leaves: Margins toothed and tipped with spines.
Underground: Taproot, fleshy
Where Found: Throughout the region, except in the southwestern Great Plains, on rangeland, pastures, meadows, old fields, gardens, and disturbed sites.
Uses and Values: Livestock may eat the flowers, and songbirds eat the seeds.
Poisoning: None
Other: Bull Thistle is an aggressive weed, but it will not withstand cultivation.

*** Noxious Weed:** Rock County, NE.

Scotch Thistle *Onopordum acanthium* L.

Nonnative

Common Name: Scotch thistle (cotton thistle, heraldic thistle, Scotch cottonthistle)
Growth Form: Forb
Life Span: Biennial (rarely an annual)
Origin: Eurasia
Flowering Dates: June-August
Reproduction: Seeds
Height: 1.6-10 ft.
Flower: Purple to violet or reddish to pinkish-white disk florets
Leaves: Coarsely lobed, winged, surfaces sparsely to densely tomentose giving a bluish– or grayish-green appearance to the leaves.
Underground: Taproot, stout, fleshy
Where Found: Scattered in the west central Great Plains in feed yards, pastures, rangeland, ravines, around ponds, roadsides, disturbed sites, railroad rights-of-way, and waste places.
Uses and Values: Scotch thistle plants are frequently visited by butterflies.
Poisoning: None
Other: Scotch thistle is the least recognized thistle in the Great Plains. It is not widely distributed and tends to be a problem only in localized areas. It is a strong competitor and can crowd out desirable forage plants. It may be so abundant that it forms stands so dense that livestock cannot walk through the infested areas.
*** Noxious Weed:** Banner, Cheyenne, Dawes, Morrill, Sioux and Sheridan Counties in Nebraska