

# *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.

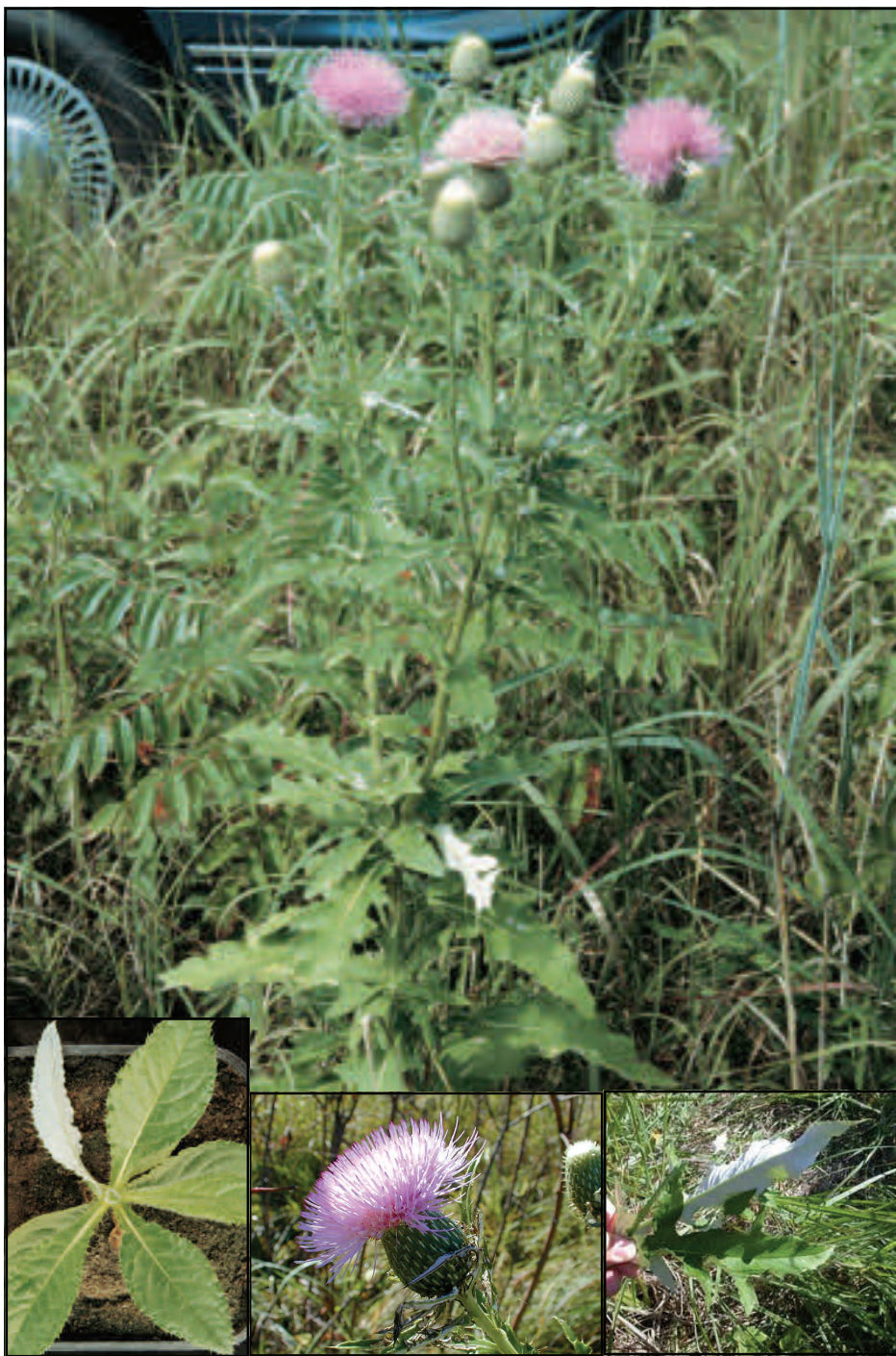
Control methods vary from one thistle to another. Some may be controlled by mechanical methods and others may require herbicide applications. Several control measures should be used at the same time to improve results. Proper pasture management is the most cost effective and productive of all control 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





## Thistles of Nebraska

### 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.



## Thistles of Nebraska

### 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.

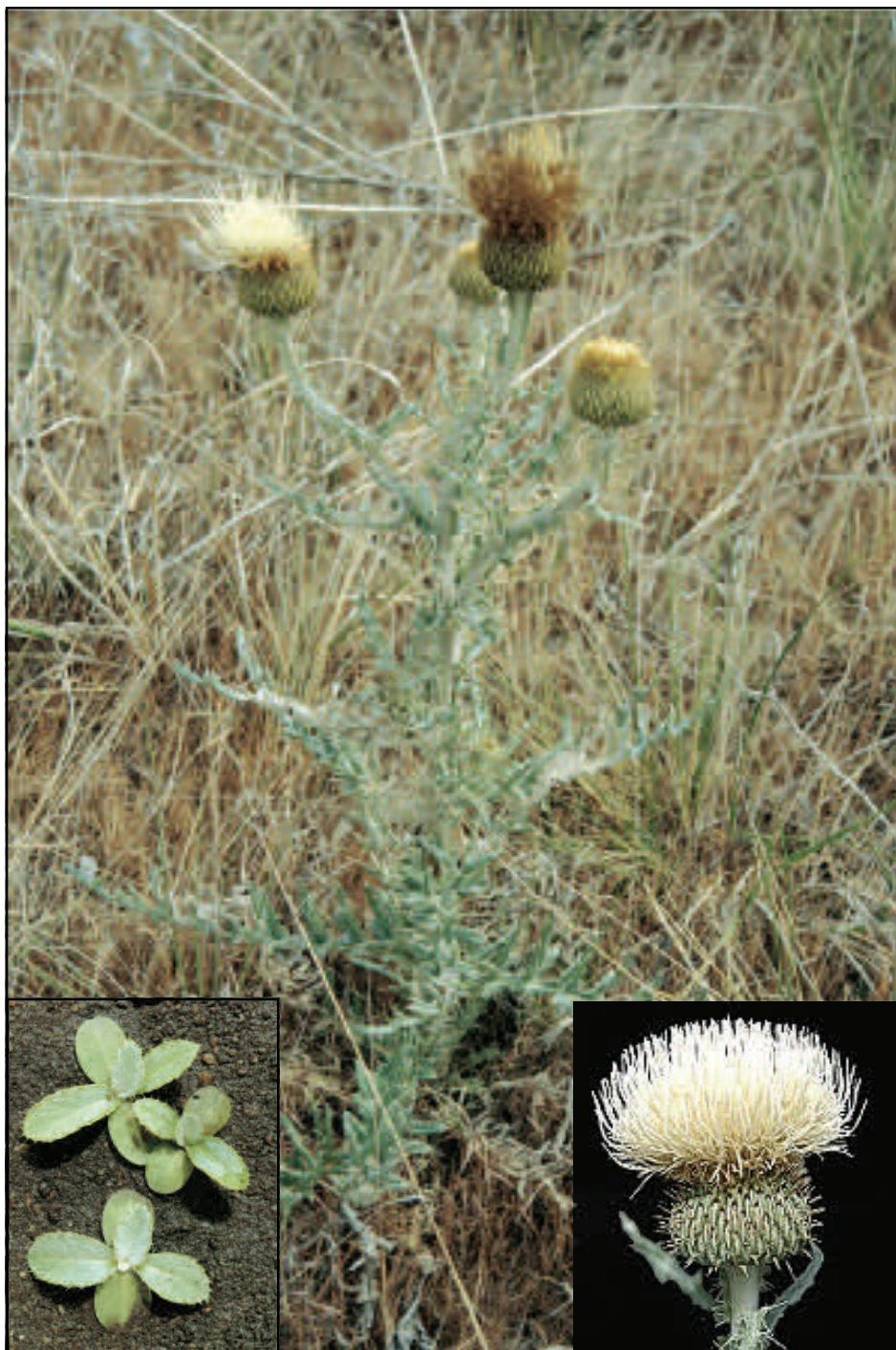
**Underground:** Taproot, deep, slender to stout

**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 it is mistaken for the more weedy species of thistles.





## Thistles of Nebraska

### 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.



## Thistles of Nebraska

### 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.





## Thistles of Nebraska

### 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



## Thistles of Nebraska

### 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 it from the similar musk thistle.

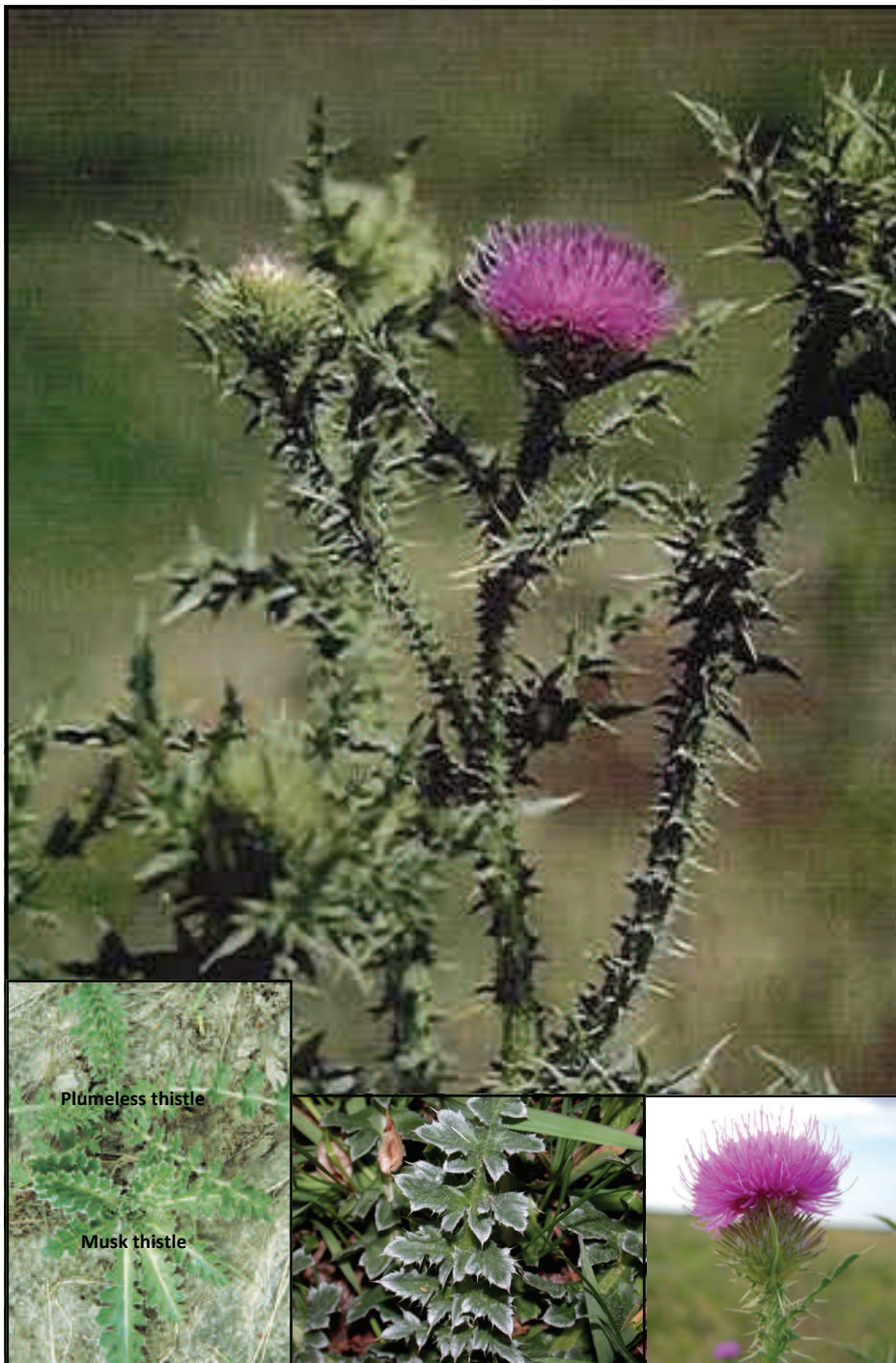
**Underground:** Taproot, stout, fleshy

**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.





## Thistles of Nebraska

### 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.





## Thistles of Nebraska

### 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.







## Thistles of Nebraska

### **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.



## Thistles of Nebraska

### 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

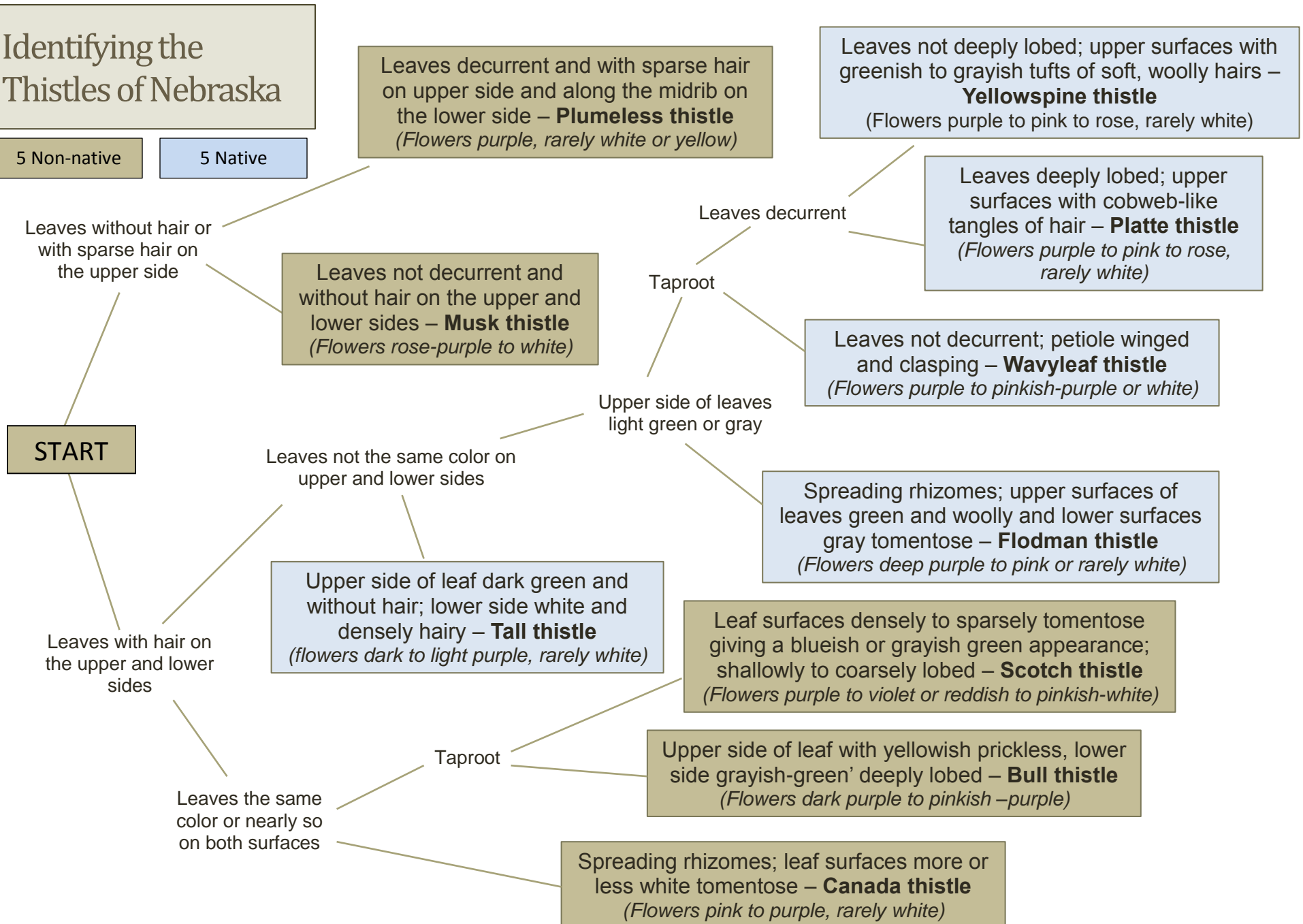




# Identifying the Thistles of Nebraska

5 Non-native

5 Native



**Decurrent** – Extending downward from the point of attachment / **Petiole** – The stalk of the leaf blade / **Tomentose** – A surface covered with matted and tangled hairs