

THISTLE IDENTIFICATION



The Nebraska Environmental Trust

preserving NATURAL NEBRASKA™ for future generations



NEBRASKA NATIVE THISTLES

Misidentified and misunderstood, native thistles provide valuable floral resources for pollinators, especially bumble bees and butterflies. In general, native thistles are rarely invasive or persistent like their exotic counterparts. Most thistles are early-successional species, which increase in response to fire, grazing, tillage, or other soil disturbances.

White stripe on bracts; underside of leaves lighter in color
Whitish stem with dense, woolly hairs

Late-blooming
Soft spines; white, fuzzy underside

Solitary flowerhead; purple to pink, or white
White stripe
Deep-lobed, wavy leaves

Long, yellow spines
Densely leafy

Creamy-white
Leaf extends down stem

Solitary flowerhead on branched, woolly stem
Taprooted perennial

Tall Thistle
Cirsium altissimum
3-8 ft | Aug-Sept

Wavyleaf Thistle
Cirsium undulatum
1-4 ft | June-Aug

Yellowspine Thistle
Cirsium ochrocentrum
1-5 ft | July-Aug

Platte Thistle
Cirsium canescens
1-3 ft | May-July

Flodman's Thistle
Cirsium flodmanii
1-3 ft | June-Sept

NON-NATIVE THISTLES

Exotic thistles, lacking natural competition, can cause great economic and environmental harm when they invade agricultural or natural areas. Help detect and prevent the spread of invasive species by learning how to identify thistles in the field.

Spiny bracts

Nodding, solitary
Broad, triangular bracts
Dark green with pale, white edges
Not hairy

Branching stem with multiple flowerheads
Deep-lobed, hairy below
Spiny stem; sparse hairs

Covered in fine, cottony hairs
Winged stem; triangular spines
Broad leaves

Lance-like with yellow spines
Bristly above; pale, woolly below
Spine-winged, hairy stem

Small flowerheads in clusters
Purple-tipped bracts; spineless
Grooved, no spines
Creeping perennial

Musk Thistle*
Carduus nutans
3-7 ft | May-June

Plumeless Thistle*
Carduus acanthoides
1-6 ft | June-Aug

Scotch Thistle
Onopordum acanthium
2-6 ft | May-June

Bull Thistle
Cirsium vulgare
2-6 ft | July-Sept

Canada Thistle*
Cirsium arvense
1-4 ft | June-Aug

Pheasants Forever is dedicated to the conservation of pheasants, quail and other wildlife through habitat improvements, public awareness, education and land management policies and programs.

[*Noxious Weed Statewide]

For more information visit pheasantsforever.org

Feathered
(*Cirsium* spp.)

Unfeathered
(*Carduus* spp.)

Perennial thistles **P** have a life-cycle of three or more years. They have fibrous roots and spread by underground rhizomes.

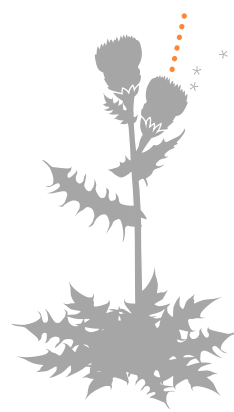
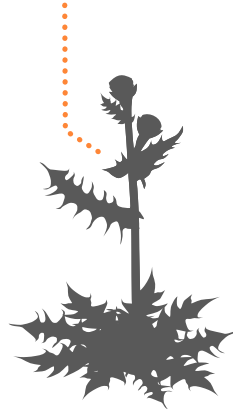
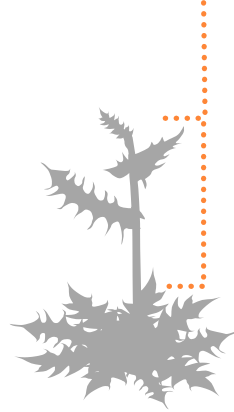
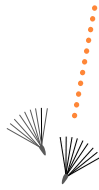
The flower stalk of biennial thistles elongates in the second year.

Stem and leaf characteristics help distinguish thistle species.

A flowerhead is made of many disc florets that produce nectar and pollen.

Light and fluffy, thistle seeds are carried by the wind.

Biennial thistles **B** have a taproot and grow a cluster of basal leaves in the first year (no flowers).



SEED

SEEDLING

ROSETTE

BOLTING

BUDDING

FLOWERING

NON-NATIVE



Bull Thistle **B**



Canada Thistle **P**



Musk Thistle **B**



Plumeless Thistle **B**



Scotch Thistle **B**

NATIVE



Flodman's Thistle **P**



Platte Thistle **B**



Tall Thistle **B**



Wavyleaf Thistle **P**



Yellowspine Thistle **P**

BREAKING THE CYCLE

It's important to know a plant's life cycle, especially when it comes to weed control. Biennials are prolific seed producers because it's their only means of survival. Use chemical control during rosette stages (spring and fall) or mow thistles before they flower. Thistle seeds can remain viable in the soil for many years.

DIVERSE COMMUNITIES RESIST INVASION

Healthy, functioning communities limit non-native thistles by competitive exclusion and herbivory. Desirable grasses and forbs can reduce thistle establishment and competitive ability, while attracting insects that limit thistle success. Weevils have been introduced as biocontrol agents for invasive thistles. However, in the Nebraska Sandhills, weevils have caused a sharp decline in native thistle populations by limiting seed production of Platte and Wavyleaf Thistle.



A bumble bee and Delaware Skipper visit Tall Thistle in a CRP field in eastern Nebraska.

THISTLE SEED. TO FEED OR NOT TO FEED?



American Goldfinches use fluffy thistle down to line their nests. They also have an affinity for high-protein thistle seeds. Nyjer thistle, a finch-feeding staple, is actually the seed of African Yellow Daisy.

20 FEET PER YEAR WITH CREEPING RHIZOMES, CANADA THISTLE CAN SPREAD AGGRESSIVELY.

52 FLORAL VISITORS TALL THISTLE IS ONE OF THE MOST ATTRACTIVE POLLINATOR PLANTS.

10 THOUSAND SEEDS THE AVERAGE NUMBER OF SEEDS PRODUCED BY A MUSK THISTLE.

Image credits:

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