EC118

EXTENSION

Common Forbs and Shrubs of Nebraska

Rangeland, Prairie, and Pasture

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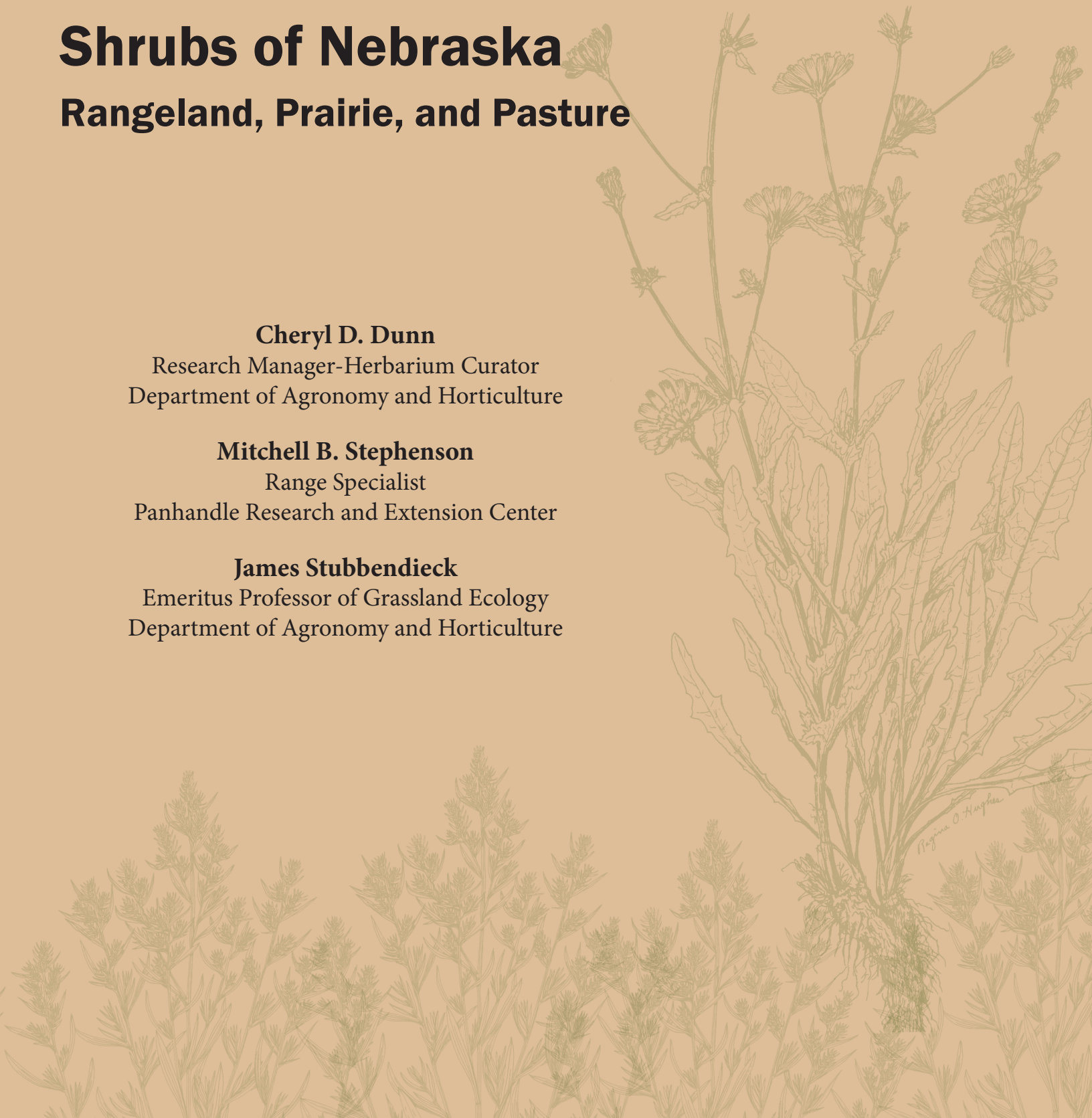

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Introduction

Grasslands, both natural and seeded, comprise about one-half of Nebraska's land area (Figure 1). This resource is worth more than a billion dollars annually to Nebraska's economy. Rangelands and pasturelands are the basic renewable resources supporting the Nebraska beef cattle industry. They are essential for wildlife habitat, to protect soils from wind and water erosion, to serve as a "germplasm bank," to help clean the environment, and as a source of aesthetics for many. Native species are becoming increasingly important in horticulture, landscaping, and nursery businesses. Use of native plants, rather than introduced species, reduces the potential for invasive species and helps to maintain ecological integrity.

Knowledge of plant identification is the first step in understanding this resource. The second step is acquiring knowledge of the important vegetative types in Nebraska. This publication discusses the identification, distribution, use, and value of 144 forbs, 4 cacti, and 19 shrubs. These species are some of the most common and important plants on the prairies, rangelands, and pasturelands in Nebraska. Values of individual species range from being highly desirable to troublesome, even poisonous, weeds. All have been evaluated as to their desirability and grazing or browsing use in perennial grasslands.

Scientific Names

Each plant has only one valid scientific name. That name is the same everywhere in the world. In general, the common and scientific names and authorities in this manual are those recognized by both lay people and professionals. Scientific names generally follow *Flora of Nebraska* (see Selected References), although there are a few exceptions when the authors felt another name was more appropriate. All scientific, or botanical, names consist of three parts. Consider as an example the scientific name of a forb in this manual, common yarrow:

Achillea millefolium L.

The three parts are:

Genus:	*Achillea*
Specific epithet:	*millefolium*
Authority:	L.

Genus

Classification of plants into genera (plural of genus) is based on similarities in flowering and/or morphological characteristics. The genus *Achillea* contains several different, closely related groups of plants, although no other members of this genus occur in Nebraska. The first letter of the genus is capitalized and the word is underlined or italicized.

Specific Epithet

The second part of the scientific name, *millefolium*, is the specific epithet. The genus and specific epithet together name the plant species. Individuals within a species are similar but may not be identical. This classification is based on similarities in flowering parts and/or morphological characteristics. The specific epithet is not capitalized, but it is underlined or italicized.

Authority

The scientific name, for reasons of completeness and accuracy, is followed by the abbreviation or whole name of the person(s) who first named and published a description of the plant. For example, L. is the authority for *Achillea millefolium.* The Swedish botanist and father of modern taxonomy, Carolus Linnaeus (1707–1778) first named and described this species. More than one authority may be used to indicate a cooperative naming or classification of a species. Parenthetical authorities recognize work that was later revised by another taxonomist.

Varieties and Cultivars

Occasionally species are divided into two or more varieties. This division also is based on differences in morphology and/or flowering parts. The abbreviation "var." is placed after the species authority and is followed by the variety name (underlined or italicized) and the authority for the variety. An example is *Prunus pumilia* var. *besseyi,* or western sandcherry. A cultivar is a named race or form of a species, usually created by breeding and/or selection. For example 'White Beauty' is the name of a cultivar of *Achillea millefolium* sold in nurseries.

Synonyms

Only one correct scientific name exists for each plant. Nevertheless, the names are occasionally changed (corrected or updated) by taxonomists. Names that are no longer considered to be correct are called synonyms. If a species in this manual has a synonym, it is presented within parentheses or brackets following the correct scientific name. A synonym for *Prunus pumilia* var. *besseyi* is *Prunus besseyi,* and a synonym for *Achillea millefolium* L. is *Achillea lanulosa* Nutt.

Common Names

Common names are less complicated and much easier to learn than scientific names. They are the only plant names that most people know. The most frequently used common name of *Achillea millefolium* L. is common yarrow. One of the problems with common names is that one species may have many different common names. Other common names for this species include western yarrow, woolly yarrow, and milfoil. Other common names are presented in this manual in parenthesis behind the most frequently used common name.

Another problem of common names is that they are useful in only one language. *Achillea millefolium* L. also grows in Russia. The scientific name is identical in the USA and Russia, but the name western yarrow would be meaningless in Russia.

An additional weakness of common names is that one common name may be used for more than one species. For example, milfoil is used as a common name for a plant commonly occurring in wetlands that is not closely related to, nor closely resembles *Achillea millefolium* L.

Plant Groups and Morphology

Grassland plants may be classified as grasses, grasslike plants, forbs, cacti, and shrubs. These can easily be distinguished by certain characteristics (Figure 2). Grasses and grasslike plants are detailed in *Common Grasses of Nebraska (EC 170).*

Figures 2–17 are a series of drawings illustrating various morphological features of forbs and shrubs. The reader is referred to the Glossary for descriptions and definitions of terms. The reader may find it helpful to refer to these illustrations, as well as the Glossary, when confronted with an unfamiliar morphological characteristic in the text of the plant descriptions in this manual.

Grasses

Grasses have hollow and occasionally solid culms (stems) with nodes. Leaves are two-ranked (on two opposite sides of the stem) and have parallel veins. Flowers are small and inconspicuous.

Grasslike Plants

Grasslike plants (sedges and rushes) resemble grasses, but generally have solid stems without nodes. The leaves have parallel veins, but are three-ranked. The flowers are small and inconspicuous.

Forbs

Forbs are herbaceous plants other than grasses and grasslike plants. Herbaceous plants die each year (annuals) or die back to near the soil surface (perennials). Forbs generally have solid or pithy stems and broad leaves that are usually net-veined. Flowers are sometimes large, colored, and showy.

Cacti

Nebraska cacti are fleshy succulent forbs that have solid pads rather than stems. Large amounts of water may be stored in the pads and utilized by the plants during periods of insufficient soil moisture. Leaves are small, fleshy, and may be absent or only present for a short period of time each year. Flowers are often showy, and the pads are frequently armed with sharp spines.

Shrubs

Shrubs are woody plants that remain low and produce shoots or stems from the base and not a single trunk. The stems are solid (with growth rings) and secondary growth from aerial stems which live throughout the year, although they may be dormant part of the time. Leaves are often broad and net-veined. Flowers may be colored and showy.

Distribution and Habitat

The distribution of each species in Nebraska is presented in a map and habitat description. Some of the descriptions include the soils. Maps should be considered to be a general reference to the range of each species. The most common locations are included in the maps and descriptions, but the plants are not equally distributed in the mapped area. Likewise, some plants of a species may be found outside of the mapped area and on different soils and in other habitats than those described.

Uses and Values

Forage

Forage value is presented in general terms for different classes of livestock. Palatability, forage quality, and quantity of forage available vary greatly with range site, amount of precipitation received, and season. Responses of forbs and cacti to grazing and shrubs to browsing also vary with season and ecological site.

Poisoning

Many of the plants in this manual may cause poisoning of livestock. Severity ranges from an occasional mild poisoning to a high probability of death following consumption (the most deadly are stamped on the illustration as "poisonous"). Many plants will cause poisoning if consumed in large quantities. With a few exceptions, plants listed as poisonous are seldom a problem. However, it must be recognized that poisoning by plants often goes unrecognized. Poisoning often does not result in death or easily recognized physical malformations. Greater losses in Nebraska occur from more difficult to recognize affects such as abortions and lowered gains.

The solution is managing poisonous plants four-fold:

Being able to identify or recognize the poisonous plant.

Knowing at which times they are dangerous and for which animals.

Knowing which types of animals are affected.

Maintaining a good cover of suitable forage plants so that the animals will not be forced to eat the poisonous plants.

This manual will be helpful to range managers to accomplish the first three steps of the solution. For more information the reader is referred to several publications on poisonous plants listed in the Selected References.

Humans may be poisoned by touching or eating some of the plants described in this manual. Knowing which plants can poison and how to identify those plants are important in the natural and planted landscapes of the state.

Grassland Seeding

In the last decade or two, managers have become aware of the value of adding perennial native forbs to grassland seeding mixtures. Species adapted to this practice are noted in the manual.

Prairie Restoration

One of the goals of prairie restoration is to replicate the original vegetation on a given site. Since prairie vegetation is highly diverse, restoration may include many native, locally adapted species. It is not practical to simply include all of these species in a seeding mixture that is planted evenly across the site. In some cases, only a few plants of some species may be desirable. This manual includes suggestions on level of inclusion in a restoration and identifies species that could become a problem. Since prairie restorations should only include native species, this section is not included for introduced plants.

Ornamental

Many forbs and shrubs growing on Nebraska rangeland, pastures, and prairies are used or have a potential for various uses in horticulture. Those uses are discussed and warnings are provided for plants that can spread rapidly and become troublesome weeds.

Other

This category contains information on Native American and pioneer uses, as well as medical uses of these plants. This information is presented for educational purposes and as points of interest. It has been gathered from numerous sources in the literature and has not been verified. Therefore, it is strongly emphasized that you do not try any of the plants for these purposes.

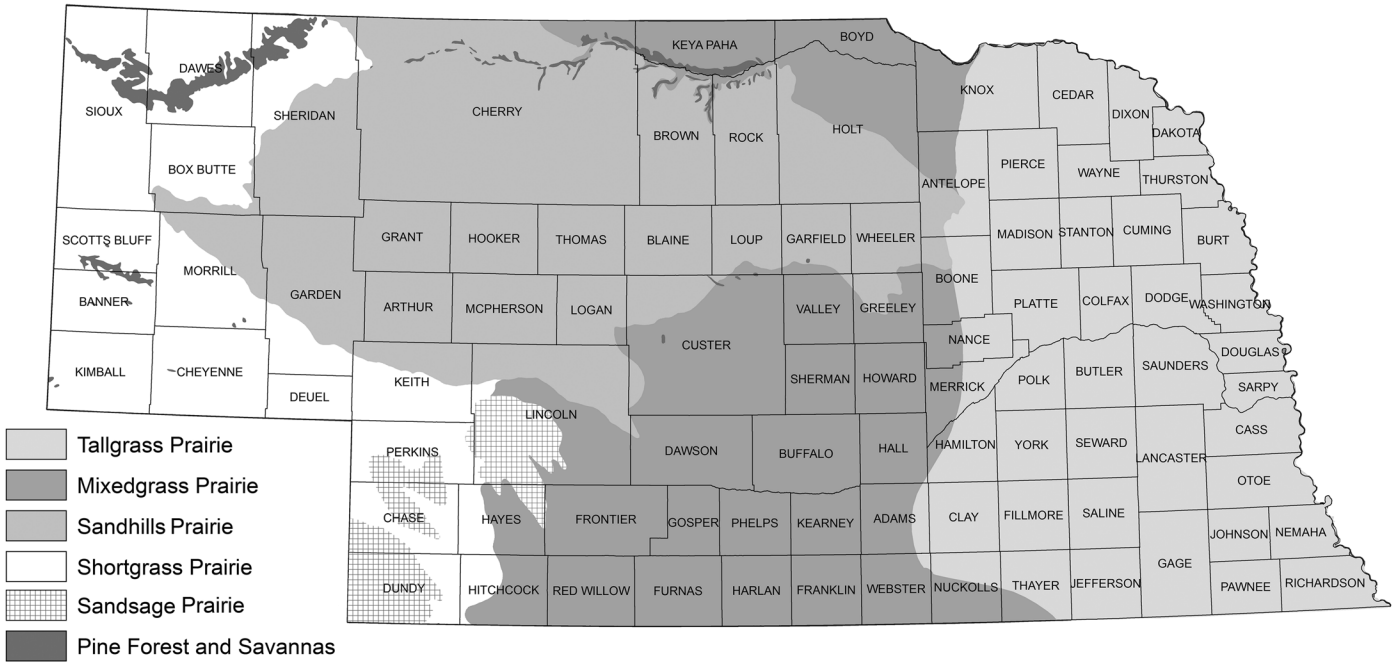


Fig. 1. Nebraska native vegetation.

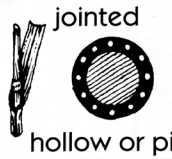
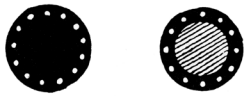
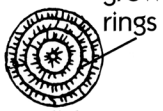
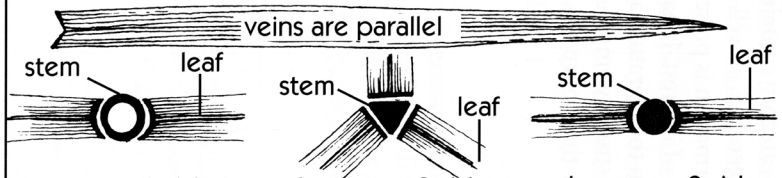
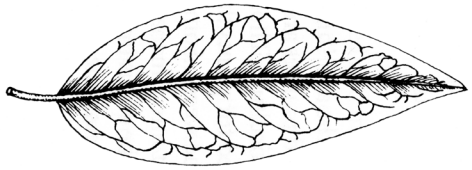
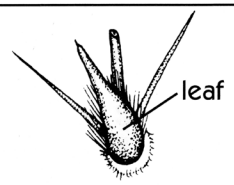
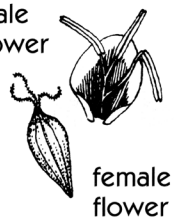
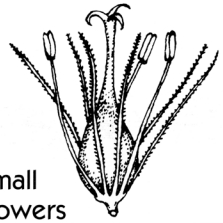
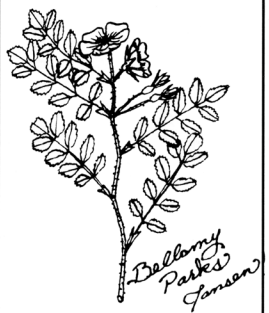
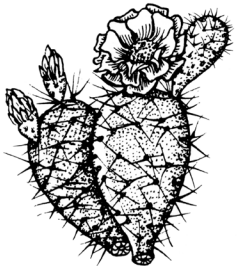
	Grasses	Grasslikes		Forbs	Shrubs	Cacti
Stems	 hollow or pithy	 solid, not jointed		 solid or pithy	 solid	 fleshy
Leaves	 leaves on 2 sides / leaves on 3 sides / leaves on 2 sides			 veins are pinnate (netlike)		 small, seldom present
Flowers	 floret		 small flowers	 showy or small	 showy or small	 showy
Examples	 Western wheatgrass	 Threadleaf sedge	 American bulrush	 Scarlet globemallow	 Prairie wildrose	 Plains pricklypear

Fig. 2. Comparison of plant groups.

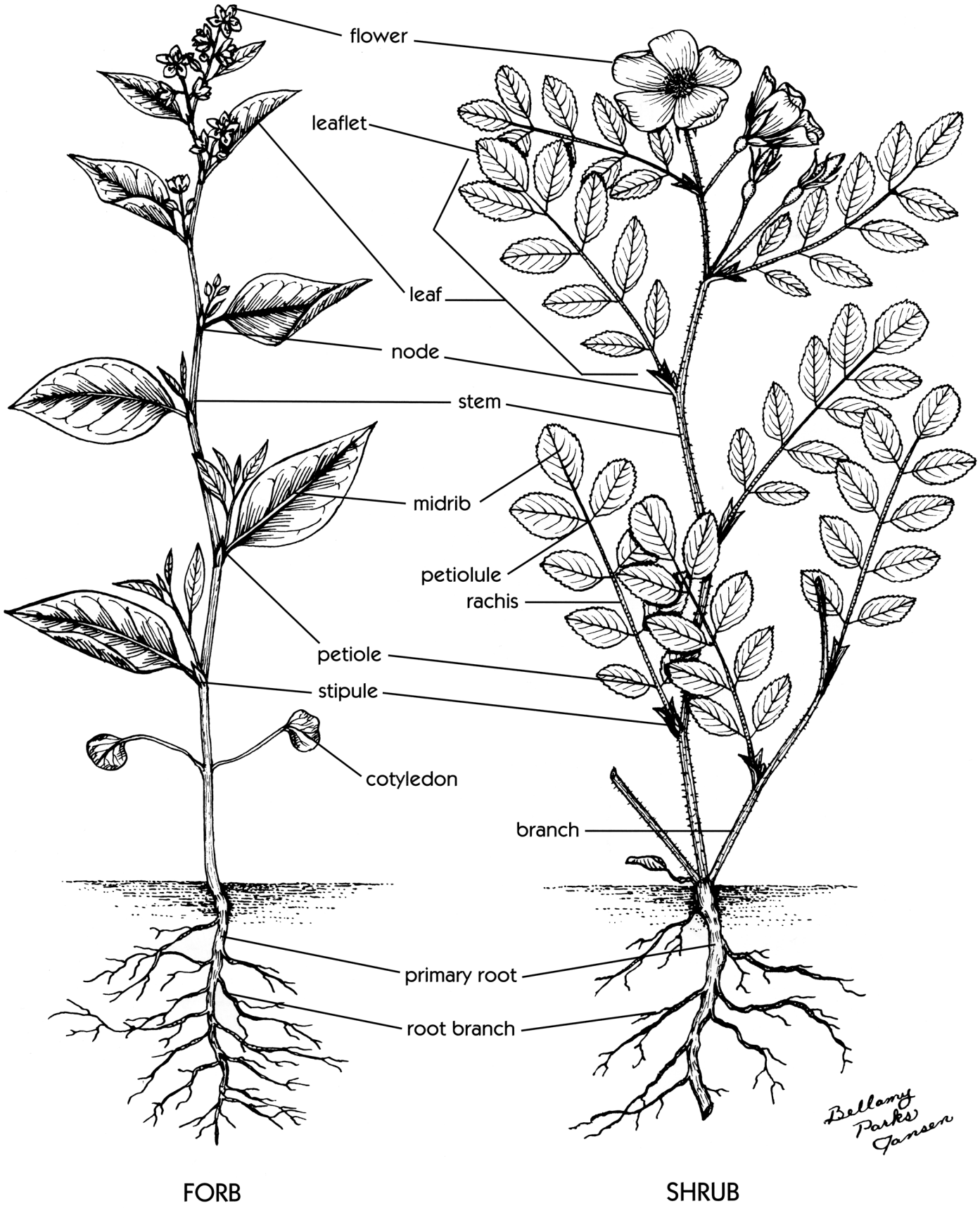
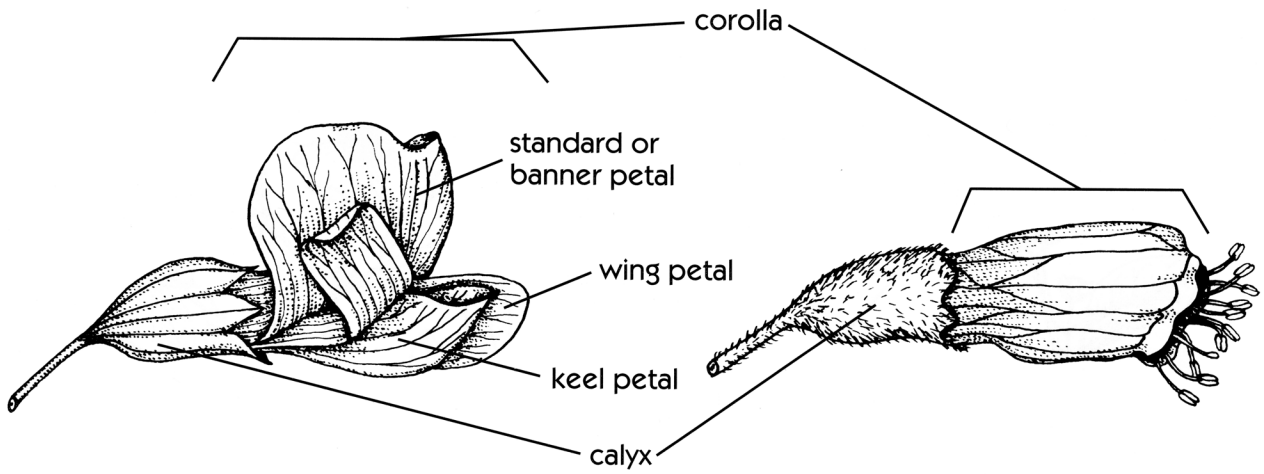
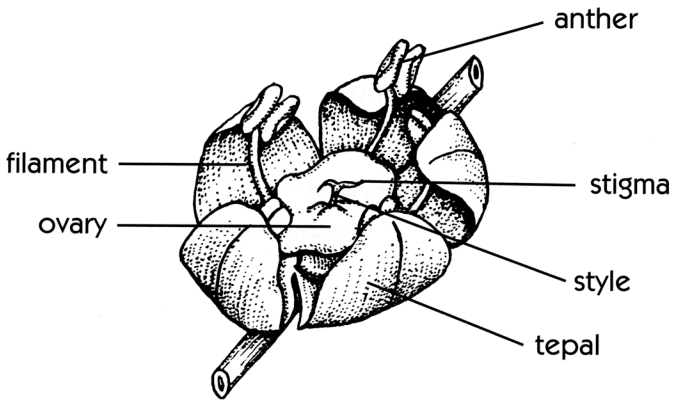


Fig. 3. Example of a forb and shrub with labeled parts. Both forbs and shrubs may have simple or compound leaves.

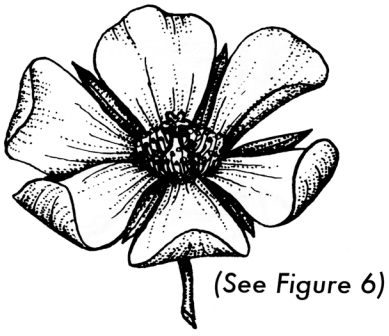


5-PETALED LEGUME
(Papilionareous)

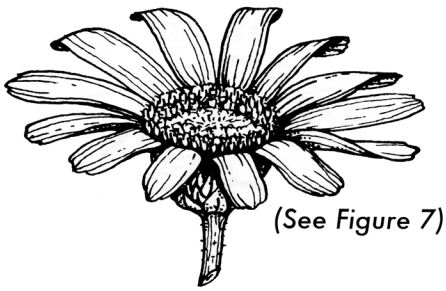
SINGLE-PETALED LEGUME



APETALOUS
(without petals)



SIMPLE



HEAD
(ray and disk flowers)

Fig. 4. Flower types.

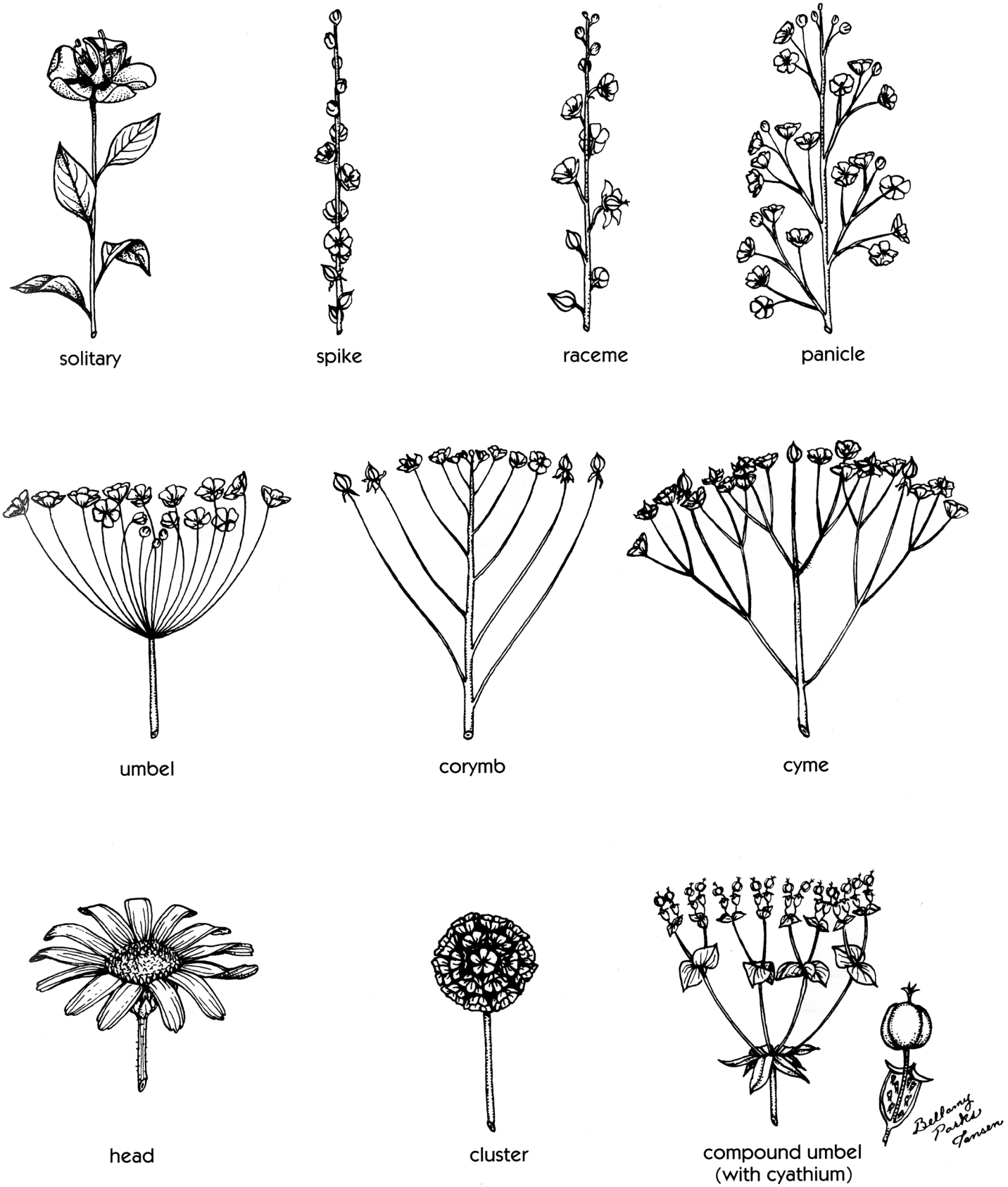


Fig. 5. Types of inflorescences or arrangements of flowers (see *Glossary* for descriptions).

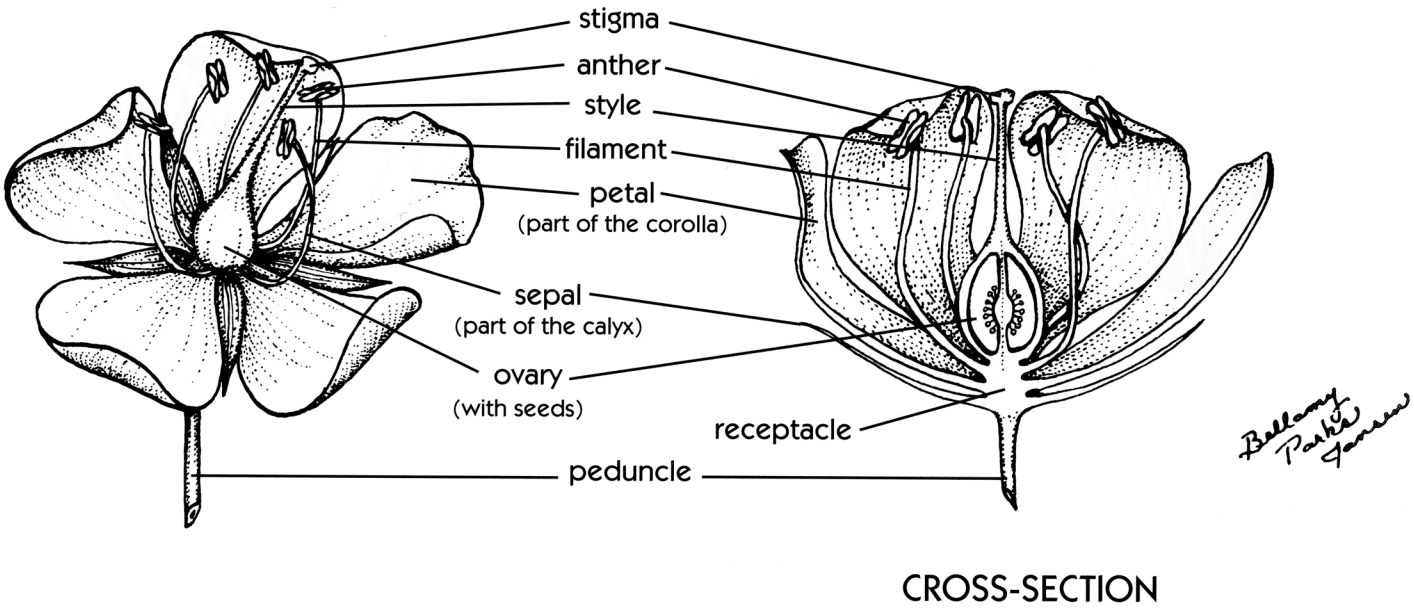


Fig. 6. Simple flower with labeled parts (see *Glossary* for descriptions of the parts).

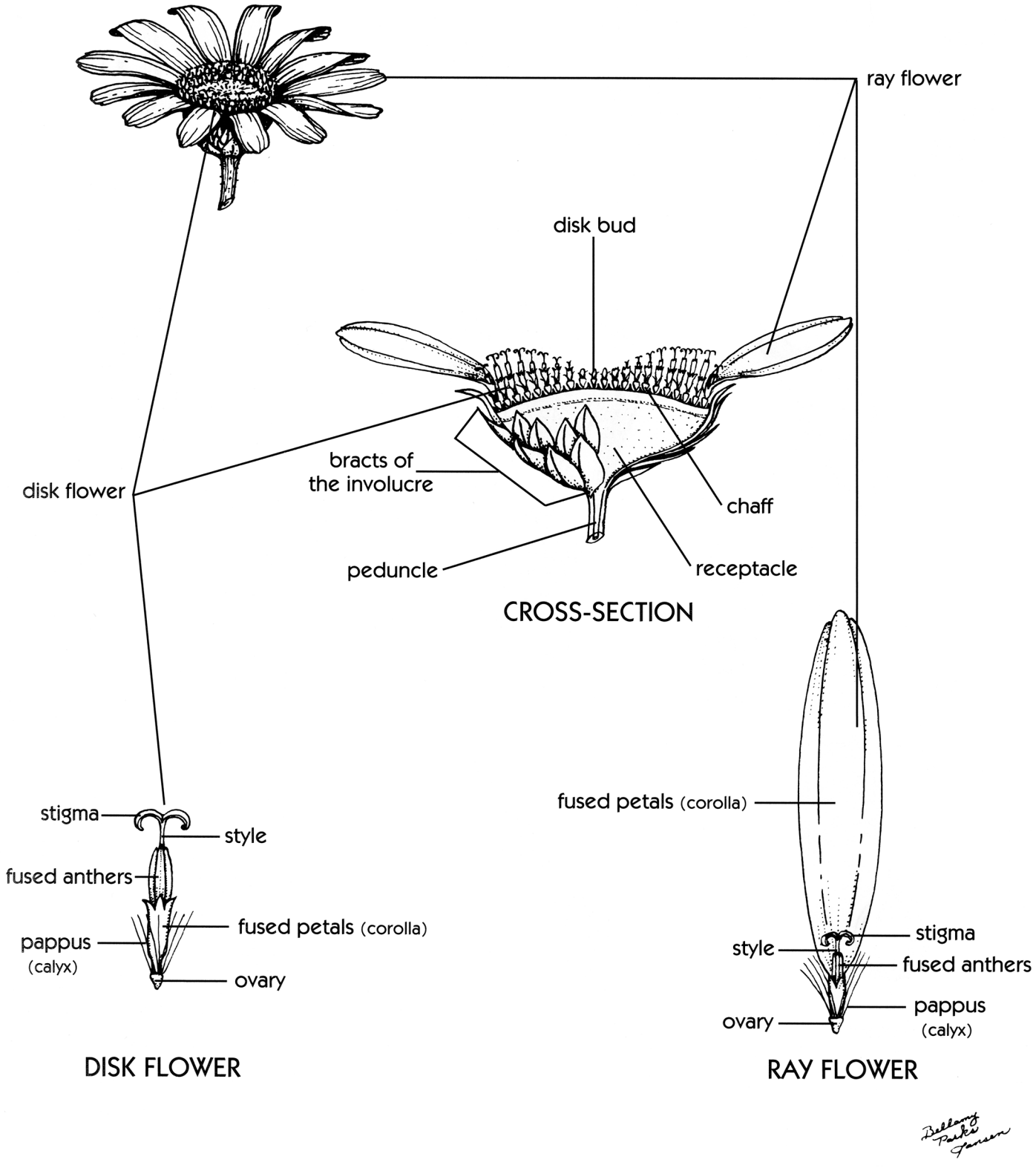


Fig. 7. Head consisting of ray and disk flowers with labeled parts (see *Glossary* for description of the parts).

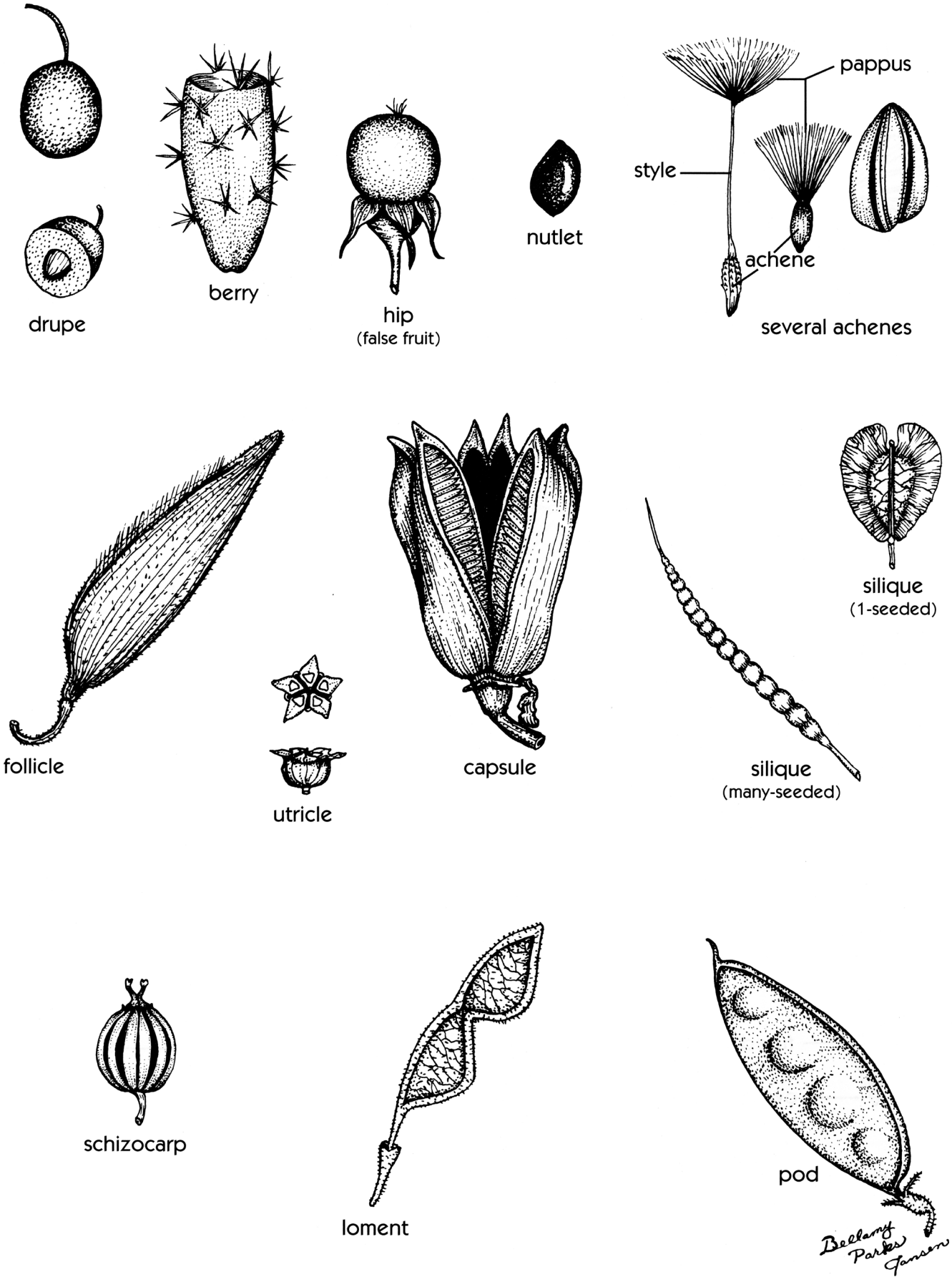


Fig. 8. Examples of forb, shrub and succulent fruits (see *Glossary* for description of the parts).

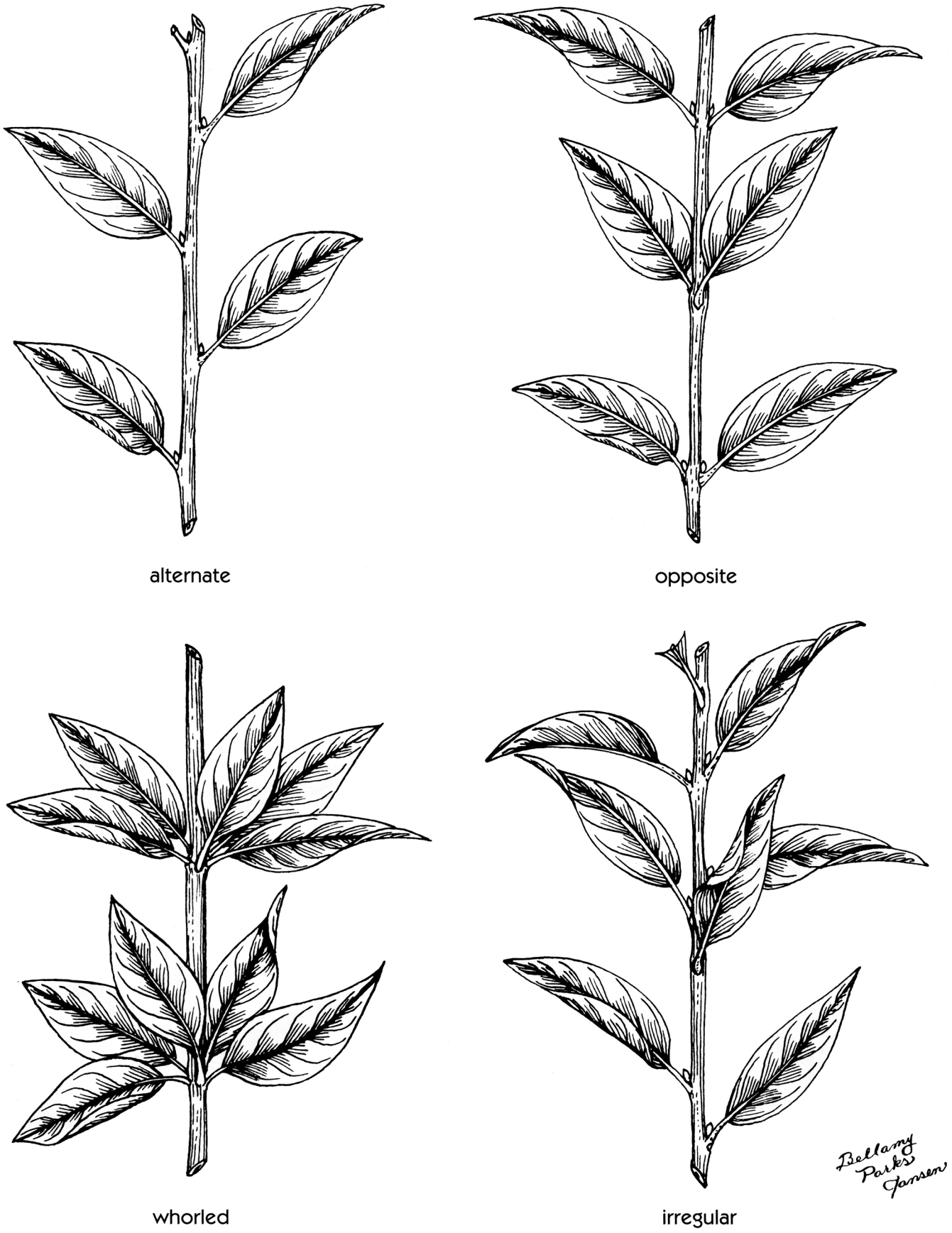


Fig. 9. Leaf arrangements

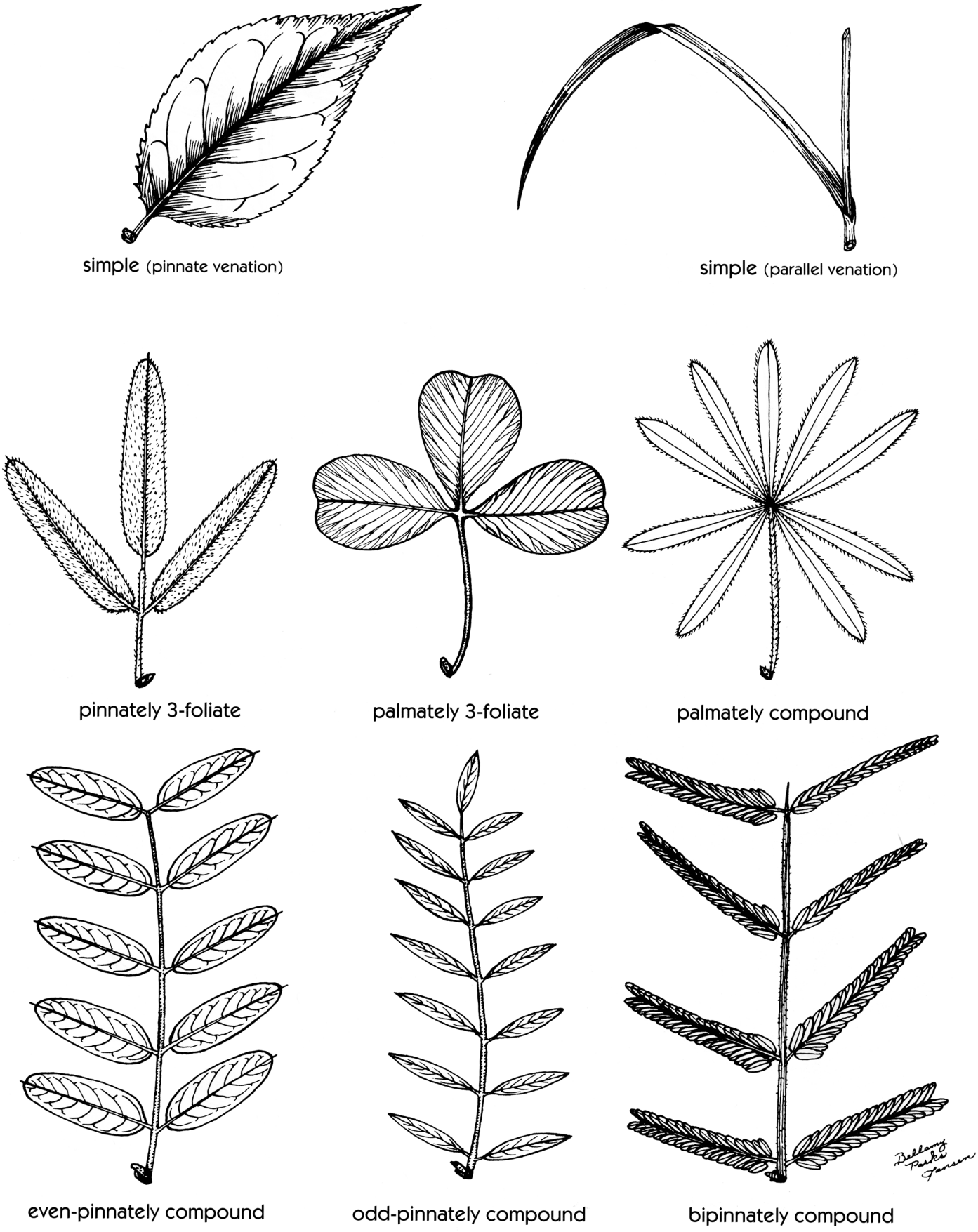


Fig. 10. Types of simple and compound leaves

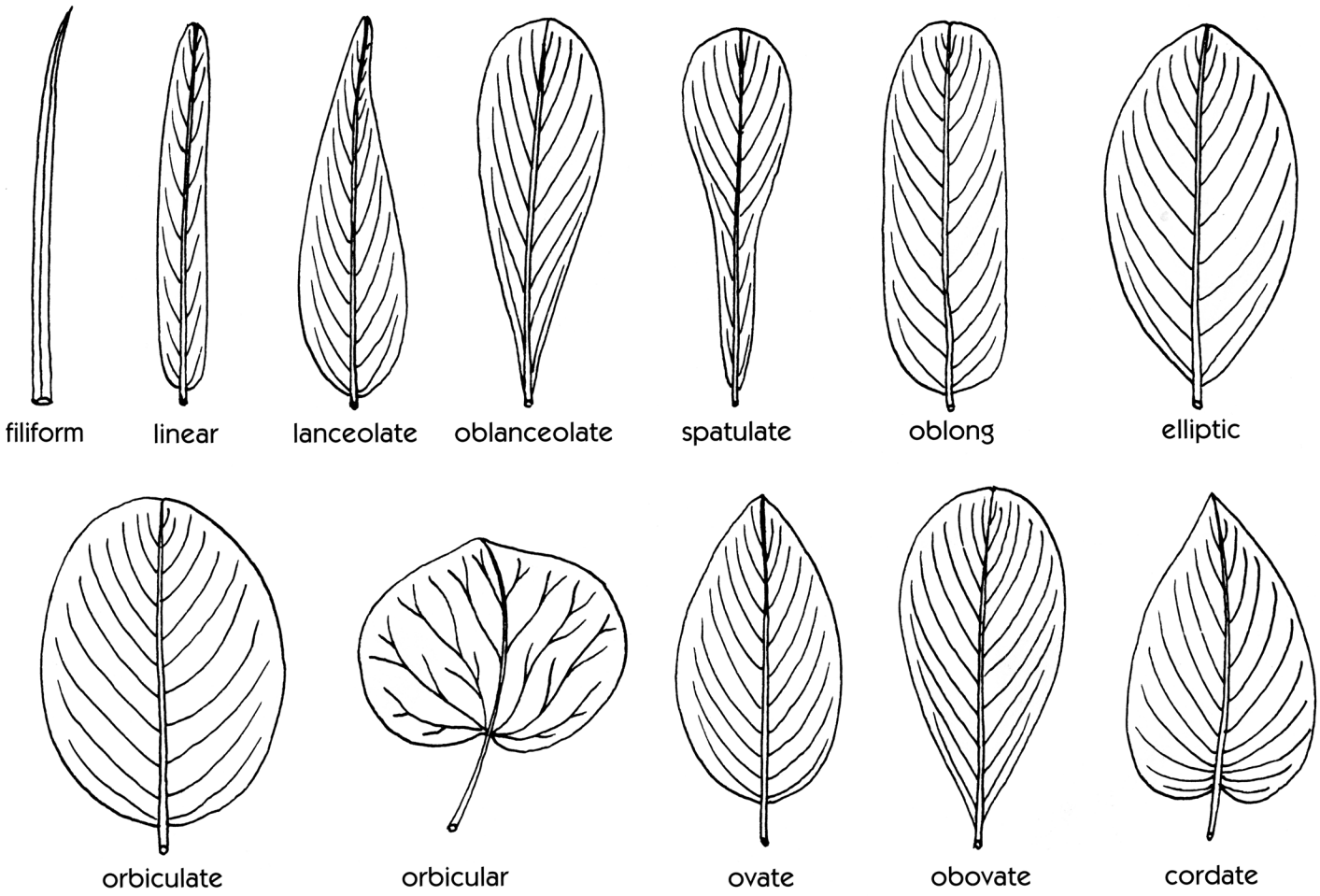


Fig. 11. Leaf shapes (see *Glossary* for descriptions).

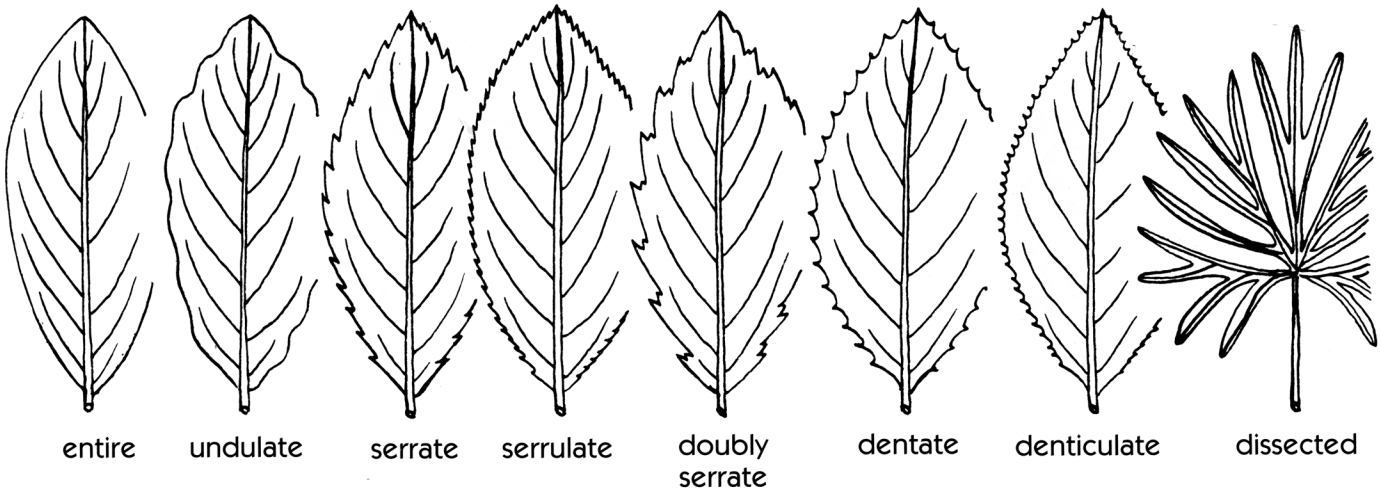


Fig. 12. Leaf margins (see *Glossary* for descriptions).

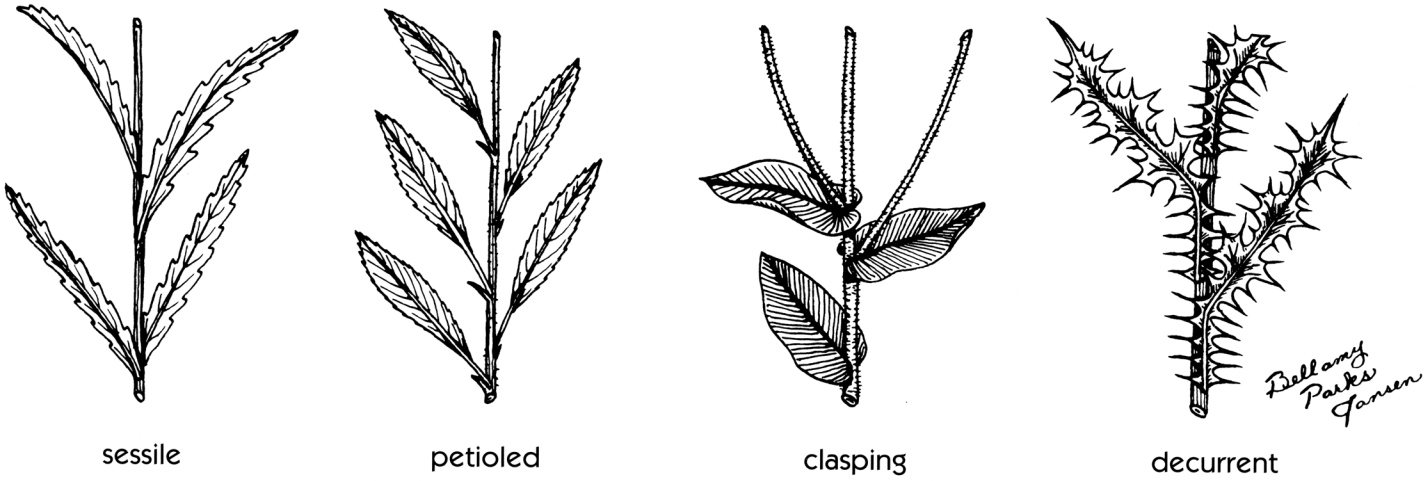


Fig. 13. Leaf attachments (see *Glossary* for descriptions).

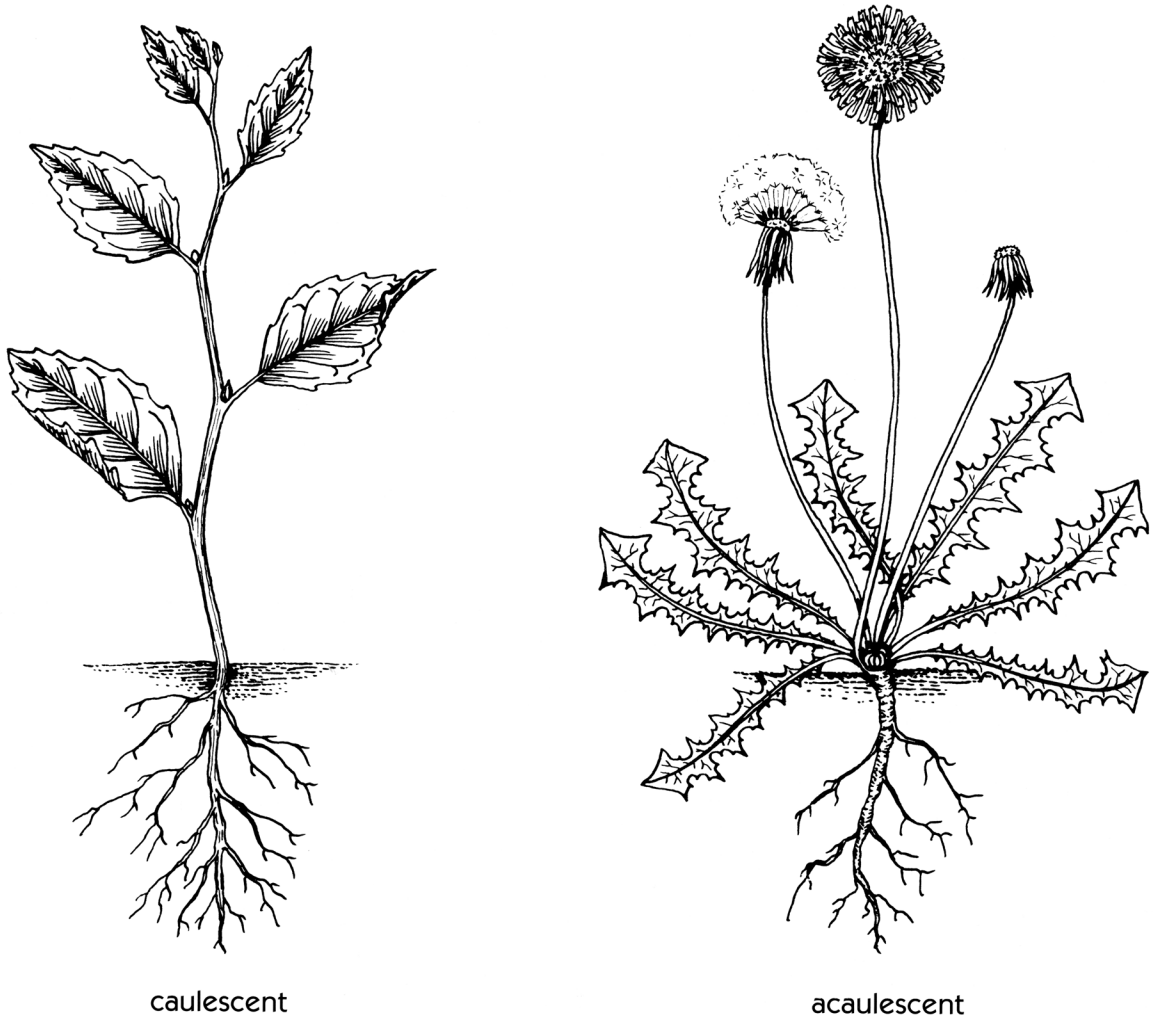


Fig. 14. Two types of forbs: caulescent, having a stem above the ground, and acaulescent, appearing stemless.

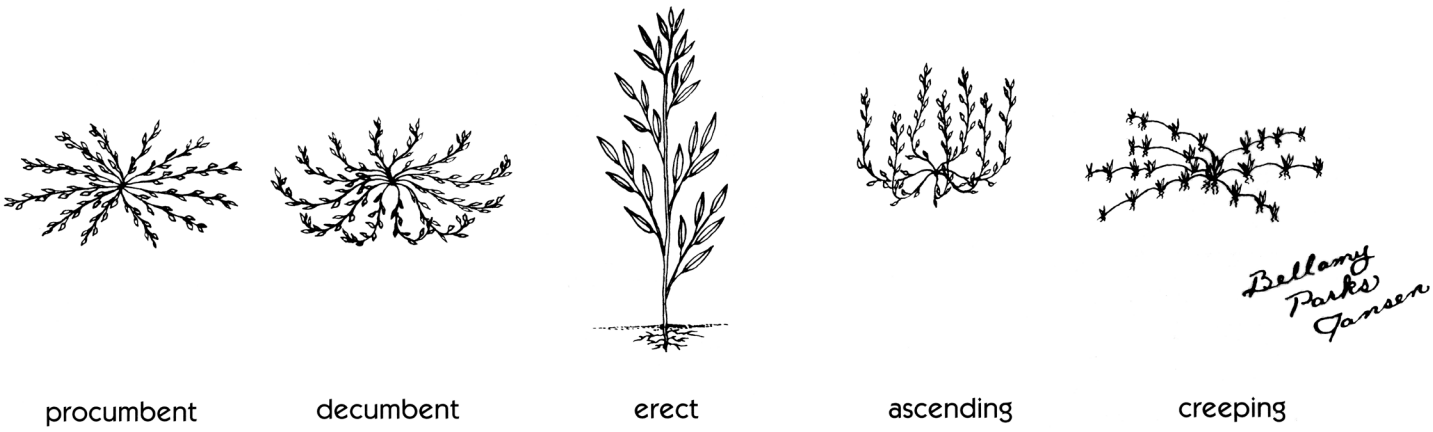


Fig. 15. Growth habits of plants (see *Glossary* for descriptions).

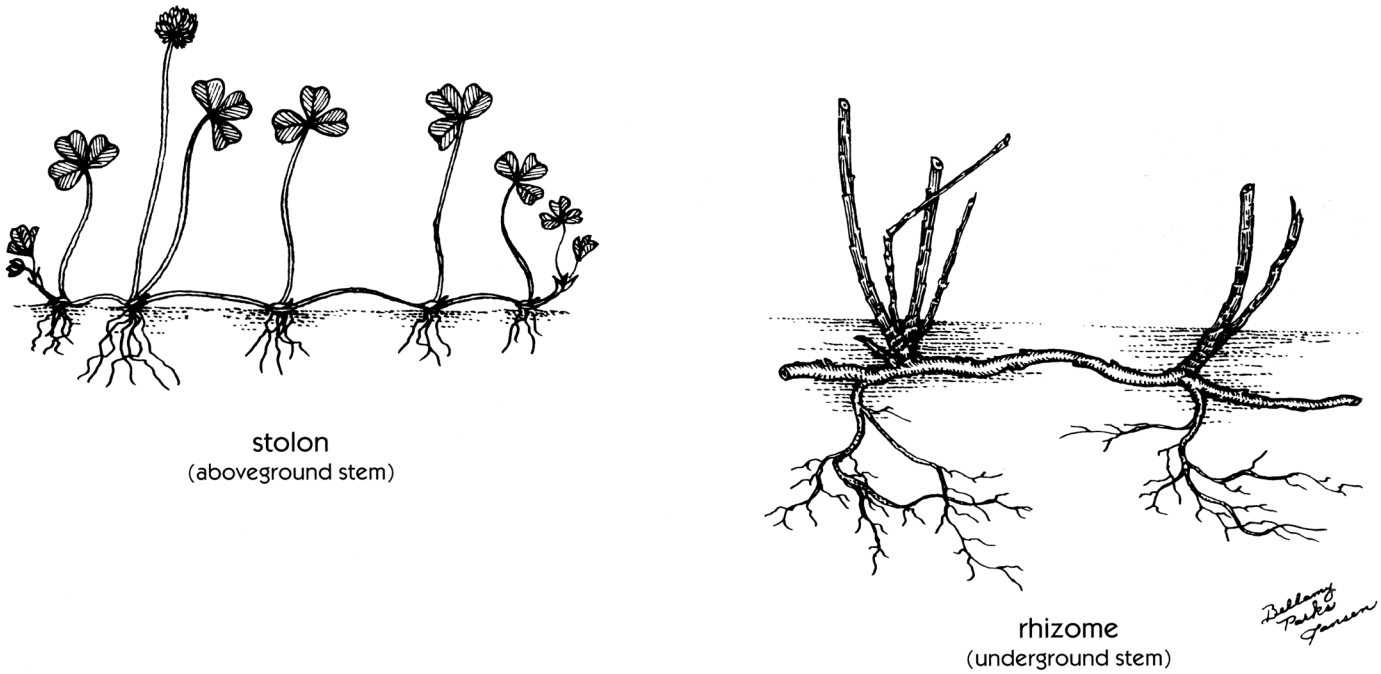


Fig. 16. Modified stems.

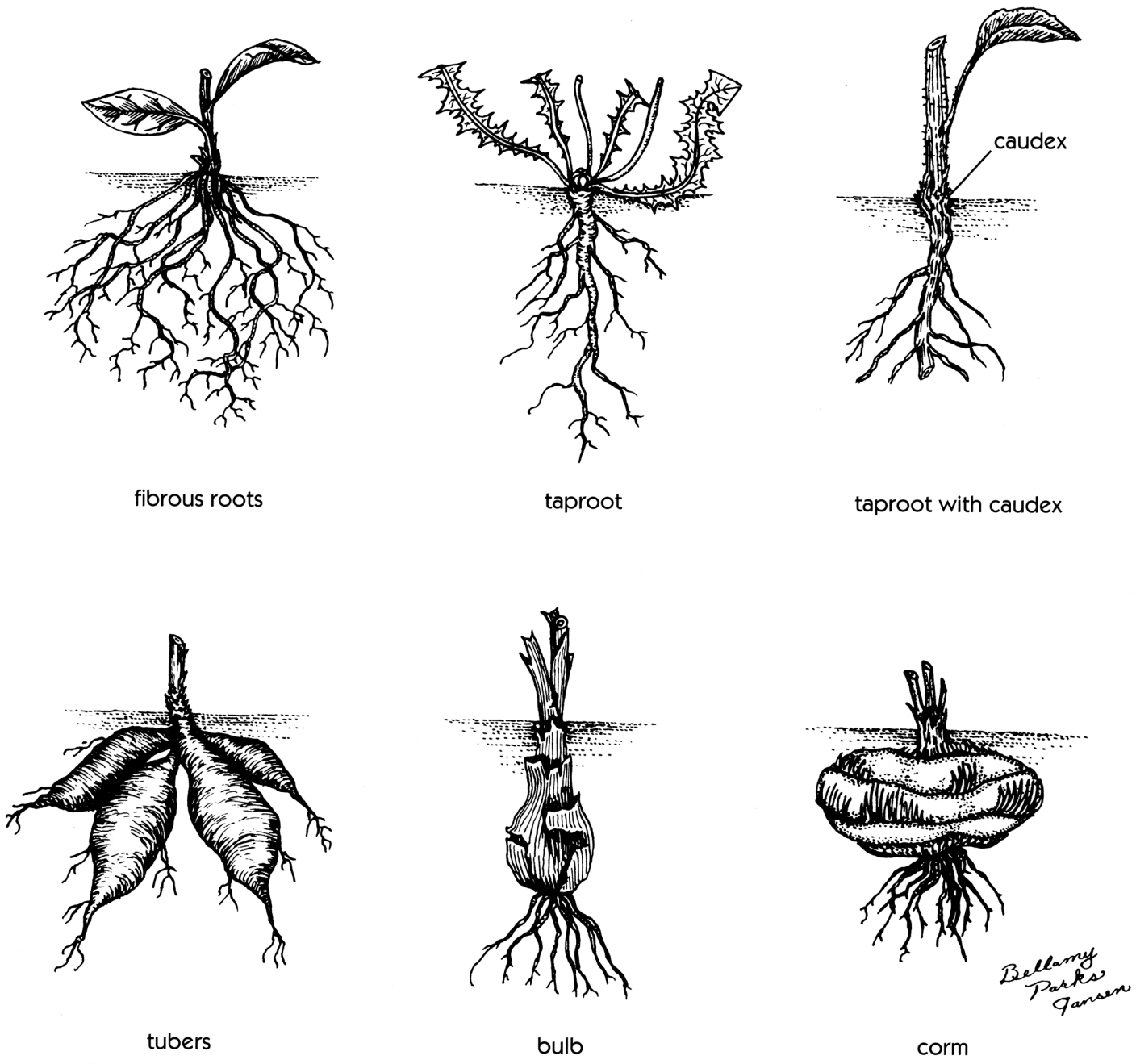
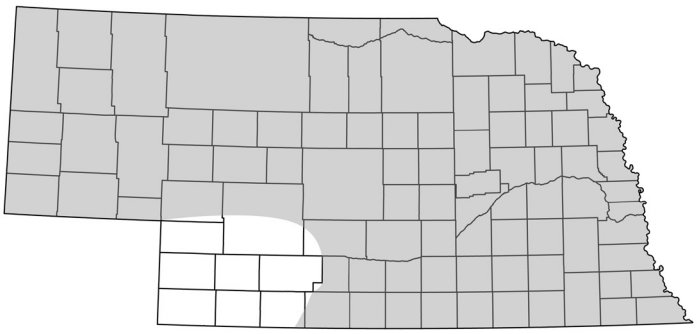


Fig. 17. Types of underground plant parts (see *Glossary* for descriptions).

Native Perennial Forbs

American vetch
Blue lettuce
Broadleaf arrowhead
Buffalogourd
Bush morningglory
Common yarrow
Cutleaf ironplant
Nineanther prairieclover
Purple prairieclover
Silktop dalea
Silky prairieclover
White prairieclover
Death camas
Dotted gayfeather
False boneset
Canada goldenrod
Prairie goldenrod
Stiff goldenrod
Cleft gromwell
Plains puccoon
Clammy groundcherry
Common groundcherry
Prairie groundsel
Riddle groundsel
Hairy goldaster
Heath aster
Hemp dogbane
Hoary vervain
Illinois bundleflower
Canada milkvetch
Groundplum milkvetch
Lambert crazyweed
Lotus milkvetch
Missouri milkvetch
Platte milkvetch
Racemed poisonvetch
Twogrooved poisonvetch
Woolly locoweed
Common milkweed
Dwarf milkweed
Green milkweed
Sand milkweed
Showy milkweed
Swamp milkweed
Whorled milkweed
Nebraska lupine
Blowout penstemon
Narrow penstemon
Shell-leaf penstemon
White penstemon
Prairie coneflower
Prairie larkspur
Purple coneflower
Purple poppymallow
Pussytoes
Roundhead lespedeza
Rush skeletonplant
Cudweed sagewort
Green sagewort
Scarlet gaura
Scarlet globemallow
Breadroot scurfpea
Lemon scurfpea
Palmleaf scurfpea
Silverleaf scurfpea
Slimflowered scurfpea
Serrateleaf eveningprimrose
Showy peavine
Slender greenthread
Spiderwort
Spotted waterhemlock
Jerusalem artichoke
Maxmilian sunflower
Sawtooth sunflower
Stiff sunflower
Flodman thistle
Platte thistle
Wavyleaf thistle
Canada tickclover
Illinois tickclover
Western ironweed
Western marbleseed
Western ragweed
Wild bergamot
Wild four-o'clock
Wild licorice

American vetch



COMMON NAME:	**American vetch (peavine, stickleaf vetch)**
Species:	*Vicia americana* Muhl. *ex* Willd.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	0.4–1.5 m (1.3–4.9 ft) long

Vegetative Characteristics

stems:	trailing or scrambling or climbing; glabrous to sparingly pilose
leaves:	alternate, even-pinnately compound (9–18 cm long), leaflets 4–16; leaflets linear to ovate (1–4 cm long, 1–9 mm wide), sessile, margins entire (rarely toothed); leaves terminating in branched or simple tendrils; stipules usually serrate
underground:	taproot

Inflorescence Characteristics

type:	raceme (2–5 cm long), axillary on peduncles; usually shorter than subtending leaves, flowers 2–10; peduncle 2–6 cm long
flowers:	bluish-purple (rarely white) corolla; petals 5, papilionaceous (1.2–2.5 cm long); calyx 5-lobed; lobes unequal, variable
fruits:	pods (2.5–4 cm long), valves 2, elliptic, glabrous
seeds:	dark brown, slightly flattened

Habitat

American vetch grows in upland prairies, roadsides, and waste places.

Uses and Values

Forage. It is excellent forage and is palatable to all classes of livestock. It quickly disappears with continuous use and is rarely found on rangelands.

Poisoning. American vetch has been linked to cases of photosensitization.

Grassland Seeding. It is not used in grassland seedings.

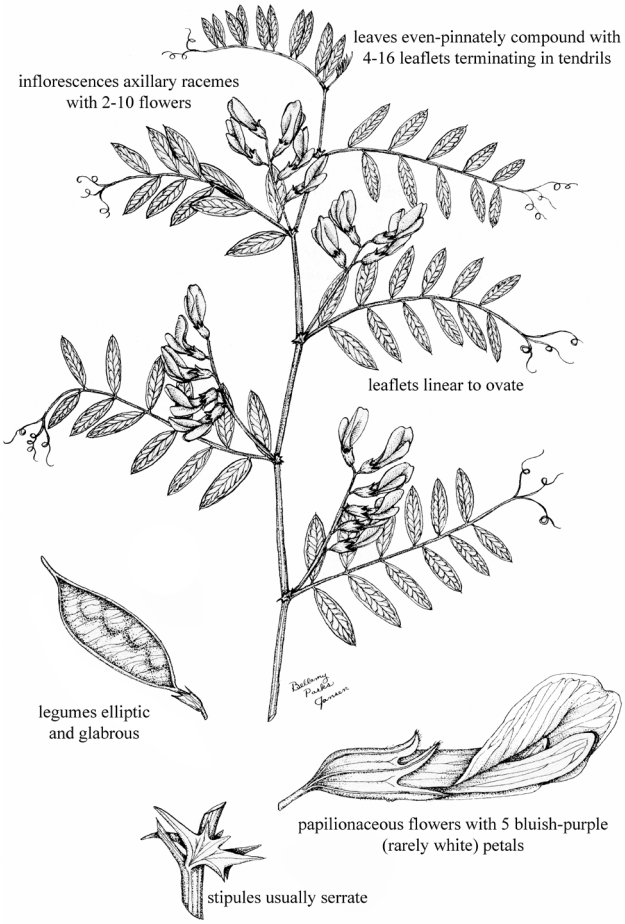
Prairie Restoration. Seed is not commercially available, but hand-harvested seeds could be planted to increase diversity of prairie restorations.

Wildlife. Deer, pronghorn, and rabbits eat the foliage. Numerous birds and small mammals consume the seeds.

Ornamental. This trailing species has little potential for ornamental plantings.

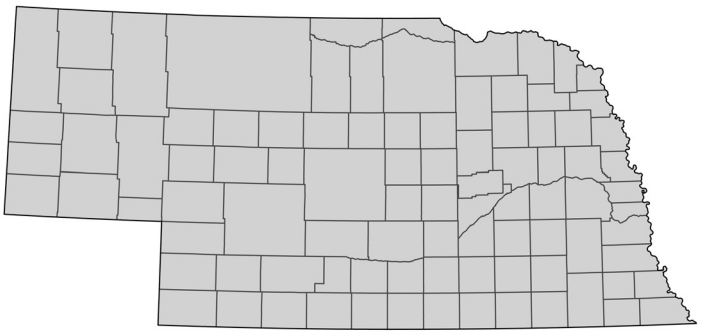
Other

Some Lakota Native Americans boiled and ate the young shoots of American vetch.



American vetch

Blue lettuce



COMMON NAME:	Blue lettuce
Species:	*Lactuca pulchella* (Pursh) DC. [=*Lactuca tartarica* (L.) C.A.Mey; *Lactuca oblongifolia* Nutt.]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect, single, simple to branching above, contain a white latex
leaves:	alternate, simple, sessile; basal blades lance-linear to oblong (8–20 cm long, 1–3 cm wide), prominently toothed or entire to more or less pinnatifid, reduced upward, bluish-green, contain a white latex
underground:	rhizomes, deep, extensive

Inflorescence Characteristics

type:	paniclelike or racemelike, terminal; heads 10–50 (each 2–3 cm in diameter) involucre with 3–4 series of bracts (1.2–1.5 cm long at anthesis, 1.4–1.8 cm long in fruit); outer bracts lanceolate; ray florets 8–23
flowers:	blue or purplish-blue (rarely white, but drying whitish) ray florets; ligules 9–10 mm long; corolla tube about 6 mm long
fruits:	achenes, oblanceolate to narrowly elliptic (2–4 mm long, 1–1.5 mm wide), thin, flattened, reddish-gray, tapering to a stout beak; pappus of white bristles; bristles 8–10 mm long; seeds 1
seeds:	small

Habitat

Blue lettuce is found in prairies, meadows, rangelands, pastures, and roadsides. It is more abundant in moist soils than dry soils.

Uses and Values

Forage. It is nearly worthless for forage. Livestock seldom graze mature plants because the latex has a bitter taste. They may lightly graze young plants.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

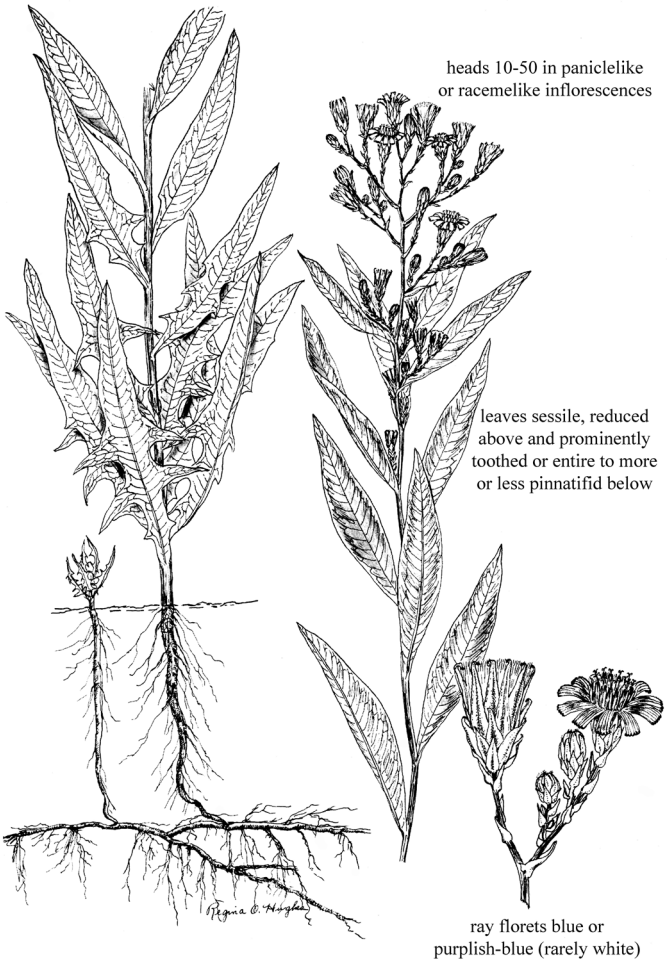
Prairie Restoration. Blue lettuce is rarely used in prairie restorations. However, hand-collected seeds could be planted to increase diversity.

Wildlife. Deer and cottontails commonly eat blue lettuce. The achenes are eaten by birds and small mammals.

Ornamental. Blue lettuce spreads rapidly and has little potential for ornamental plantings.

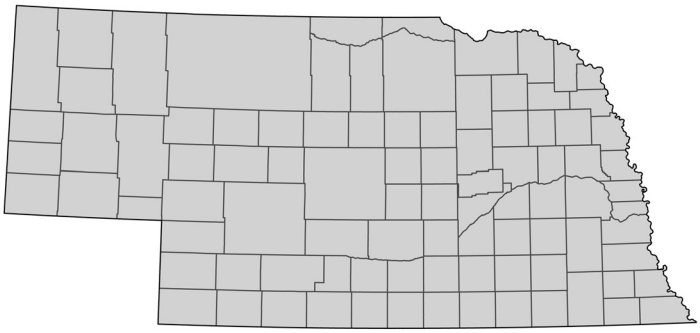
Other

An abundance of blue lettuce can be a sign of improper grazing.



Blue lettuce

Broadleaf arrowhead



COMMON NAME:	**Broadleaf arrowhead (common arrowhead, duck potato)**
Species:	*Sagittaria latifolia* Willd.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to September
Height:	0.5–1 m (1.6–3.3 ft)

Vegetative Characteristics

stems:	robust, emergent to immersed in water
leaves:	basal, crowded; blades sagittate (8–40 cm long, 4–30 cm wide); lobes narrow and linear on plants in deep water and broadly deltoid on emerged plants; petioles triangular
underground:	rhizomes, corms

Inflorescence Characteristics

type:	raceme, whorls 3–9, simple or rarely branched from the lowest node; bracts bluntly acute to obtuse (5–10 mm long); pedicels slender (3–35 mm long), spreading, ascending
flowers:	white petals (7–20 mm long); male flowers above, female flowers below, or seldom all one sex in an individual raceme
fruits:	globose to somewhat flattened (1–2.5 cm in diameter); achenes 2.5–4 mm long, dorsal wing over the top of the achene, ventral wing gradually widened upward to meet the beak; beak tapered (1–2.5 mm long)
seeds:	small

Habitat

Broadleaf arrowhead grows in mud and shallow water of rivers, streams, lakes, marshes, and fens.

Uses and Values

Forage. Cattle will eat broadleaf arrowhead, but often it is not in a place where they can easily graze.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

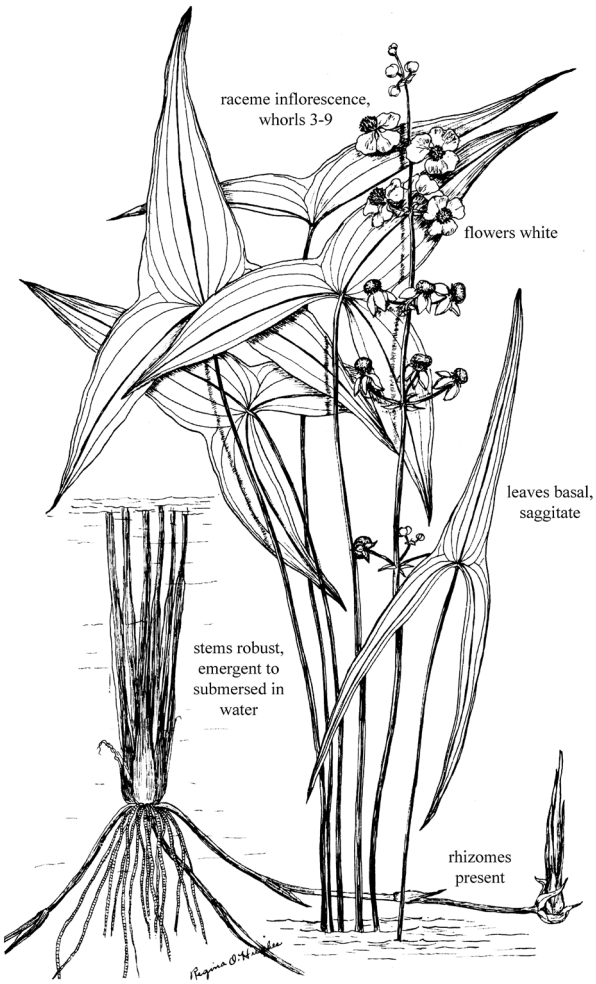
Prairie Restoration. It is rarely used for prairie restorations in wet areas, but root divisions could be transplanted into the appropriate habitat. Root divisions are commercially available.

Wildlife. The starchy corms are eaten by ducks, muskrats, and turtles.

Ornamental. Root divisions could be planted in water gardens or ponds if sufficient space is available.

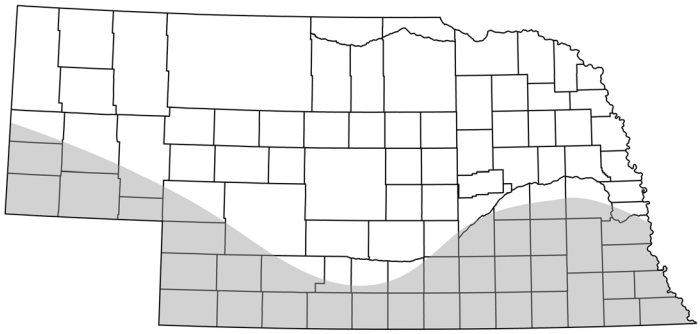
Other

Some Native Americans ate broadleaf arrowhead corms raw or boiled. It is reported to be a good source of nutrition.



Broadleaf arrowhead

Buffalogourd



COMMON NAME:	Buffalogourd
Species:	*Cucurbita foetidissima* Kunth
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	2–8 m (6.6–26 ft) long

Vegetative Characteristics

stems:	sprawling, prostrate, many-branched rough, rooting at the nodes
leaves:	alternate, simple, thick, triangular-ovate (10–30 cm long, 5–20 cm wide), margins entire to minutely toothed, grayish-green, lower surface pubescent; tendrils shorter than the petioles; disagreeable odor when bruised
underground:	taproot, woody, large (to 30 cm in diameter), forking, yellow inside

Inflorescence Characteristics

type:	flowers solitary, axillary
flowers:	yellowish-orange corolla (6–12 cm long), petals 5; petals fused to or below the middle; sepals subulate to linear-attenuate (8–25 mm long); monoecious, male and female flowers similar except male flowers long-petioled
fruits:	pepos (4–11 cm in diameter), nearly glabrous, green with yellow or orange stripes, drying yellow; seeds many
seeds:	obovate (6–10 mm long), flattened, narrow end pointed, cream to white, smooth

Habitat

Buffalogourd grows in dry soils of rangelands, prairies, waste places, and roadsides. It is most common in sandy or gravelly soils.

Uses and Values

Forage. Buffalogourd is not grazed by livestock.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

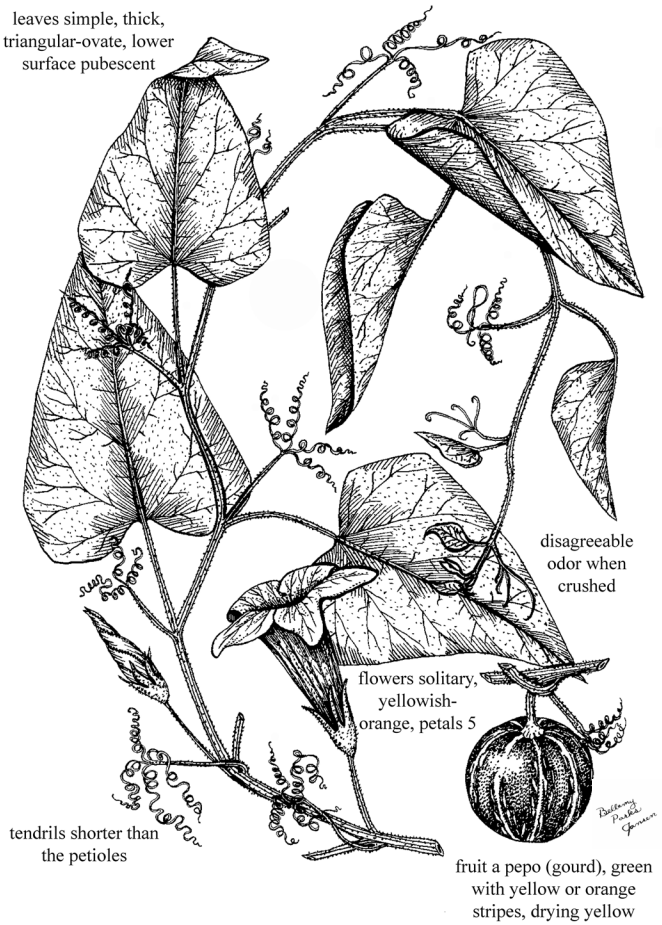
Prairie Restoration. It rarely is used in prairie restorations.

Wildlife. Small mammals eat the seeds.

Ornamental. Buffalogourd is sometimes grown as an ornamental curiosity, but a single plant quickly occupies a large area.

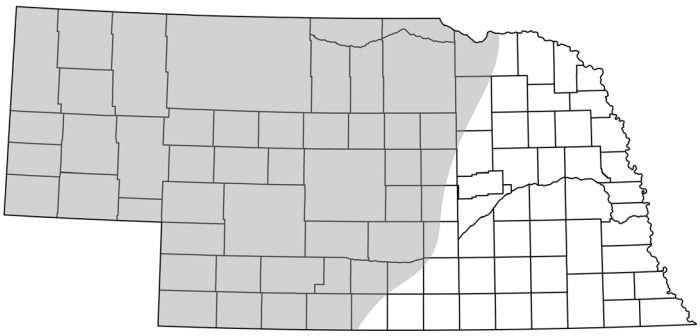
Other

Some Native Americans extracted saponins from the fruits and roots to make a cleansing lather. The roots were ground and eaten for their starch and protein. Pioneers used the dried gourds to maintain the shape of socks while darning them.



Buffalogourd

Bush morningglory



COMMON NAME:	**Bush morningglory (bigroot morningglory)**
Species:	*Ipomoea leptophylla* Torr.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.3–1.5 m (1–4.9 ft)

Vegetative Characteristics

stems:	decumbent to erect, non-vining, glabrous; breaks from the root in autumn and rolls as a tumbleweed
leaves:	alternate to 1-sided, simple; blades lanceolate to linear (3–15 cm long, 2–8 mm wide); margins entire; surfaces glabrous; petioles short (1–8 mm long)
underground:	taproot, usually greatly enlarged (to more than 1.5 m long and 25 cm wide at top), tapering to a short petiole

Inflorescence Characteristics

type:	cyme, axillary; flowers 1–3; peduncles 7–10 cm long
flowers:	lavender or pink to purple with a darker throat, large and showy; corollas funnel-shaped (5–9 cm long); sepals unequal (5–11 mm long); sweet fragrance
fruits:	capsules (1–1.5 cm long), ovoid, glabrous; seeds 1–4
seeds:	oblong to elliptic (7–12 mm long), brown; covered with short, dense pubescence

Habitat

Bush morningglory is found in all soil types on rangelands and prairies. It is most abundant in the Sandhills.

Uses and Values

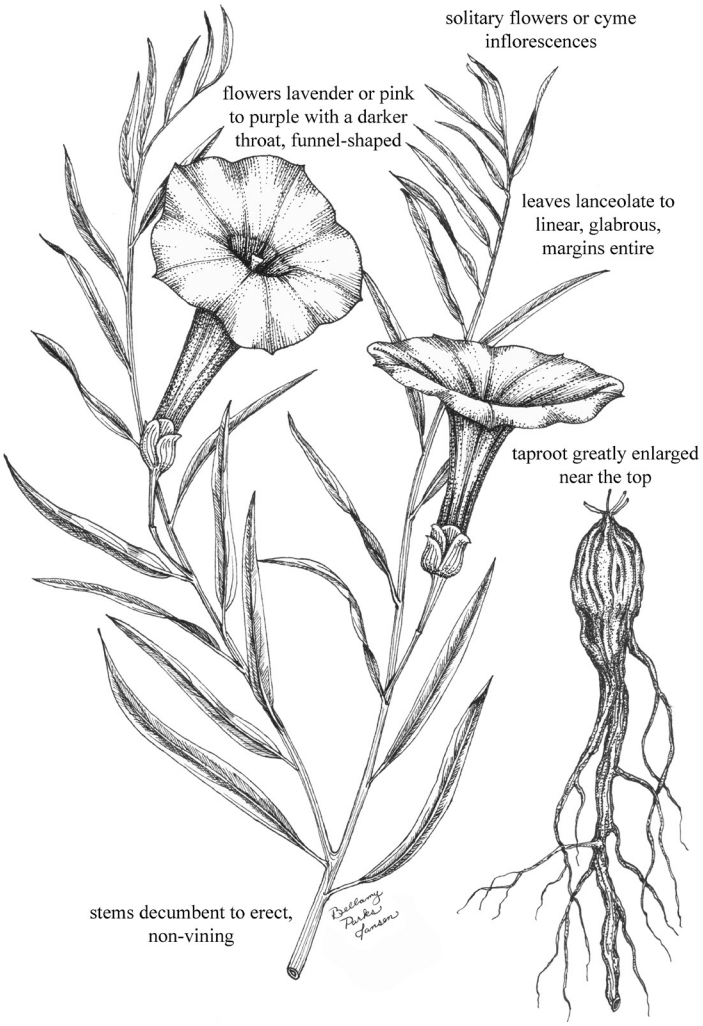
Forage. Bush morningglory has good forage value for livestock. It decreases with continuous heavy grazing.

Poisoning. None.

Grassland Seeding. It is not included in grassland seedings.

Prairie Restoration. Bush morningglory may be included in prairie restorations to increase diversity. Seeds are available commercially or can be gathered by hand-harvest.

Wildlife. It has good forage value for pronghorn, elk, deer, and bighorn sheep. Its seeds are eaten by small mammals. The flowers attract butterflies, bees, and hummingbirds.



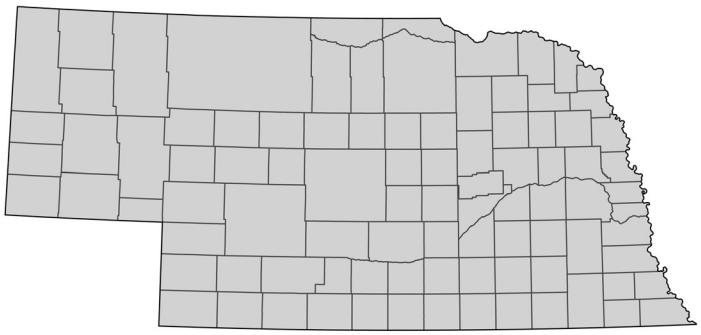
Bush morningglory

Ornamental. Bush morningglory can be used as a specimen planting in full sunlight, especially in sandy soils. The plant may become large (to more than 1.5 m in diameter) and care must be taken to plant it where there is sufficient space. It should be started from seeds because survival of transplants is very low. It is an excellent plant for xeriscape plantings because it uses little water.

Other

Young roots were eaten by some Native Americans who either boiled fresh or previously gathered and dried roots. Some Pawnee smoked strips cut from the root to cure nervousness and bad dreams. Powdered root was dusted onto the body to relieve pain and to revive someone suffering from fainting and dizziness. The massive, spindle-shaped root resembles a giant sugar beet, but of much greater dimensions. The large root enables the plant to withstand long periods of drought without injury. The Lakota used the root to preserve fire for several months at a time. The root was hung outside and a fire started in the center. Twigs would be pushed inside the root to be lighted and serve as a fire source.

Common yarrow



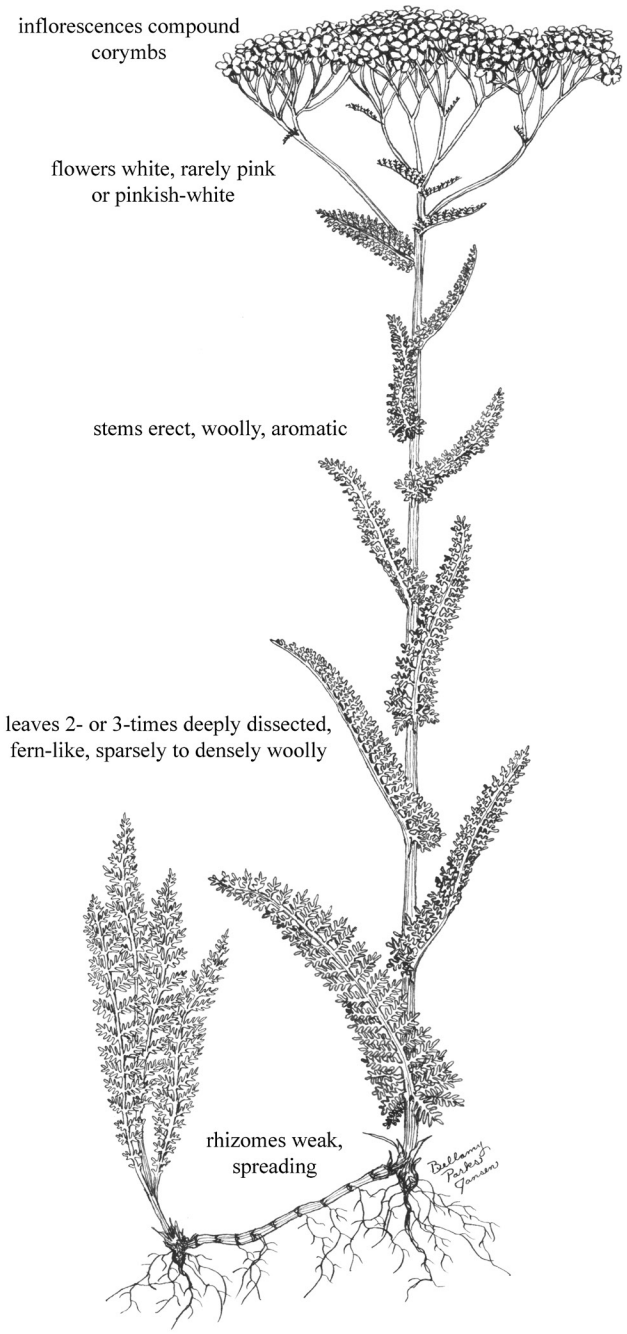
COMMON NAME:	**Common yarrow (western yarrow, woolly yarrow, milfoil)**
Species:	*Achillea millefolium* L. [= *Achillea lanulosa* Nutt.]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to June (occasionally September to October)
Height:	0.2–1 m (0.6–3.3 ft)

Vegetative Characteristics

stems:	erect, single or a loose cluster, 1- or few-branched, woolly, aromatic
leaves:	basal and cauline, alternate (lower and middle), simple, petiolate below, sessile above; blades lanceolate (3–15 cm long, 5–30 mm wide), lower and middle leaves largest; bipinnate, fernlike; 2- or 3-times deeply dissected; surfaces sparsely to densely woolly; grayish-green; basal leaves forming a rosette; petiolate below, sessile above; aromatic
underground:	taproots and rhizomes; rhizomes weak, spreading

Inflorescence Characteristics

type:	corymb compound, flat to round- topped; heads numerous (5–7 mm tall), crowded; involucre with 1 series of bracts; ray florets 3–5; disk florets 10–15
flowers:	white (rarely pink or pinkish-white) ray florets (2–4 mm long) shallowly lobed; disk florets 5–7 mm long
fruits:	achenes, oblong (about 2 mm long), flat, chafflike with no pappus, without awns, gray, with a narrow wing; seeds 1
seeds:	small



Common yarrow

Habitat

Common yarrow grows in dry to moist soils of rangelands, prairies, open woodlands, roadsides, and disturbed sites.

Uses and Values

Forage. Forage value of common yarrow varies greatly and depends on locality and seasonal development. It is rated poor to fair for cattle and horses and fair to good for sheep. However, it is rarely grazed by cattle or horses. Common yarrow increases with abusive grazing and may become highly competitive with more desirable plants in localized areas.

Poisoning. Common yarrow contains volatile oils, alkaloids, and glycosides. It is seldom eaten by livestock. Milk from cows consuming common yarrow has a disagreeable taste.

Grassland Seeding. Common yarrow is rarely included in grassland seedings.

Prairie Restoration. Seeds can be harvested by hand or purchased from a commercial source. The seeds are very small and should be planted shallowly. It tolerates dry conditions.

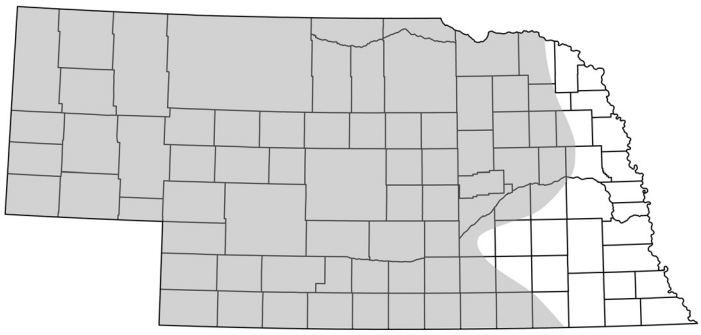
Wildlife. The heads are sometimes eaten by deer, bighorn sheep, elk, and pronghorn.

Ornamental. A number of ornamental cultivars are available from nurseries. Some cultivars are compact, matforming, and as short as 20 cm (8 in). The fernlike leaves provide contrast, and flower color varies from white to pink to gold and from pastels to dark red. Transplants do best when they are placed in well-drained soils. While seedlings have low vigor and initial rate of spread is slow, care must be taken because mature plants have the ability to rapidly spread.

Other

Teas made from common yarrow were used extensively by some Native Americans to relieve ear, tooth, and headaches; as an eyewash; to reduce swelling (diuretic); and as a tonic or stimulant. During the Civil War, powdered leaves were applied to stop wounds from bleeding, and it became known as "soldiers' woundwort." The plant's medicinal worth, according to legend, was discovered by the Greek healer Achilles, thus the genus name *Achillea*.

Cutleaf ironplant



COMMON NAME:	**Cutleaf ironplant (ironplant, lacy tansyaster)**
Species:	*Xanthisma spinulosum* (Pursh) D.R. Morgan & R.L. Hartm.; [= *Machaeranthera pinnatifida* (Hook.) Shinners; *Haplopappus spinulosus* (Pursh) DC.]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to September
Height:	0.3–0.8 m (1–2.6 ft)

Vegetative Characteristics

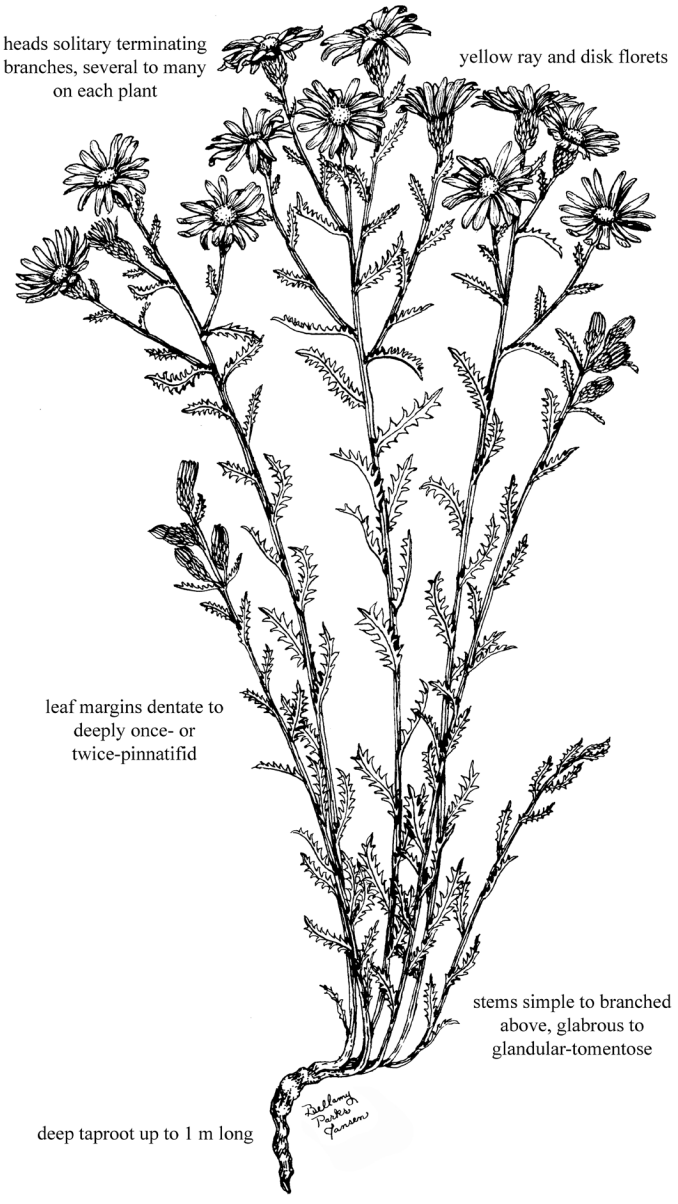
stems:	erect or ascending, few to many, simple to branched above, glabrous to glandular-tomentose on upper one-third
leaves:	alternate, simple; blades oblong to subspatulate (1.5–6 cm long, 2–10 mm wide), upper blades smaller than the lower blades; margins dentate to deeply once- or twice-pinnatifid with each lobe terminating in a bristle; surfaces glabrous to tomentose; sessile
underground:	taproot, deep (up to 1 m long)

Inflorescence Characteristics

type:	head, solitary, terminating branches, several to many on each plant; involucre with 4–6 series of bracts (5–8 mm tall, 9–12 mm wide), pointed or tapering to a slender tip; ray florets 15–40; disk florets numerous
flowers:	yellow ray florets (8–10 mm long); yellow disk florets (4–5 mm long); pappus equaling or exceeding the corolla
fruits:	achenes (body 2–2.5 mm long), pubescent; pappus of yellowish-brown bristles (4–5 mm long); seeds 1
seeds:	small

Habitat

Cutleaf ironplant grows on rangelands, pastures, prairies, and on roadsides.



Cutleaf ironplant

Uses and Values

Forage. Cutleaf ironplant has little value as forage for cattle. It is occasionally eaten by sheep. It increases with abusive grazing.

Poisoning. Cutleaf ironplant can accumulate selenium and should be considered poisonous. Although, it is seldom a problem because of its low palatability.

Grassland Seeding. It is not included in grassland seeding mixtures.

Prairie Restoration. Cutleaf ironplant can be added to prairie restorations to add color and increase diversity. Seeds will need to be hand-harvested because they are not commercially available.

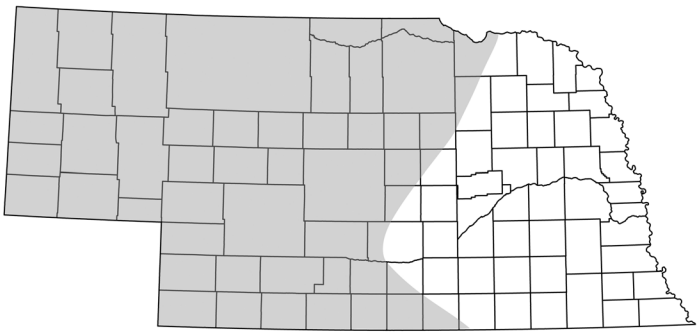
Wildlife. It is eaten by bighorn sheep, pronghorn, and deer. Butterflies are attracted to the flowers.

Ornamental. It makes an excellent rock garden plant. Cutleaf ironplant does best in full sun to partial shade in well-drained soils.

Other

Cutleaf ironplant is one of the most drought tolerant plants in the Great Plains. It is quite variable in pubescence and bushiness. It was first recorded and collected by Lewis and Clark in 1804.

Nineanther prairieclover



COMMON NAME:	**Nineanther prairieclover (nineanther dalea, slender dalea, bigtop dalea, plume dalea)**
Species:	*Dalea enneandra* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.4–1 m (1.3–3.3 ft)

Vegetative Characteristics

stems:	erect, 1–3 from a woody caudex, not branched below, many spreading branches above, glabrous to the spikes, glandular-dotted
leaves:	alternate, odd-pinnately compound (1–2.5 cm long); leaflets 5–13 (commonly 9), linear to narrowly oblong (3–12 mm long, 0.5–1.5 mm wide), sometimes involute, margins entire, glandular-dotted on the lower surface
underground:	taproot; caudex, woody, orangish-yellow

Inflorescence Characteristics

type:	spike (3–10 cm long); terminal, loose, remotely flowered; flowers 5–25
flowers:	white corolla, petals 5; papilionaceous (9–12 mm long); bracts 5 (6–8 mm long), pubescent
fruits:	pods (3–4 mm long), upper portion pubescent, lower portion glabrous, seeds 1
seeds:	kidney-shaped to ovoid (2.5 mm long), yellow to brown, smooth

Habitat

Nineanther prairieclover grows in dry prairies, rangelands, stream valleys, and roadsides. It is most common in calcareous, rocky, or silty soils of dry hillsides in the western three-fourths of the state. It is not common in sandy soils or in the central and southern Nebraska Panhandle.

Uses and Values

Forage. Nineanther prairieclover is a legume and produces good quality forage that is palatable to all classes of livestock. It retains its forage value in dry hay. It decreases with continuous heavy grazing.

Poisoning. None.

Grassland Seeding. It is not included in grassland seeding mixtures because availability of commercial seed is limited.

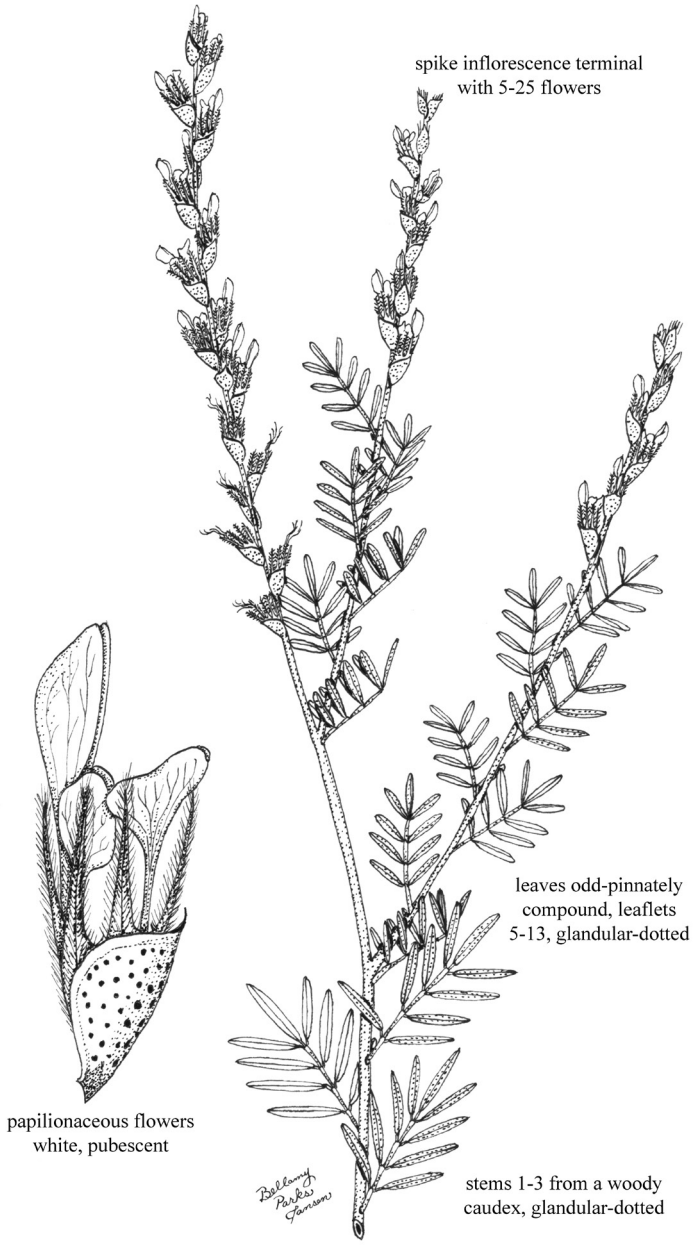
Prairie Restoration. Nineanther prairieclover should be included in prairie restorations on appropriate sites. Since commercial seed is limited, local seed harvest by hand may be necessary. Seeds should be scarified before planting.

Wildlife. It is palatable to deer, pronghorn, bighorn sheep, elk and wild turkeys. It attracts butterflies.

Ornamental. Nineanther prairieclover has limited application for ornamental plantings.

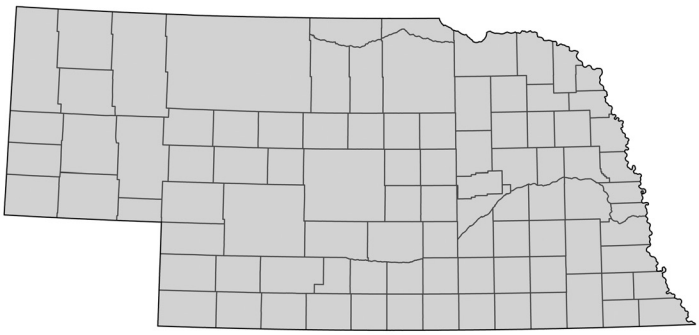
Other

The Lakota reported a poisonous or narcotic substance in the roots, but this report is unsubstantiated. Some Native Americans made arrows for small birds by attaching a cactus thorn to a nineanther prairieclover stem.



Nineanther prairieclover

Purple prairieclover



COMMON NAME:	**Purple prairieclover (violet prairieclover)**
Species:	*Dalea purpurea* Vent. [= *Petalostemon purpureum* (Vent.) Rydb.]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	0.2–0.9 m (0.6–3 ft)

Vegetative Characteristics

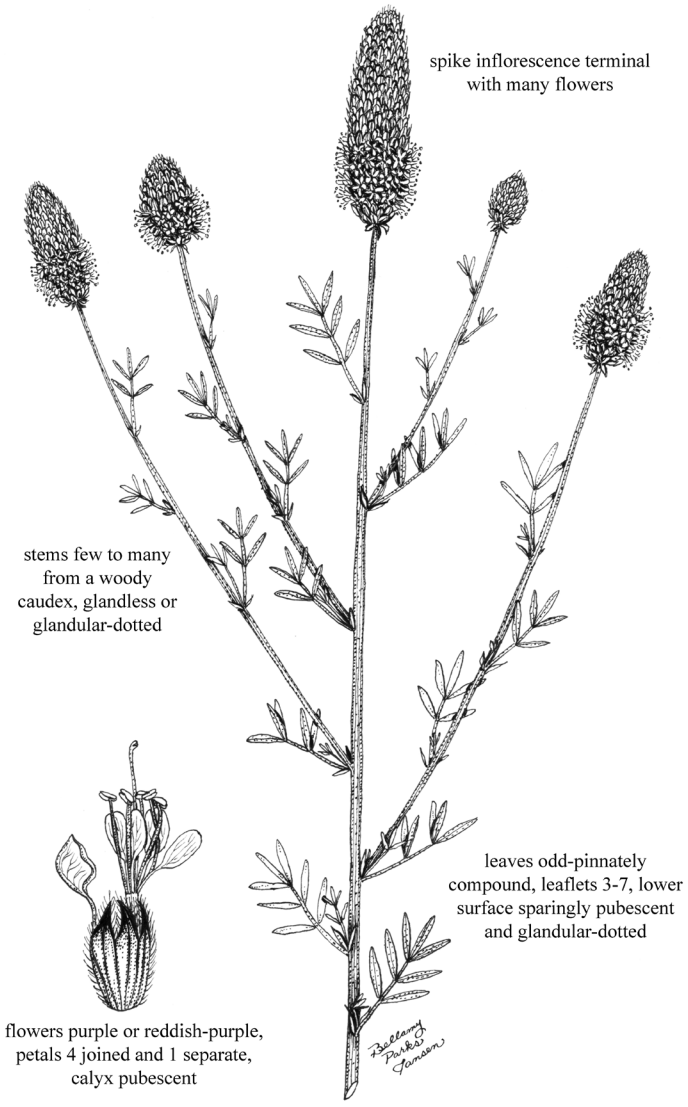
stems:	erect to ascending, few to many from a woody caudex, glandless or with scattered glandular dots
leaves:	alternate, odd-pinnately compound (1–4 cm long); leaflets 3–7 (usually 5); leaflets linear to elliptic (5–25 mm long, 0.5–1.5 mm wide), margins involute, midvein not visible on upper surface, upper surface usually glabrous, lower surface usually sparingly pubescent and glandular-dotted
underground:	taproot, deep; caudex, woody

Inflorescence Characteristics

type:	spike (1–7 cm long, 7–14 mm wide), terminal, numerous, oblong-cylindrical, dense, flowers many
flowers:	purple or reddish-purple (4–7 mm long) corolla; petals 5 (4 joined and 1 separate); calyx (3–4.5 mm long) pubescent; yellow stamens exserted, conspicuous
fruits:	pods (2–2.5 mm long), ovate, enclosed in pubescent bracts; seeds 1
seeds:	kidney-shaped (1.5–2 mm long), yellowish-green to brown, covered with small dots or pits

Habitat

Purple prairieclover is found on upland rangelands and dry prairies. It grows in all types of soils.



Purple prairieclover

Uses and Values

Forage. Purple prairieclover produces excellent forage for all classes of livestock and may be an important component of prairie hay. It is high in protein and highly palatable. It decreases with continued heavy grazing.

Poisoning. Although rare, consumption of large quantities of purple prairieclover by cattle may cause bloat.

Grassland Seeding. It is an important legume because it has high forage quality and fixes nitrogen. It should be included in grassland seedings and relatively large quantities of commercial seed is available. Seed should be scarified and inoculated with the proper strain of *Rhizobium* before planting.

Prairie Restoration. Purple prairieclover is an important component of prairie restorations throughout the state. It is relatively easy to establish and adds color and diversity to the restoration.

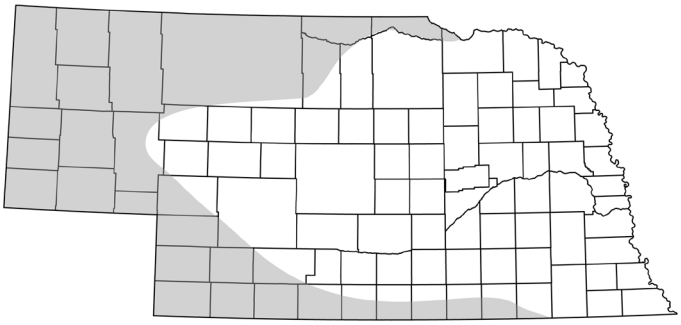
Wildlife. Purple prairieclover is grazed by pronghorn, deer, elk, and bighorn sheep. Wild turkeys eat the foliage. Plains pocket gophers eat the taproots. Songbirds, upland gamebirds, and small mammals eat the seeds.

Ornamental. It has attractive flowers and foliage and can be an important component in perennial beds. Also, it is used as a border planting. Purple prairieclover is drought tolerant and grows best on well-drained soils in full sunlight. It produces many flowers.

Other

Some Native Americans ate fresh and boiled purple prairieclover leaves. Bruised leaves were steeped in water and applied to fresh, open wounds. Some Ponca and Comanche chewed the roots for their pleasant flavor and made tea from the leaves. Pawnee used the stems to make brooms.

Silktop dalea



COMMON NAME:	Silktop dalea (golden dalea, golden prairieclover)
Species:	*Dalea aurea* Nutt. *ex* Pursh
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.2–0.7 m (0.6–2.3 ft)

Vegetative Characteristics

stems:	erect or ascending from a short caudex; simple or branched above, silky-pubescent, nearly glandless
leaves:	alternate, odd-pinnately compound (1.5–4 cm long); leaflets 3–9 (commonly 5); leaflets elliptic to obovate (5–20 mm long, 2–8 mm wide); tips obtuse; bases pointed; margins entire; densely silky-pubescent on the lower surface; sparsely pubescent to glabrous on the upper surface; petiole 3–15 mm long
underground:	taproot, deep

Inflorescence Characteristics

type:	spike (1–6 cm long), terminal, densely-flowered, cylindrical
flowers:	yellow (6–9 mm long), remaining yellow on drying; petals 5, papilionaceous; calyx bracts 5; bracts long-acuminate (3.5–5 mm long), silky-pubescent
fruits:	pods (3–3.5 mm long), upper portion silky-pubescent, lower portion usually glabrous; seeds 1
seeds:	broadly ellipsoid to kidney-shaped, yellow to dark brown, smooth

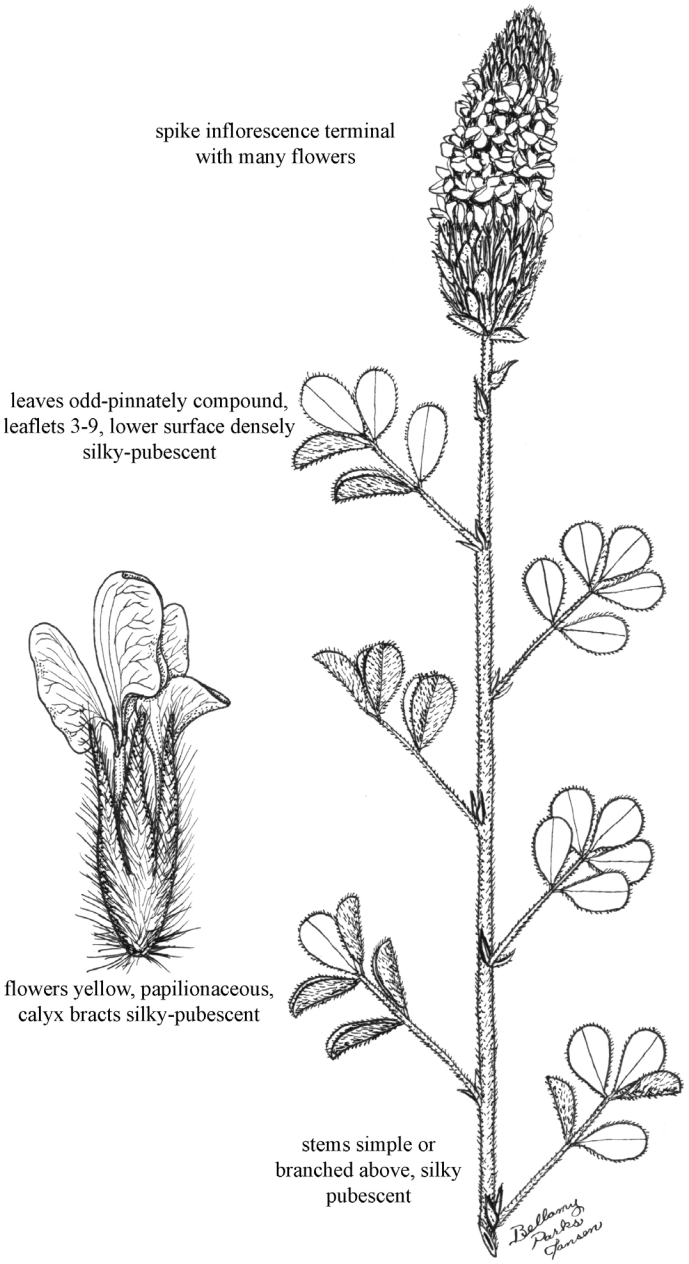
Habitat

Silktop dalea grows in prairies, rangelands, open woods, ravines, and brushy hillsides. It is most abundant on calcareous soils. It is not common in the Sandhills.

Uses and Values

Forage. Silktop dalea is readily eaten by livestock. It decreases under heavy grazing and has good to excellent forage quality.

Poisoning. None.



Silktop dalea

Grassland Seeding. If an economical source of seed were available, it could be added to grassland seeding mixtures.

Prairie Restoration. It should be included in prairie restorations on adapted sites in areas where it is naturally distributed. Seeds may need to be hand-harvested.

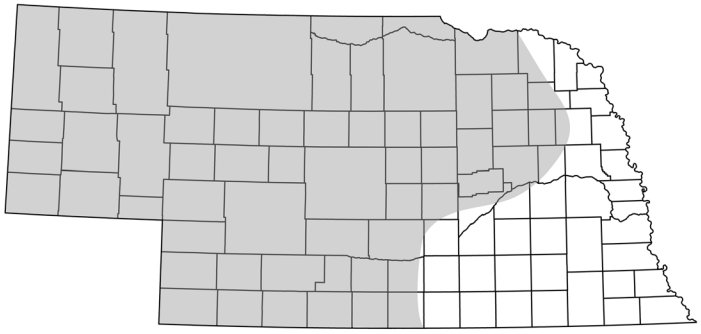
Wildlife. Silktop dalea is readily eaten by deer, elk, pronghorn, and bighorn sheep. Wild turkeys eat its leaves. The seeds are eaten by songbirds, upland gamebirds, and small mammals. Bees and butterflies are attracted to its flowers.

Ornamental. Silktop dalea is drought tolerant and suitable for xeriscaping. It grows best in calcareous soils and full sun.

Other

Some Lakota made and drank a decoction from leaves of silktop dalea for colic and dysentery. As a legume, it adds to the nitrogen balance of grassland sites.

Silky prairieclover



COMMON NAME:	**Silky prairieclover (hairy prairieclover)**
Species:	*Dalea villosa* (Nutt.) Spreng. [= *Petalostemon villosus* Nutt.]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	0.2–0.8 m (0.6–2.6 ft)

Vegetative Characteristics

stems:	erect or ascending, 1 to few from a woody caudex; simple below, branching above, glandless, densely pubescent, grayish-green
leaves:	alternate, odd-pinnately compound (1.5–4 cm long), leaflets 11–25; leaflets oblong to elliptic (5–14 mm long, 1–4 mm wide), grayish-green, densely pubescent (villous), glandular-dotted on lower surface
underground:	taproot; caudex, woody

Inflorescence Characteristics

type:	spike (2–10 cm long, 7–9 mm wide), terminating stems and branches, oblong-cylindric, moderately dense, flowers many, densely villous
flowers:	pale rose to rose-purple or lavender (4–6 mm long), petals 5; calyx 10-ribbed, pubescent
fruits:	pods (2.5–3 mm long), densely pubescent, glandless, seeds 1
seeds:	narrowly ovoid (2–2.5 mm long), brown, smooth

Distribution and Habitat

Silky prairieclover grows throughout Nebraska, except in the extreme east and southeast, on sandy prairies, rangelands, and woodlands. It is common on the fringes of blowouts. It is most abundant in the Sandhills.

Uses and Values

Forage. Livestock occasionally eat silky prairieclover, and it has good forage quality. It increases with continuous heavy grazing.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

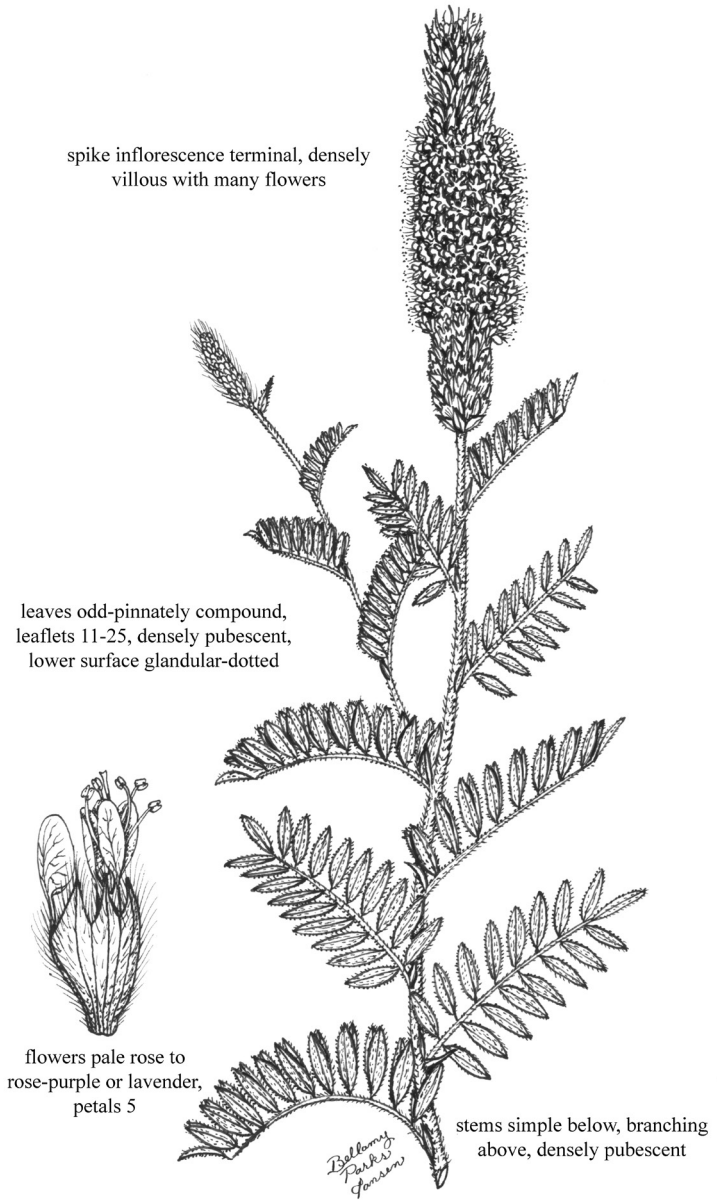
Prairie Restoration. A limited amount of commercial seed is available, or seed can be collected by hand to include the species in sandy prairie restorations. The seeds should be scarified before planting.

Wildlife. It is eaten by deer, elk, and pronghorn. It attracts butterflies and other insects. Songbirds, upland gamebirds, and small mammals eat the seeds.

Ornamental. The grayish-green foliage and attractive flowers make silky prairieclover an interesting addition to perennial beds. It requires well-drained soils and full sunlight.

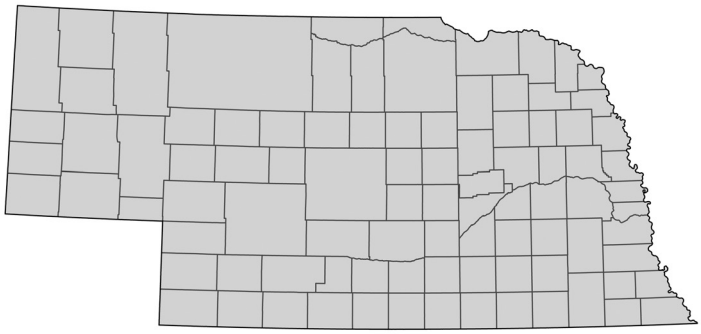
Other

Some Lakota ate the roots for a laxative. They also ate the flowers and leaves to reduce swelling inside of their throats. Although it is often scattered, silky prairieclover is a legume that enhances soil nitrogen.



Silky prairieclover

White prairieclover



COMMON NAME:	White prairieclover
Species:	*Dalea candida* Michx. *ex* Willd. [= *Petalostemon candidum* (Willd.) Michx.]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to September
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect to ascending, 1 to several from a woody caudex, simple or branched above, glabrous
leaves:	alternate, odd-pinnately compound (2–6 cm long); leaflets 5–13 (commonly 7); leaflets elliptic oblanceolate to linear (1–3 cm long, 2–6 mm wide), often folding along the midvein; tips acute to obtuse; margins entire, glabrous, glandular-dotted on lower surface
underground:	taproot, deep; caudex, woody

Inflorescence Characteristics

type:	spike (2–8 cm long, 7–9 mm wide), terminal, many-flowered, cylindric to ovoid
flowers:	white (4–6 mm long), petals 5; bracts 5 (0.5–1.8 mm long), with glands near the tips
fruits:	pods (2.5–4.5 mm long), thin-walled, nearly glabrous, glandular; seeds 1
seeds:	kidney-shaped (1.5–2 mm long), brown, smooth

Habitat

White prairieclover grows on dry prairies, upland rangelands, and open woods in all types of soil. It is most common in the eastern two-thirds of the state.

Uses and Values

Forage. White prairieclover is palatable to all classes of livestock, and its high quality adds to the value of prairie hay. It decreases with continuous heavy grazing.

Poisoning. None.

Grassland Seeding. It can be added to grassland seedings because it helps to stabilize the soil and adds nitrogen. Commercial seeds are available, and they should be scarified and inoculated with the appropriate *Rhizobium* bacteria before planting.

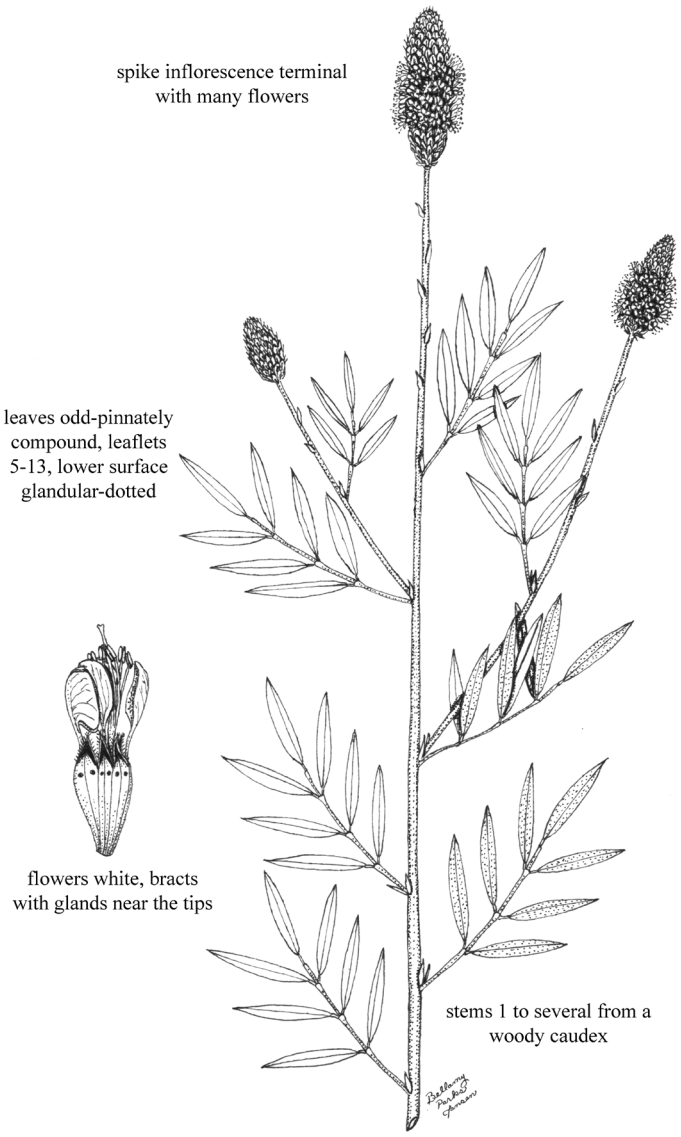
Prairie Restoration. White prairieclover should be planted on adapted sites in prairie restorations.

Wildlife. Deer, pronghorn, elk, bighorn sheep, and wild turkeys eat the foliage. Plains pocket gophers eat the taproots. Songbirds, upland gamebirds, and small mammals consume the seeds. The flowers attract many different types of bees, butterflies, and other insects.

Ornamental. White prairieclover is planted as an ornamental. It grows best in full sunlight.

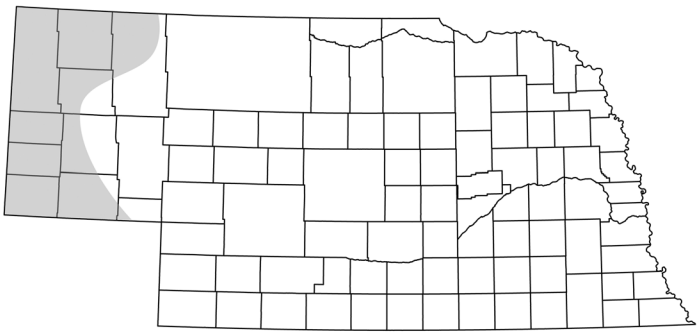
Other

Some Lakota chewed the roots for their pleasant taste and made tea from the leaves. Other Native Americans on the Great Plains bruised the leaves and steeped them in water for application to fresh wounds. It was collected by Lewis and Clark in 1804 along the Missouri River near the current Cass-Otoe County line.



White prairieclover

Death camas



COMMON NAME:	Death camas (meadow deathcamas)
Species:	*Zigadenus venenosus* S. Watson
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	0.1–0.4 m (0.3–1.3 ft)

Vegetative Characteristics

stems:	erect, moderately stout, single, not branching, glabrous
leaves:	basal, simple, few; blades narrowly-linear (grasslike), flat to folded (to 30 cm long, 2–6 mm wide when folded); margins entire; sheathing the stem
underground:	bulb, fibrous roots

Inflorescence Characteristics

type:	raceme, dense; flowers several to many
flowers:	creamy-, greenish-, or yellowish-white, bell-shaped; segments (tepals) 6 in 2 whorls; inner segments clawed; outer segments ovate (4–6 mm long); pedicels 5–20 mm long
fruits:	capsules (6–16 mm long); lobes 3; seeds several
seeds:	light to dark brown (3–6 mm long), rough

Habitat

Death camas grows on dry rangelands to moist prairies and open ponderosa pine woodlands.

Uses and Values

Forage. Death camas has no forage value and increases with improper grazing.

Poisoning. Death camas is highly poisonous to livestock, especially sheep. All parts of the plant are poisonous containing an alkaloid (zigadenine) that is more poisonous than strychnine. Livestock poisoning usually occurs in the early spring before desirable forage is abundant.

Grassland Seeding. It is not used in grassland seedings.

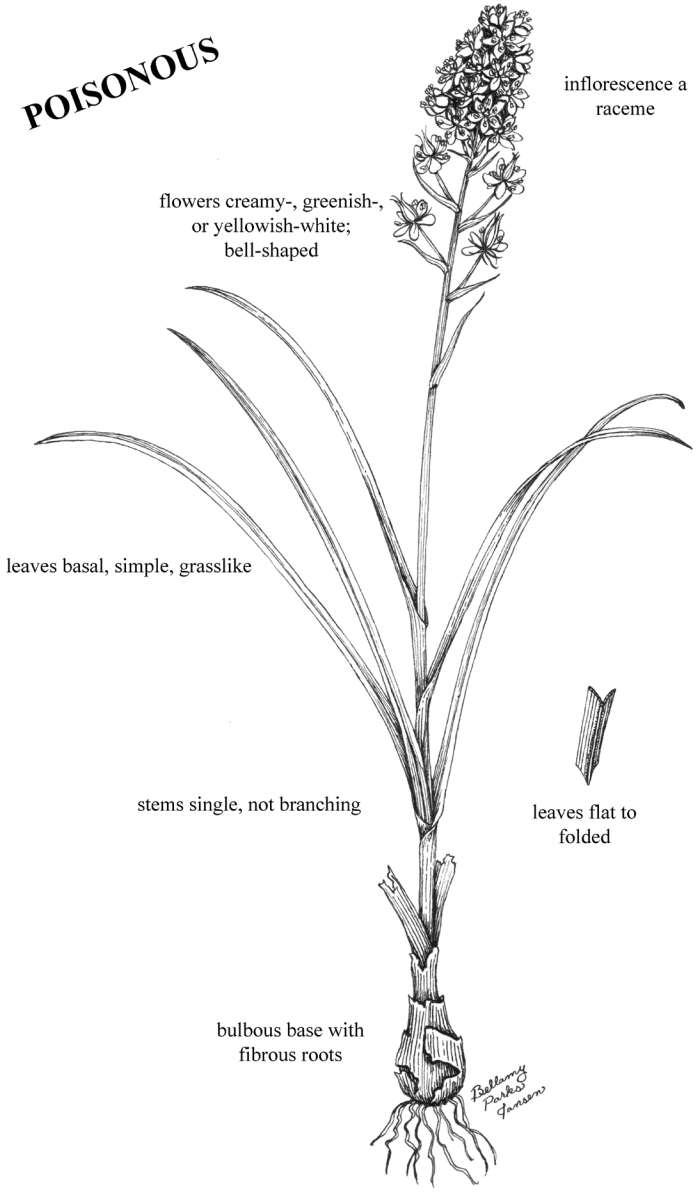
Prairie Restoration. Death camas is rarely included in prairie restorations.

Wildlife. It has little value for wildlife.

Ornamental. It is infrequently grown because it is highly poisonous.

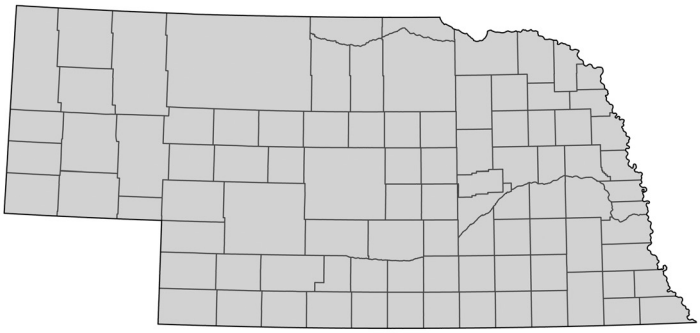
Other

Humans have become ill and died eating death camas when they thought that they were eating wild onions (*Allium* species). Wild onions have tubular leaves and a characteristic onion odor, while death camas has grasslike leaves and are odorless. Some Native Americans beat the bulbs into a pulp and applied it as a wet dressing to sprains and bruises.



Death camas

Dotted gayfeather



COMMON NAME:	**Dotted grayfeather (blazing star, button snakeroot)**
Species:	*Liatris punctata* Hook.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to October
Height:	0.1–0.8 m (0.3–2.6 ft)

Vegetative Characteristics

stems:	erect to decumbent or ascending, single to clustered; green-striate, glabrous
leaves:	alternate, simple; blades linear (3.5–15 cm long, 1.5–6 mm wide), becoming smaller above, numerous, ascending to spreading, overlapping; margins entire, ciliate; surfaces punctate, glabrous; sessile
underground:	caudex, woody, cormlike, bulbous; subtended by a taproot with lateral roots; rarely rhizomatous

Inflorescence Characteristics

type:	spikelike (6–30 cm long); heads few to numerous; heads cylindrical to bell-shaped (1.5–2 cm tall, 8–10 mm wide), disk florets 3–7; involucre with 3–4 series of bracts (7–10 mm tall), thick, punctate, margins ciliate
flowers:	rose to purple (rarely white) corolla (1–1.7 cm long), pilose
fruits:	achenes (6–7 mm long), 10-ribbed, pubescent; pappus plumose (9–11 mm long), exceeding the corolla; seeds 1
seeds:	small, somewhat cylindrical

Habitat

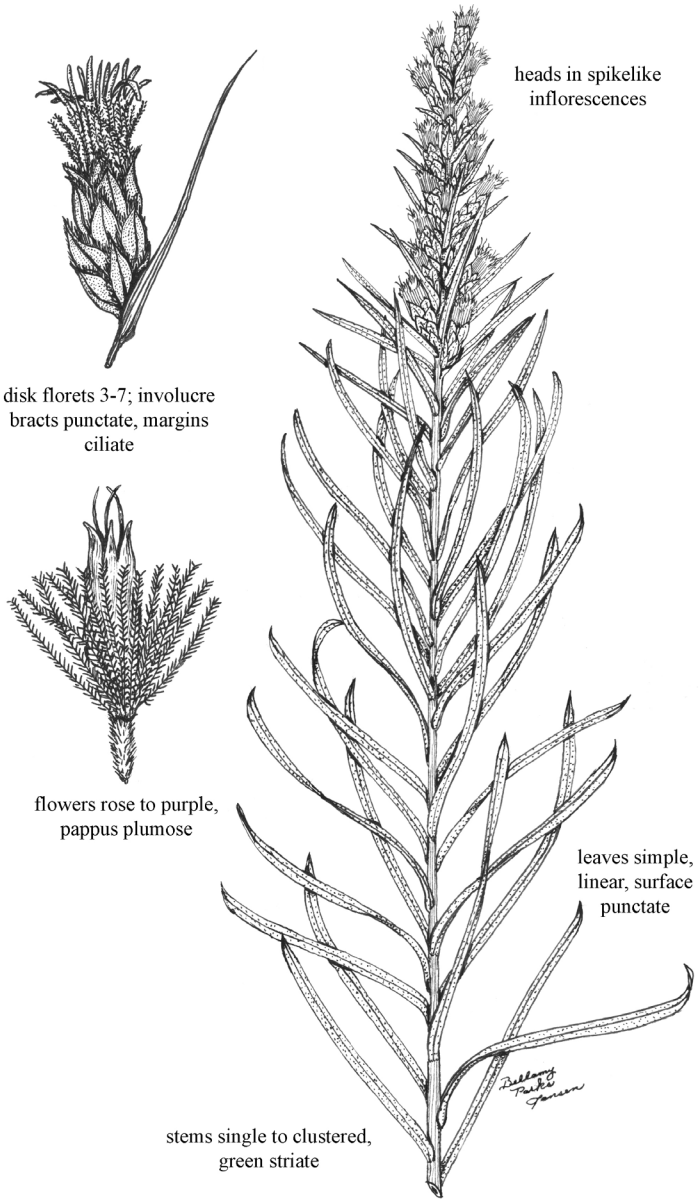
Dotted gayfeather especially grows in dry, upland soils of prairies and rangelands. It is most abundant in sandy soils and is common in the Sandhills.

Uses and Values

Forage. Dotted gayfeather is readily eaten by livestock, especially sheep. Forage quality is fair to good, depending upon stage of maturity with the youngest plants having the highest quality forage. It decreases with continuous heavy grazing.

Poisoning. None.

Grassland Seeding. Dotted gayfeather is rarely included in grassland seedings.



Dotted gayfeather

Prairie Restoration. It is an important component of prairie restoration mixtures.

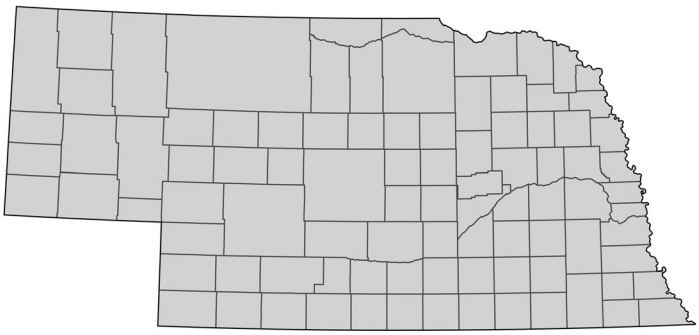
Wildlife. Deer, pronghorn, bighorn sheep, and elk eat dotted gayfeather. Its flowers attract butterflies and bees.

Ornamental. Dotted gayfeather is suitable for xeriscaping. It can be grown alone or in mixtures of wildflowers in full sun or light shade on well-drained soils. It can be started from seeds or the cormlike rootstock can be divided in either spring or autumn. It is sometimes used in fresh flower arrangements. The bright colors of dotted gayfeather remain after drying, making it useful in dry flower arrangements. Dotted gayfeather is one of six *Liatris* species native to Nebraska. All six species are readily available from nurseries.

Other

Foliage of dotted gayfeather contains a diuretic, and it was used by some Native Americans in the Great Plains to treat diarrhea. They also mixed the cormlike rootstocks with corn and fed it to their horses to make them run faster. The rootstocks were eaten by some Native Americans to improve their appetites.

False boneset



COMMON NAME:	False boneset
Species:	*Brickellia eupatorioides* (L.) Shinners [= *Kuhnia eupatorioides* L.]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to September
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect, 1 to several arising from a caudex; grayish-green, pubescent to glabrous
leaves:	alternate, simple; cauline blades lanceolate to linear (3–6 cm long, 8–20 mm wide), numerous; margins entire to irregularly toothed; lower surface glandular-dotted, venation prominent; both surfaces rough pubescent; short-petiolate
underground:	taproot, caudex branching, sometimes with short rhizomes

Inflorescence Characteristics

type:	corymblike clusters, terminal; heads numerous; discoid; involucre with 4 series of bracts (7–14 mm tall); outer bracts acute to acuminate; florets 5–35
flowers:	white to yellowish-white (rarely rust-colored) corolla (4.5–6 mm long), lobes 5
fruits:	achenes (4.5–5 mm long), 10-ribbed; pappus dull, white, plumose (4–8 mm long); seeds 1
seeds:	small, nearly cylindrical

Habitat

False boneset is common in all types of soil, but it is most abundant in dry sandy soils of rangelands, prairies, and roadsides.

Uses and Values

Forage. False boneset is not a major species and may increase with heavy to moderate grazing pressure, but it never attains a dominant presence. Forage value for domestic livestock is fair early in the growing season, however, it quickly declines to poor. Late in the season, it is eaten only when other forage is not available.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

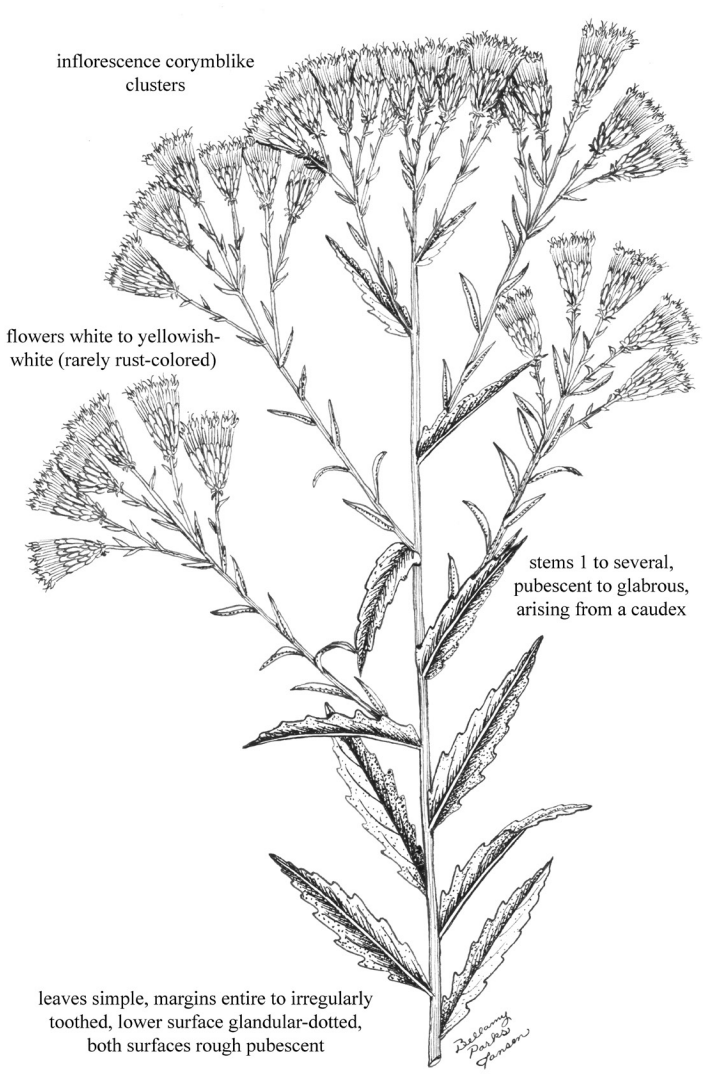
Prairie Restoration. False boneset may be added to prairie restorations to increase the plant diversity.

Wildlife. Pronghorn and deer occasionally eat the flowers, and it attracts bees, wasps, and butterflies.

Ornamental. False boneset flowers are not especially showy, but it can be used to add texture to the landscape. Commercial seed is available, and it does not spread aggressively. It should be planted in full sun to partial shade. Dried inflorescences are sometimes used in autumn flower arrangements.

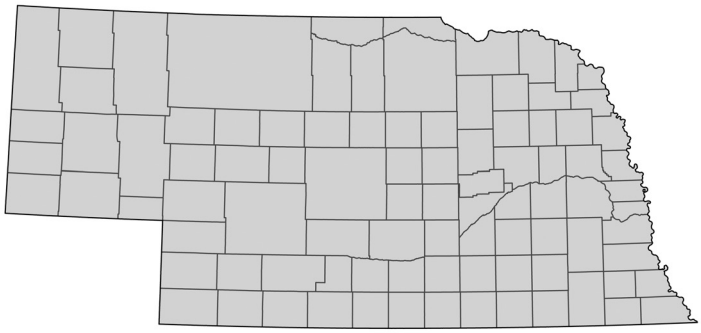
Other

Some Native Americans applied a poultice of false boneset leaves to the affected areas to reduce swelling. Pioneers made a tea to induce perspiration and as a bitter tonic for the stomach.



False bonset

Canada goldenrod



COMMON NAME:	Canada goldenrod
Species:	*Solidago canadensis* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	August to October
Height:	1–1.5 m (3.3–4.9 ft)

Vegetative Characteristics

stems:	erect to ascending, rigid, single or in clusters, usually unbranched below, minutely hairy on the upper one-half
leaves:	alternate, simple, oblanceolate (5–15 cm long, 6–14 mm wide), little reduced upward, entire to sharply serrate nearly to the base, scabrous above, pubescent beneath, 3 prominent veins beneath; veins nearly parallel
underground:	rhizomes, strong, forming colonies

Inflorescence Characteristics

type:	paniclelike or racemelike, often conical; heads secund on spreading to recurved branches; heads small; bracts 1-veined; ray florets 10–17
flowers:	yellow ray florets, pistillate, ligules usually less than twice the length of the bracts; yellow disk flowers, perfect
fruits:	achenes, terete to angular, pubescent; pappus bristles capillary, white
seeds:	small

Habitat

Canada goldenrod grows on dry to moist prairies, rangelands, meadows, and woodlands. It grows on all types of soil.

Uses and Values

Forage. Canada goldenrod is lightly grazed by cattle, sheep, and horses. Its palatability is relatively low.

Poisoning. A rust fungus on the leaves has been reported in Illinois to poison livestock in the autumn.

Grassland Seeding. It is rarely used in grassland seedings.

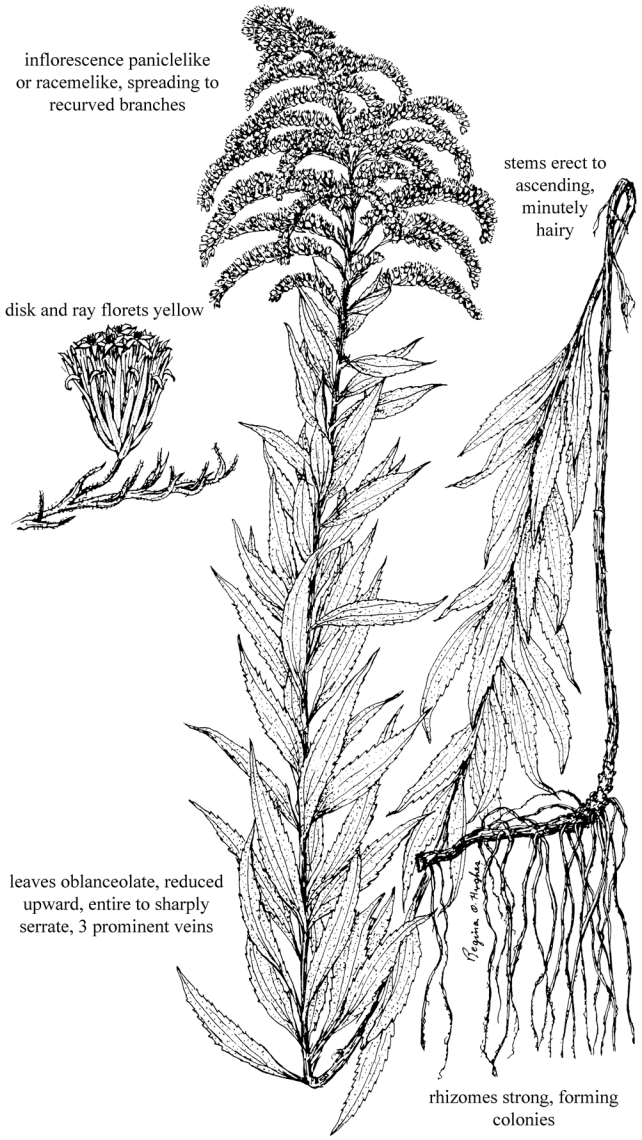
Prairie Restoration. Commercial seed is available, and a small amount could be added to restorations to increase diversity.

Wildlife. Canada goldenrod pollen is important for honey production. It provides food and cover for deer. Birds and small mammals eat the seeds.

Ornamental. It is not used as an ornamental because it spreads rapidly.

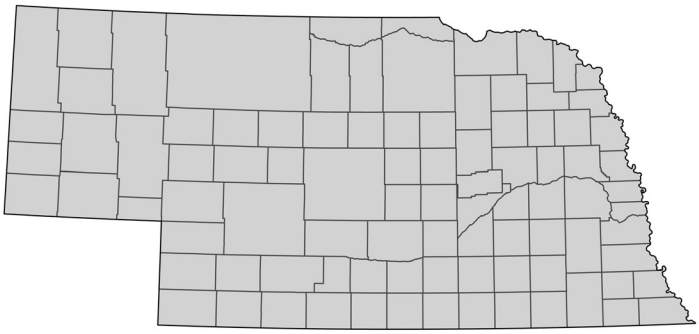
Other

Late goldenrod (*Solidago gigantea* Aiton) is similar in appearance but more robust and larger. It grows throughout Nebraska. Late goldenrod was declared the Nebraska State Flower by legislative action and signed into law by Governor Silas A. Holcomb on April 4, 1895.



Canada goldenrod

Prairie goldenrod



COMMON NAME:	**Prairie goldenrod (Missouri goldenrod)**
Species:	*Solidago missouriensis* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to October
Height:	0.2–1 m (0.6–3.3 ft)

Vegetative Characteristics

stems:	ascending, arising singly or clustered; glabrous; sometimes forming dense colonies
leaves:	alternate, simple; blades oblanceolate to linear, lower leaves largest, gradually reduced in size upwards; margins entire or slightly toothed; surfaces glabrous; 3 prominent veins on the lower surface
underground:	rhizomes or a spreading caudex

Inflorescence Characteristics

type:	paniclelike with recurved branches, generally 1-sided; ray florets 7–13; disk florets 8–18; involucre bracts in several series (3–5 mm tall); bracts pointed to obtuse
flowers:	yellow ray and disk florets
fruits:	achenes (1–2 mm long), glabrous or sparsely pubescent; seeds 1
seeds:	small

Habitat

Prairie goldenrod is found on prairies, rangelands, roadsides, and open wooded areas in all types of soil.

Uses and Values

Forage. Prairie goldenrod provides poor forage for cattle and sheep, but it may be lightly grazed in early spring and summer. It increases on heavily grazed rangeland.

Poisoning. Some reports indicate that it is occasionally toxic to sheep. Contrary to popular belief, prairie goldenrod causes little hay fever in humans. Because of the shape of the pollen, it is moved by the wind for only short distances.

Grassland Seeding. It is not included in grassland seeding mixtures.

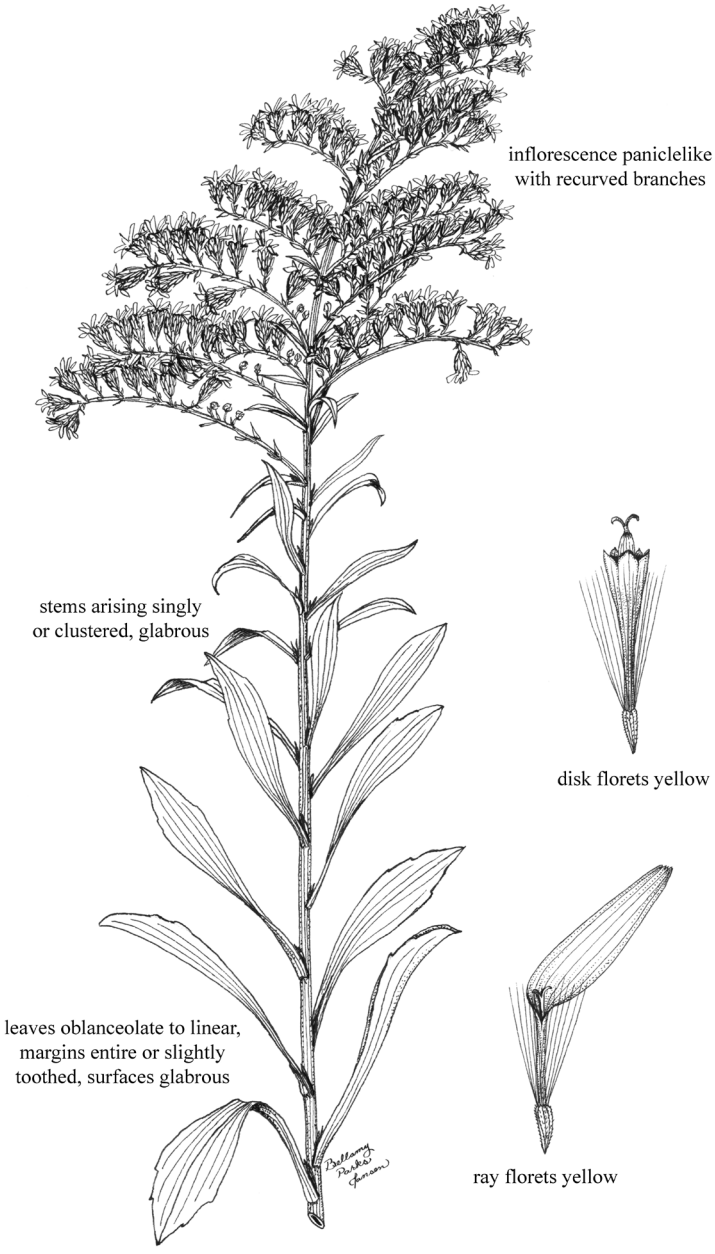
Prairie Restoration. Prairie goldenrod should be included in prairie restorations. It provides color in late summer and early autumn. Stratification improves germination.

Wildlife. It is lightly grazed by deer and pronghorn and attracts bees, butterflies, ladybugs, and lacewings.

Ornamental. Prairie goldenrod may be started from seeds or divisions and grown in mixtures of wildflowers. It grows best in full sun to semi-shade and in well-drained soils. It is slow to spread from seeds and spreads moderately by rhizomes.

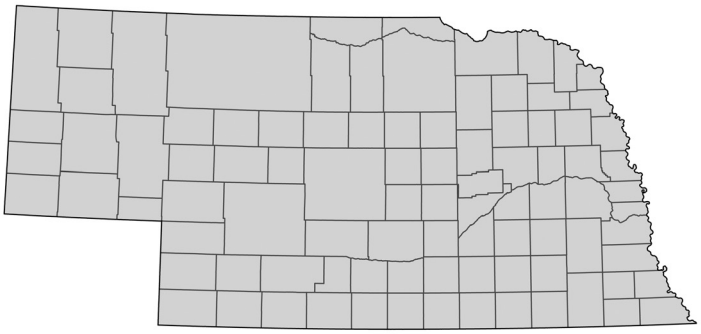
Other

Some Native Americans chewed leaves and flowers to relieve sore throats, and roots were chewed to relieve toothache. Mustard, orange, and brown dyes were extracted from the plants.



Prairie goldenrod

Stiff goldenrod



COMMON NAME:	**Stiff goldenrod (rigid goldenrod)**
Species:	*Oligoneuron rigidum* (L.) Small [= *Solidago rigida* L.]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	August to October
Height:	0.2–1 m (0.6–3.3 ft)

Vegetative Characteristics

stems:	erect to ascending, 1–3, rigid; usually simple up to the inflorescence
leaves:	alternate, simple; blades elliptic to oblong or lanceolate to broadly ovate (5–25 cm long, 2–10 cm wide), upper leaves reduced; lightly pubescent except on the veins and margins beneath; margins entire or serrulate; long petioles below, upper leaves sessile
underground:	rhizomes short

Inflorescence Characteristics

type:	corymblike, flat-topped to rounded; heads (6–10 mm in diameter) numerous, crowded; ray florets 4–17; disk florets 10–33; involucre 5–9 mm tall; bracts overlapping, striate
flowers:	yellow to gold ray florets; ligule 2–4 mm long; yellow to gold disk florets
fruits:	achenes, plump, ribbed, glabrous or with a few short hairs; seeds 1
seeds:	small

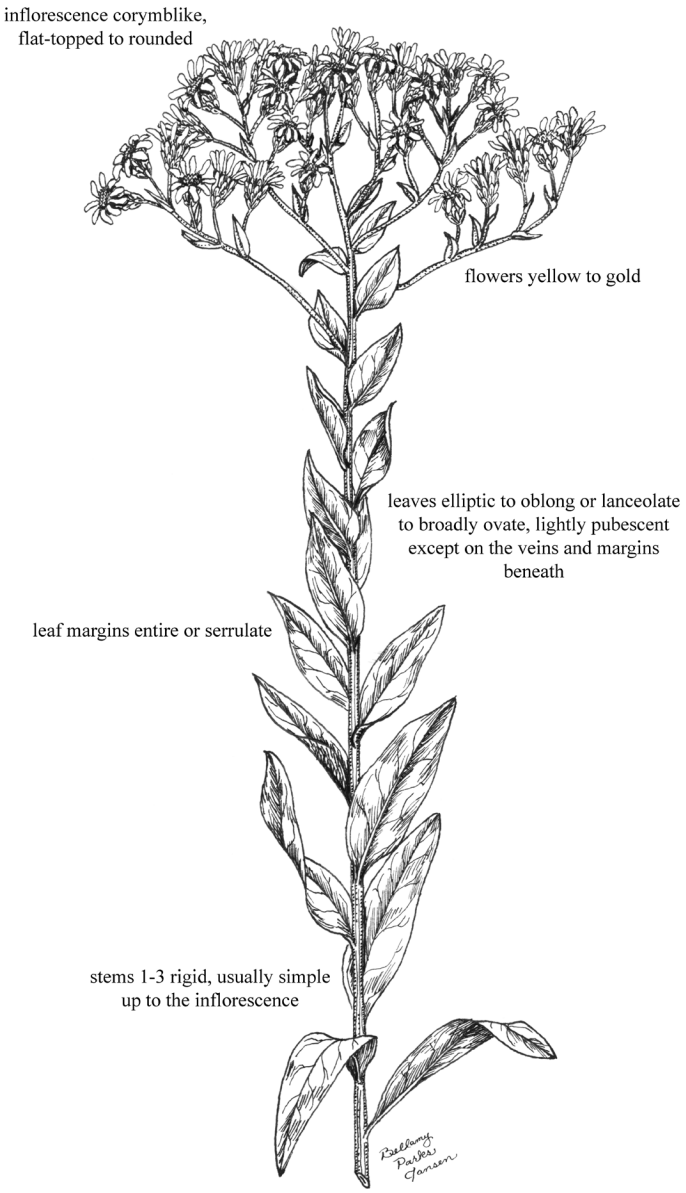
Habitat

Stiff goldenrod is found in most of Nebraska, but it is uncommon in the southwest part of the state and the southern Panhandle. It grows on rangelands and prairies in all types of soil. It is especially abundant in dry soils.

Uses and Values

Forage. Stiff goldenrod is rated as poor to fair forage for cattle. It is more palatable than other goldenrods and is frequently eaten in the early stages of growth. It increases with continuous heavy grazing.

Poisoning. None.



Stiff goldenrod

Grassland Seeding. Stiff goldenrod is rarely used in grassland seeding mixtures.

Prairie Restoration. It should be added to prairie restorations to increase diversity.

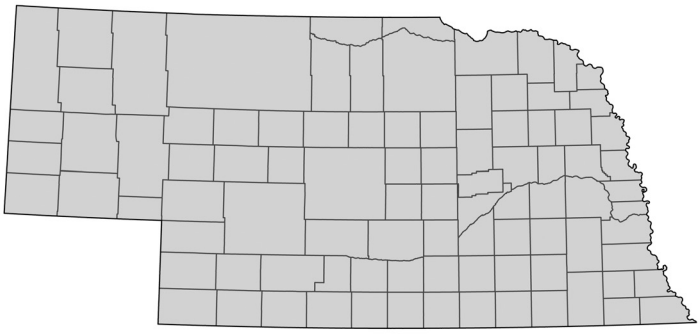
Wildlife. It provides fair to good forage for deer and pronghorn. Birds and small mammals eat the fruits. It attracts ladybugs and lacewings. Stiff goldenrod is a nectar source for a wide range of beneficial insects.

Ornamental. It can be planted in cultivated beds for cut flowers. The inflorescences make attractive additions to dried flower arrangements. Stiff sunflower should be planted in full sun to light shade. It grows best in wet mesic to dry sites and is easy to grow.

Other

Some Lakota used the flowers and leaves to make tea. Young leaves were used as a pot herb.

Cleft gromwell



COMMON NAME:	**Cleft gromwell (fringed puccoon, narrowleaf gromwell, narrowleaf puccoon)**
Species:	*Lithospermum incisum* Lehm.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	April to June
Height:	0.1–0.4 m (0.3–1.3 ft)

Vegetative Characteristics

stems:	erect, few to several, branched above; strigose or hirsute
leaves:	alternate, simple; basal leaves spatulate, deciduous by flowering; stem leaves linear to lanceolate (1.3–4.5 cm long, 4–10 mm wide); margins entire, somewhat rolled; surfaces with strigose pubescence; 1 vein evident; sessile
underground:	taproot, thick, woody

Inflorescence Characteristics

type:	racemelike; flowers crowded, borne in the axils of upper leaves
flowers:	bright or pale yellow to orange or yellowish-green corolla (about 1.5 cm in diameter); lobes erose to fringed; tubes (2–3 cm long) exceeding the calyx; later flowers cleistogamous, corollas may be present (2–6 mm long) or absent
fruits:	nutlets, more or less ovoid (3–4 mm long), white to buff, keeled, glossy, usually pitted, constricted at the base; seeds 1
seeds:	small, enclosed in the nutlet

Habitat

Cleft gromwell grows on rangelands, dry prairies, open woods, and disturbed sites in all types of soils. It can be especially abundant on sandy soils.

Uses and Values

Forage. Cleft gromwell has little or no forage value for livestock. It increases with repeated heavy grazing on rangeland.

Poisoning. None.

Grassland Seeding. It is not included in grassland seeding mixtures.

Prairie Restoration. Cleft gromwell should be included in prairie restorations on appropriate sites because of its bright colors and to add to the diversity of the restoration.

Wildlife. Deer, pronghorn, bighorn sheep, and elk eat the foliage of cleft gromwell. The seeds are an important food source for upland birds, songbirds, and small mammals. The flowers attract butterflies and other insects.

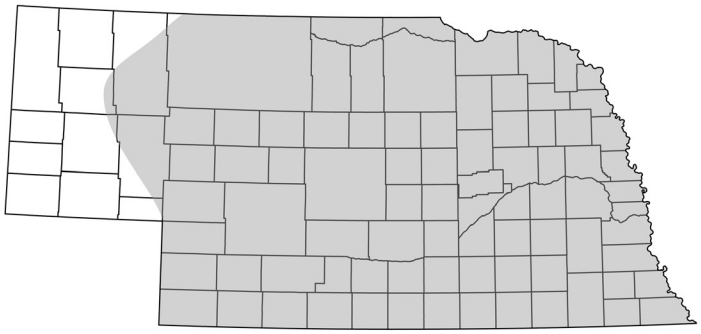
Ornamental. Cleft gromwell can add distinctive color to cultivated beds in mixtures with other wildflowers or by itself. 'Pawnee' is a cultivar that was released by the University of Nebraska. It should be planted in full sun to light shade, and it is suitable for xeriscaping. This species is a short-lived perennial that reseeds itself.

Other

Native Americans extracted a blue or violet dye from the outer surface of the roots, and the flowers were used to make a yellow dye. Nutlets were used as beads. A tea was made from the roots, and the roots were chewed as a treatment for colds.

Cleft gromwell

Plains puccoon



COMMON NAME:	**Plains puccoon (gromwell, puccoon, Carolina puccoon)**
Species:	*Lithospermum caroliniense* (J.F. Gmel.) MacMill.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	0.2–0.5 m (0.6–1.6 ft)

Vegetative Characteristics

stems:	erect to ascending, few to many, simple to branched above, strigose, slightly grooved in the middle
leaves:	alternate, simple; blades crowded, linear to lanceolate (2–6 cm long, 3–12 mm wide); margins entire; both surfaces hirsute; 1 vein evident; sessile
underground:	taproot (20–45 cm long), thick, woody

Inflorescence Characteristics

type:	cyme, terminal
flowers:	bright yellow to orangish-yellow corolla, tubes (8–11 mm long) exceeding the calyx, lobes entire; calyx hairy
fruits:	nutlets, white (4 mm long), smooth, shiny, keeled, seeds 1
seeds:	small, enclosed in nutlet

Habitat

Plains puccoon is most abundant in the Sandhills on rangelands or open sandy prairies.

Uses and Values

Forage. Forage value of plains puccoon is poor for most types of livestock, although it is occasionally eaten by sheep. It increases with continued heavy grazing.

Poisoning. None.

Grassland Seeding. Plains puccoon is not used in grassland seedings.

Prairie Restoration. It is important in prairie restorations on sandy sites.

Wildlife. Deer, pronghorn, and elk eat the foliage of plains puccoon. The seeds are an important food source for upland birds, songbirds, and small mammals. The flowers attract butterflies and other insects.

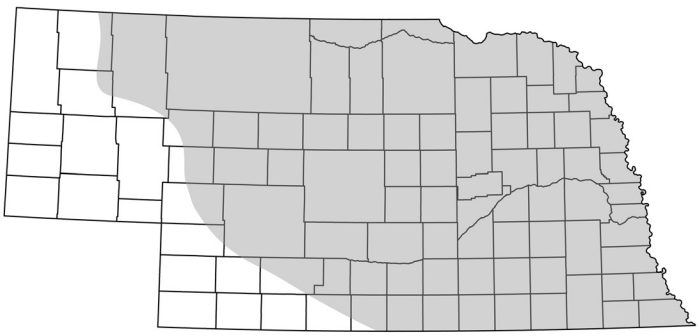
Ornamental. The many bright yellow flowers make plains puccoon an attractive plant in the landscape. It can be started from seeds and should be planted in late spring or early summer in full sun to light shade in well-drained soil.

Other

Puccoon is the Omaha-Ponca name for this species. The flowers were used to make a yellow dye, and the roots were pulverized to make a reddish-purple dye.

Plains puccoon

Clammy groundcherry



COMMON NAME:	Clammy groundcherry
Species:	*Physalis heterophylla* Nees
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to October
Height:	0.1–0.9 m (0.3–3 ft)

Vegetative Characteristics

stems:	erect, simple or branched, pubescent; hairs short- to long-glandular
leaves:	alternate, simple; blades ovate to rhombic, usually less than 2-times as long as wide (5–10 cm long, 3.5–6 cm wide); margins entire to dentate, rounded at the base; both surfaces pubescent, hairs short- to long-glandular; petiolate
underground:	deep caudex; rhizomes

Inflorescence Characteristics

type:	single flowers, axillary, flowers nodding
flowers:	yellow corolla tinged with blue or violet (3–4.5 mm long); calyx tube longer than wide (3–6 mm long), pubescent; hairs short- to long-glandular; lobes 5; lobes papery (4–6 mm long); pedicellate (3–20 mm long)
fruits:	berries, globose (1–1.2 cm in diameter), fleshy, yellow; enclosed in the ovoid calyx; seeds many
seeds:	ovate to elliptic (2–2.5 mm long), yellowish-white, pitted

Habitat

Clammy groundcherry grows on rangelands, prairies, woodlands, fields, roadsides, and disturbed sites. It is most abundant in the Sandhills.

Uses and Values

Forage. Clammy groundcherry has little or no forage value for livestock and increases on rangeland with improper grazing.

Poisoning. It has the potential to poison, but it has not been reported to cause livestock losses. Before ripening, the fruits may poison humans if eaten in sufficient quantity.

Grassland Seeding. Clammy groundcherry is not used in grassland seedings.

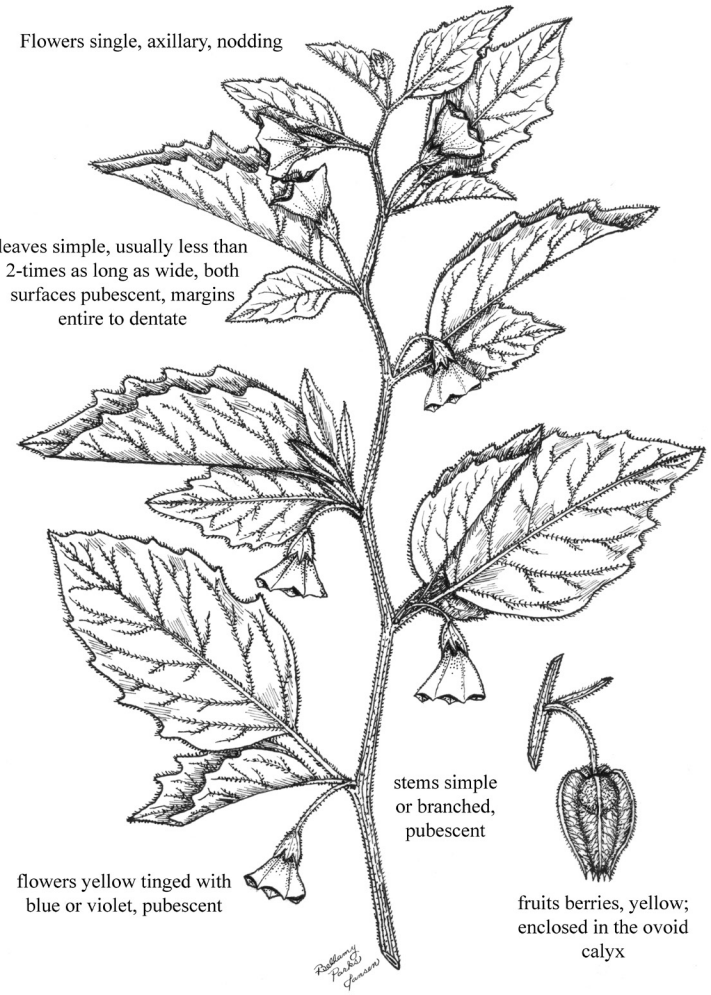
Prairie Restoration. It usually appears in restorations without being planted.

Wildlife. It may be lightly grazed by big game, but its seeds are an important source of food for sharp-tailed grouse, prairie chickens, and other birds.

Ornamental. The inflated, papery calyx resembles a Japanese lantern and is occasionally used in both fresh and dried floral arrangements. This plant usually is considered to be a weed. Seeds are occasionally available through seed exchanges.

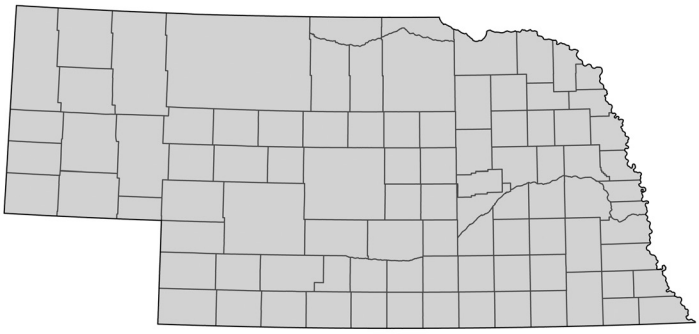
Other

The ripe fruits of this species are edible. Native Americans made them into a sauce, and early pioneers used them in pies, jams, and preserves. Care had to be exercised in obtaining only the ripe fruits (those yellow in color). Some Native Americans made a tea from the roots for headaches, and a tea was made from the leaves to use as a wash for burns and scalds. The seeds were ground into a meal and added to flour used in bread. The Lakota ate 3–5 ripe fruits to stimulate their appetite.



Clammy groundcherry

Common groundcherry



COMMON NAME:	Common groundcherry
Species:	*Physalis longifolia* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to September
Height:	0.3–0.6 m (1–2 ft)

Vegetative Characteristics

stems:	erect; branches ascending, often purplish to reddish, hirsute with short antrorse to spreading hairs
leaves:	alternate, simple; blades linear to lanceolate (2–5 cm long), usually greater than 3-times as long as wide, narrowing to the base; margins entire or toothed; glabrous or veins sometimes pubescent; petioles 3–20 mm long
underground:	deep caudex, rhizomes

Inflorescence Characteristics

type:	single flowers, axillary
flowers:	yellow corolla, dark spotted at throat, funnel-shaped; calyx tube 3–6 mm long, calyx longer than wide, not sunken at the base, strigose on veins, glabrous lobes 5, papery, conical; pedicellate
fruits:	berries (1–1.5 cm in diameter), globose; enclosed in the calyx; between veins; seeds many
seeds:	ovate to elliptic (1.7–2.2 mm long), yellow, pitted

Habitat

Common groundcherry grows in rangelands, pastures, open woodland, roadsides, and disturbed sites in all soil types. It is most abundant in the eastern one-half of the state.

Uses and Values

Forage. Common groundcherry has little or no forage value for livestock, and it increases on rangeland with improper grazing.

Poisoning. Common groundcherry fruits are poisonous when green and are suspected to cause poisoning of sheep. They are not poisonous when they are ripe.

Grassland Seeding. It is not used in grassland seedings.

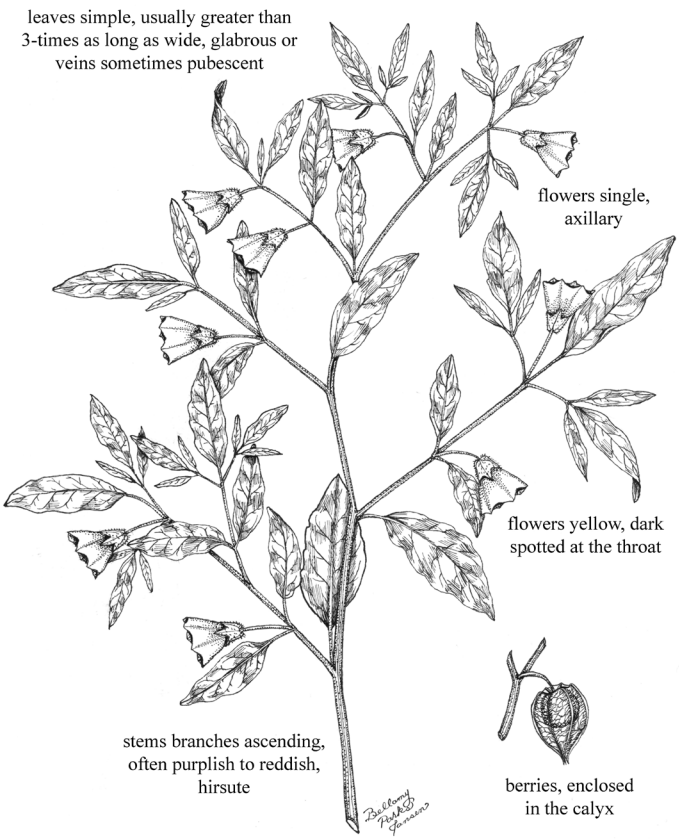
Prairie Restoration. It usually appears in restorations without being planted.

Wildlife. Common groundcherry is grazed by deer. Its fruits and seeds are important for prairie chickens and other ground-foraging birds. It attracts butterflies and bees.

Ornamental. The inflated, papery calyx resembles a Japanese lantern and is occasionally used in both fresh and dried floral arrangements. This plant typically is considered to be a weed.

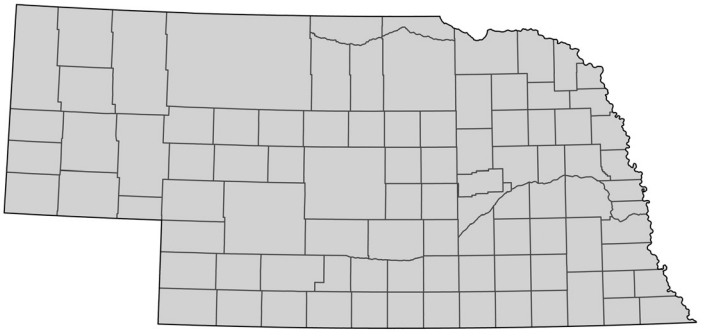
Other

Some Native American ate groundcherries either cooked or raw after they ripen and changed color to deep purple to black. They were sometimes used as a poultice for snakebites. A tea prepared from the whole plant was said to cure dropsy and dizziness.



Common groundcherry

Prairie groundsel



COMMON NAME:	**Prairie groundsel (prairie ragwort)**
Species:	*Senecio plattensis* Nutt. [= *Packera plattensis* (Nutt.) W.A. Weber & Á. Löve]
Growth Form:	Forb
Life Span:	Perennial (occasionally biennial)
Origin:	Native
Flowering:	May to June
Height:	0.2–0.7 m (0.6–2.3 ft)

Vegetative Characteristics

stems:	erect, single (rarely 2–5), often bear loose patterns of cottonlike hair
leaves:	alternate, simple; basal leaves elliptic or ovate to oblanceolate (2–7 cm long, 1–3 cm wide), margins pinnatifid to serrate, terminal lobe largest; stem leaves progressively smaller upward; lower and middle leaves pinnatifid; upper leaves irregularly-dissected; both surfaces pubescent, sessile
underground:	taproot, short

Inflorescence Characteristics

type:	corymblike, heads 5–20; involucre with 1 series of bracts; bracts 13–21 (4–6 mm long), tips acuminate; ray florets 8–15 (6–11 mm long, 2–3 mm wide); disk to 8 mm in diameter; florets tubular, 5-lobed
flowers:	yellow to orange ray florets and disk florets
fruits:	achenes nearly terete, pappus of barbed capillary bristles (to 5 mm long); seeds 1
seeds:	small

Habitat

Prairie groundsel grows on dry rangelands, prairies, and roadsides in all types of soil. It is uncommon in southwestern Nebraska.

Prairie groundsel

Uses and Values

Forage. Its forage value is rated as fair for livestock, and it increases with heavy grazing.

Poisoning. Prairie groundsel has the potential to poison cattle and sheep to a lesser extent. It grows early and may be one of the few green plants in the early season, but it is seldom abundant enough to be a problem.

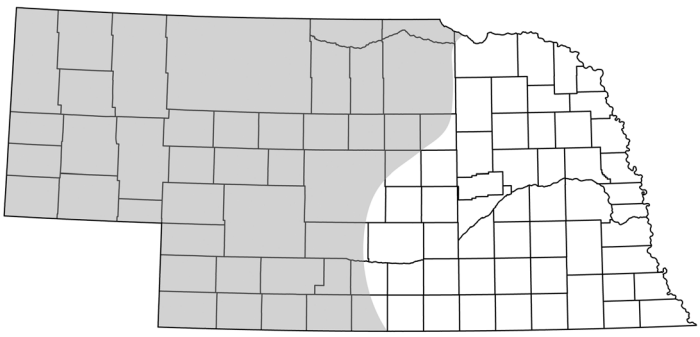
Grassland Seeding. It is not included in grassland seeding mixtures.

Prairie Restoration. Low densities of prairie groundsel could be added to restorations to increase diversity and add early color to the vegetation.

Wildlife. It is grazed only occasionally by big game. Bees and butterflies are attracted to the flowers.

Ornamental. Prairie groundsel is sometimes grown in mixtures of wildflowers. It should be planted in full to partial sun in well-drained soils. It is drought tolerant and combines well in plantings with lupines.

Riddell groundsel



COMMON NAME:	**Riddell groundsel (Riddell ragwort)**
Species:	*Senecio riddellii* Torr. & A. Gray [= *Senecio spartioides* Torr. & A. Gray]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	August to October
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	ascending, numerous, from a woody base, unbranched below, glabrous
leaves:	alternate, simple; blades pinnately divided into linear filiform segments (4–10 cm long, 1–5 mm wide), reduced upward; segment margins entire; surfaces glabrous
underground:	taproot

Inflorescence Characteristics

type:	corymblike, heads 5 to 22; involucre with 1 series of bracts (7–12 mm long); ray florets 7–9 (8–15 mm long), ligule often drying and falling early; disk florets tubular, 5-toothed
flowers:	yellow to orange or reddish-orange ray florets and disk florets
fruits:	achenes (4–5 mm long); gray, short-pubescent; seeds 1
seeds:	small

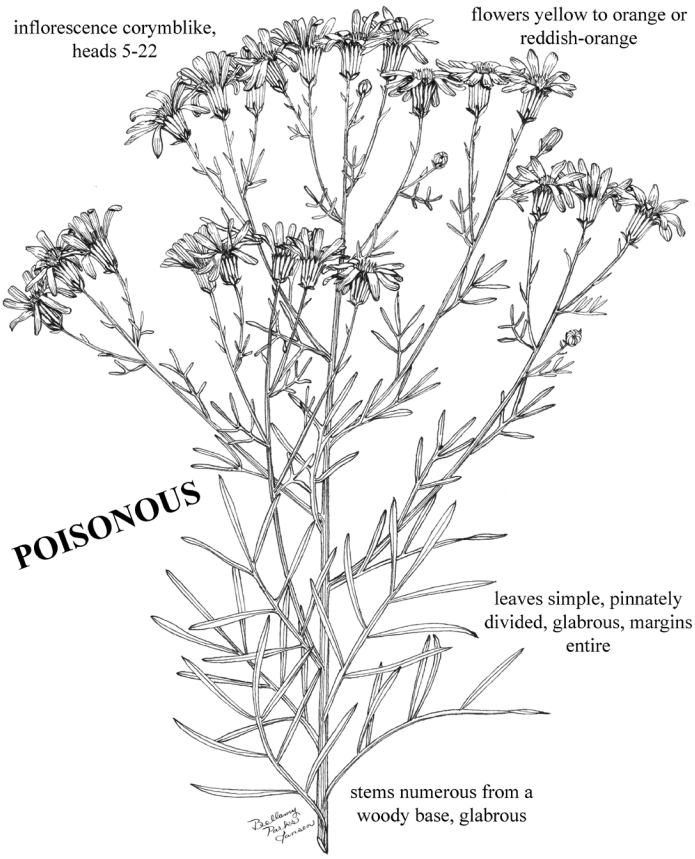
Habitat

Riddell groundsel grows on dry and open rangelands. It is common in the Sandhills.

Uses and Values

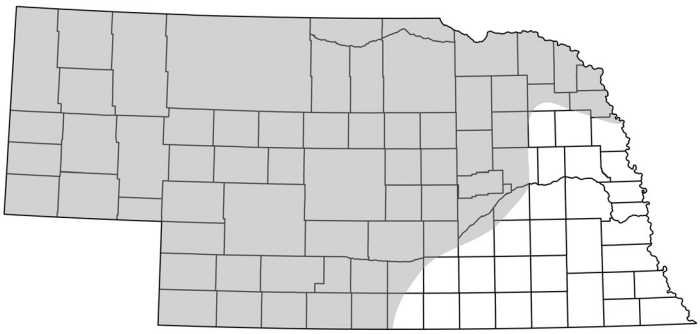
Forage. Riddell groundsel produces poor quality forage and increases with improper grazing.

Poisoning. Riddell groundsel is equally poisonous to cattle and horses. It is much less poisonous to sheep and goats. The poisonous substance is a pyrrolizidine alkaloid. Leaves are more toxic than stems, and young leaves are more toxic than older leaves. A time-lapse of up to six months usually occurs between consumption of the plant and the appearance of the first signs of poisoning which include standing apart from other animals, sluggishness, lack of appetite, and weight loss. The advanced stages of the disease are characterized by continuous walking and the sud-



Riddell groundsel

Hairy goldaster



COMMON NAME:	Hairy goldaster (goldaster, false goldenaster)
Species:	*Chrysopsis villosa* (Pursh) Nutt. *ex* DC. [= *Heterotheca villosa* (Pursh) Shinners]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to October
Height:	0.2–0.5 m (0.6–1.6 ft)

Vegetative Characteristics

stems:	erect to ascending, 1 to many, few- to several-branched upward, rough, hairy
leaves:	alternate, simple; middle leaves oblanceolate (1–5 cm long, 3–8 mm wide), lower leaves petiolate, upper sessile and reduced (linear); margins entire; surfaces long-hirsute, gray to green
underground:	taproot, occasionally with short rhizomes

Inflorescence Characteristics

type:	corymblike to paniclelike clusters; heads 3–30
flowers:	yellow ray florets (8–12 mm long), 10–30 per head; yellow disk florets (5–8 mm long), tubular, hairy; bracts in a series of 4–9, imbricate, hirsute, and with a conspicuous green stripe
fruits:	achenes of ray and disk florets alike, flattened; pappus in 2 series, 1 of bristles, 1 of scales; seeds 1
seeds:	small

den appearance of nervous disturbances. Poisoned animals may attack any moving object. Death is common. The defense against Riddell groundsel is to remove the plants from pastures and assure that adequate good forage is available. Due to the time-lapse, little can be done once the animal shows signs of poisoning. It is considered to be one of the most serious poisonous plants in Nebraska. Until it flowers in late summer, it is inconspicuous and seldom noticed.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. A few plants could be added to restorations if there are no plans to graze the area.

Wildlife. Riddell groundsel attracts bees and butterflies.

Ornamental. It is rarely used as an ornamental.

Habitat

Hairy goldaster grows in dry sandy or rocky soils of rangelands and prairies.

Uses and Values

Forage. Hairy goldaster is poor forage for cattle and fair for sheep. The leaves are harsh to the animals' mouths. It increases with grazing, and an abundance of these plants is considered an indication of rangeland deterioration.

Poisoning. None.

Grassland Seeding. Hairy goldaster is not used in grassland seedings.

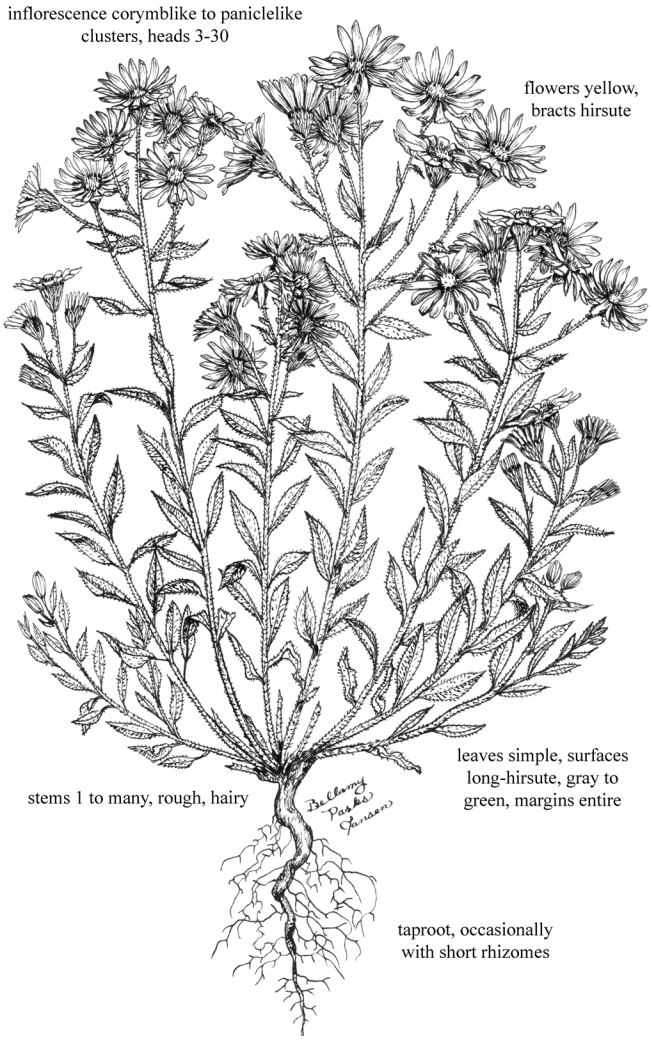
Prairie Restoration. It can be added to prairie restorations to increase plant diversity.

Wildlife. It produces fair forage for deer, elk, pronghorn, and bighorn sheep, and it attracts butterflies.

Ornamental. Hairy goldaster is drought tolerant and can be planted in rock gardens or in borders. It can be started from seeds or root divisions and should be planted in areas with well-drained soils that receive full sunlight.

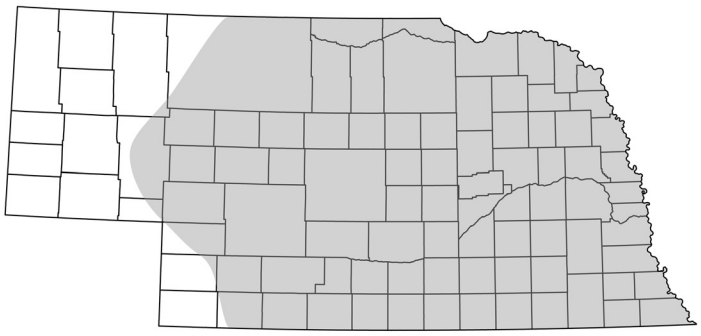
Other

A tea made from the flowers and stems was consumed by Native Americans to cure nervousness and to induce sleep. Three varieties of hairy goldaster have been described. Therefore, the appearance of individual plants may be variable.



Hairy goldaster

Heath aster



COMMON NAME:	**Heath aster (white aster, white heathaster)**
Species:	*Aster ericoides* L. [= *Symphyotrichum ericoides* (L.) G.L. Nesom]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	August to October
Height:	0.2–1 m (0.6–3.3 ft)

Vegetative Characteristics

stems:	erect to ascending or prostrate, slender, solitary or clustered, branched above; appressed hairs above
leaves:	alternate, simple; basal and stem leaves largely deciduous prior to flowering; persisting leaves linear to lanceolate (5–50 mm long, 1–5 mm wide), progressing into bracts; margins entire; surfaces rough, hairy; spinulose-tipped
underground:	rhizomes or a cormlike caudex, occasionally stoloniferous

Inflorescence Characteristics

type:	paniclelike, heads numerous (8–17 mm in diameter) on recurved branches, foliaceous; involucre (2.5–4.5 mm tall) bracts strongly imbricate, margins spinulose-tipped; ray florets 10–18; disk florets 14 or fewer
flowers:	white (to pinkish) ray florets (5–8 mm long); yellow disk florets
fruits:	achenes (1–2 mm long), purplish-brown, multi-ribbed, puberulent with a pappus of white bristles; seeds 1
seeds:	small, silky

Habitat

Heath aster grows on upland rangelands, prairies, pastures, and roadsides.

Uses and Values

Forage. Heath aster is eaten by livestock on a limited basis when it is young and tender, but forage quality is poor when it is mature. An abundance of heath aster in hay lowers the market value because of its low palatability. Heath aster increases with improper grazing on rangelands.

Poisoning. Members of this genus are known to be secondary selenium absorbers. Thus, this species should be viewed as a potential poisonous plant, but its low palatability minimizes this threat.

Establishment. Heath aster is not included in grassland seedings.

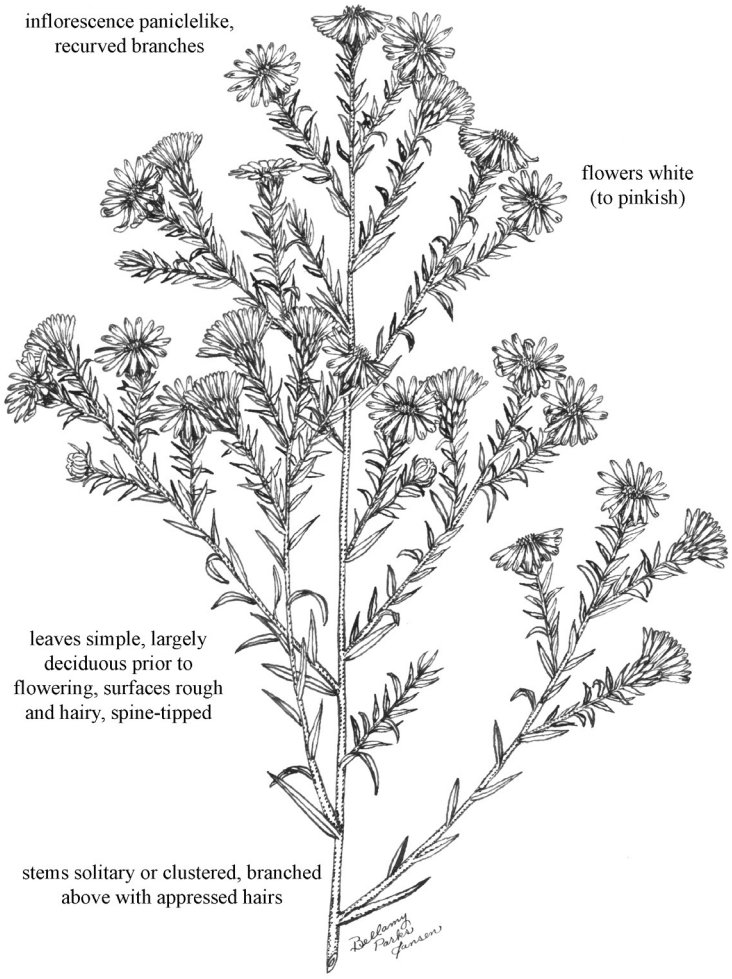
Restoration. It may be included in prairie restorations on a limited basis, but it can rapidly spread.

Wildlife. Heath aster is occasionally lightly grazed by deer, bighorn sheep, elk, and pronghorn. It attracts butterflies and other insects.

Ornamental. Heath aster can be used in borders, rock gardens and on other dry sites in full sun. It is a popular garden plant in Great Britain. It can be started from seeds or from root divisions in the spring or autumn.

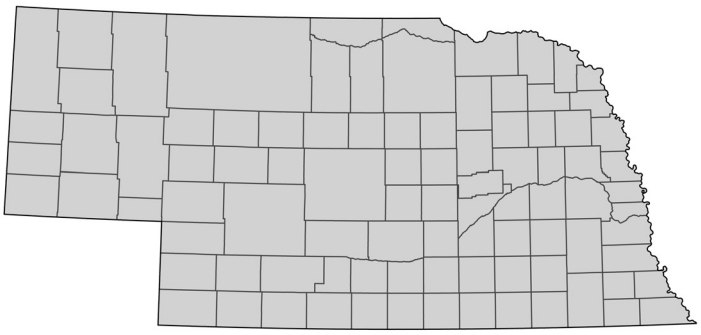
Other

Members of some tribes of Native Americans thought that the smoke from burning heath aster plants was helpful to revive persons who had fainted. Some brewed a tea from it for headaches.



Heath aster

Hemp dogbane



COMMON NAME:	**Hemp dogbane (dogbane, Indian hemp)**
Species:	*Apocynum cannabinum* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect, opposite branching on the upper half; surfaces reddish-brown, glabrous or nearly so; contain a white milky juice
leaves:	opposite, simple; blades lanceolate to ovate or oblong (2–15 cm long, 1–5 cm wide), tips sharply pointed to rounded; margins entire; surfaces covered with waxy substance, glabrous or nearly so above, may be sparsely hairy below; darker green above than below; short-petioled on the primary axis and nearly sessile on the branches
underground:	rhizomes, long, extensive

Inflorescence Characteristics

type:	cyme, terminal and axillary, dense
flowers:	greenish-white to white corolla; petals 5 (1–2 mm long, 1.5–2.5 mm wide), united; less than twice the length of the calyx; shaped like an urn
fruits:	follicles, straight or curved (5–20 cm long), divergent to pendulous; seeds many
seeds:	narrowly spindle-shaped (4–6 mm long), reddish-brown; tuft of silky hairs (coma), white to tan (1–4 cm long)

Habitat

Hemp dogbane grows in pastures, rangelands, open woods, fence rows, roadsides, cultivated fields, and waste areas. It prefers moist soils and is rarely found on dunes in the Sandhills. It spreads rapidly on abused rangelands.

Uses and Values

Forage. Hemp dogbane is unpalatable to livestock when green. Cattle will eat it in hay. Sheep will graze it more than cattle, particularly when other forages are unavailable.

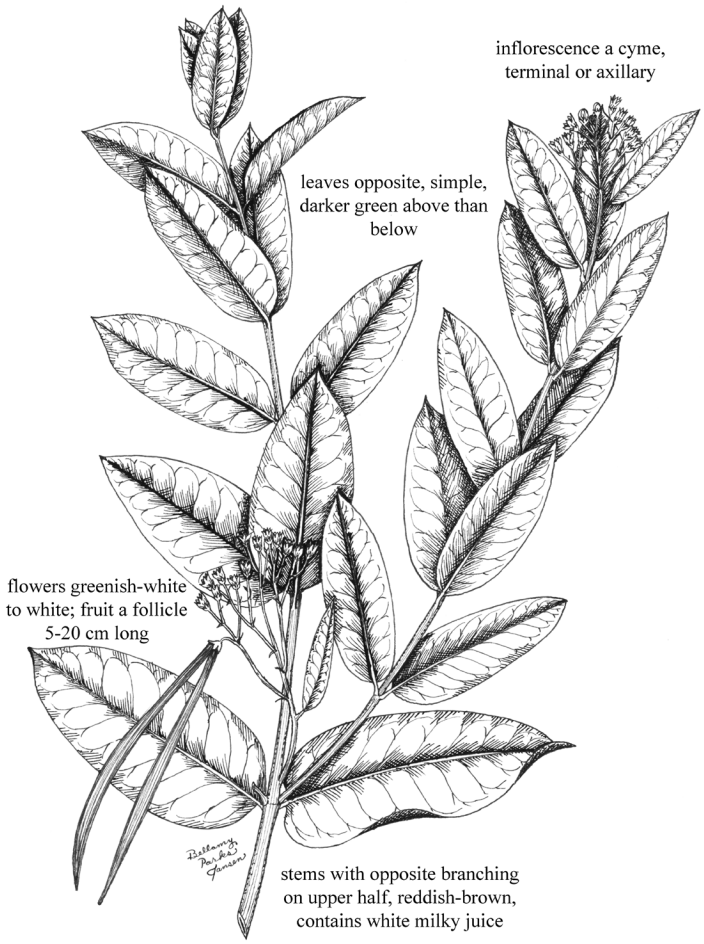
Poisoning. Poisonous to livestock, but they rarely eat it.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Hemp dogbane is not used in prairie restorations.

Wildlife. It attracts butterflies. Big game animals rarely graze the foliage.

Ornamental. It is not commonly used as an ornamental. It can spread rapidly from rhizomes.

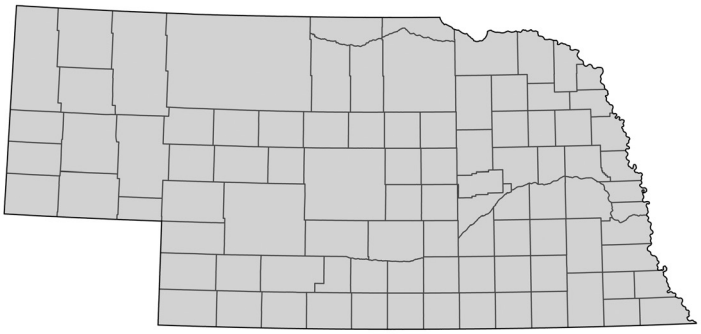


Hemp dogbane

Other

Some Native Americans removed fibers from the stems of hemp dogbane after rotting them under water. The fibers were used to make fishing line, ropes, and clothing. Hemp dogbane is one of the few prairie plants that have become an aggressive weed in cultivated crops, such as corn, in Nebraska. Likewise, it has become a serious weed in parts of Europe and Asia.

Hoary vervain



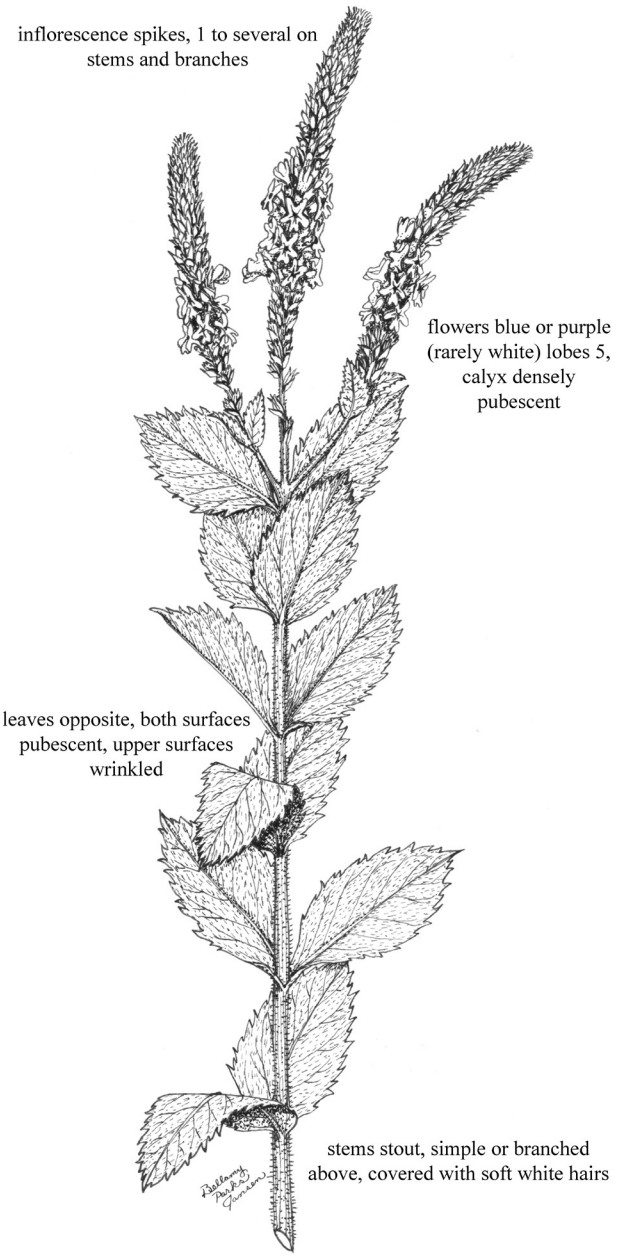
COMMON NAME:	**Hoary vervain (woolly verbena, tall vervain)**
Species:	*Verbena stricta* Vent.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to September
Height:	0.2–1.5 m (0.6–4.9 ft)

Vegetative Characteristics

stems:	erect, stout, simple or branched above, covered with soft white hairs
leaves:	opposite, simple; blades elliptic to ovate (3–10 cm long, 3–6 cm wide); margins irregularly serrate or biserrate to incised-serrate, upper surfaces pubescent, wrinkled, lower surfaces pubescent and prominently veined; sessile or nearly so
underground:	taproot

Inflorescence Characteristics

type:	spikes (5–30 cm long), terminal, stiff, erect, 1 to several on stems and branches; flowers many, crowded, overlapping
flowers:	blue or purple (rarely white), corolla 7–12 mm long and 4–6 mm wide; lobes 5, giving the appearance of 5 petals, lowest lobe notched; calyx lobes 5 (3–5 mm long); lobes triangular-acuminate, densely pubescent
fruits:	schizocarps; cells 4; 1 seed (nutlet) per cell
seeds:	nutlets (2–3 mm long), netted above, grayish-brown



Hoary vervain

Habitat

Hoary vervain is common on abused rangelands, degraded pastures, old fields, roadsides, and waste areas in all types of soil.

Uses and Values

Forage. Hoary vervain has virtually no forage value because of its bitter taste. It spreads rapidly on abused rangelands, especially on overflow ecological sites.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Hoary vervain is rarely used in prairie restorations.

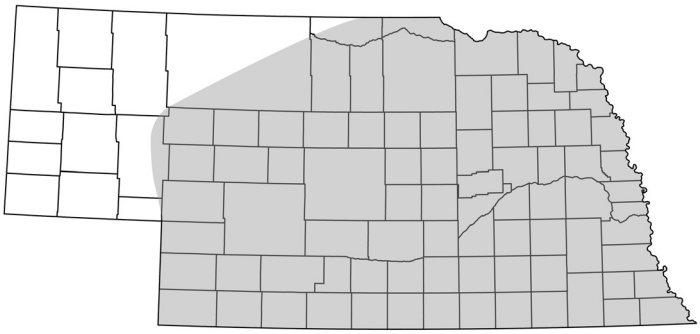
Wildlife. It attracts butterflies, and its persistent seeds on the erect stems provide limited food for birds in winter.

Ornamental. It is sometimes used in wildflower gardens and in cut flower arrangements. It is easy to grow. Hoary vervain grows best in full sun and needs little supplemental water.

Other

Some Lakota roasted the nutlets and ground them into meal. Some Omaha made a tea from the leaves for a beverage, while the Lakota drank a similar tea for a stomachache remedy.

Illinois bundleflower



COMMON NAME:	**Illinois bundleflower (prairie bundleflower)**
Species:	*Desmanthus illinoensis* (Michx.) MacMill. *ex* B.L. Rob. & Fernald
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	0.5–2 m (1.6–6.6 ft)

Vegetative Characteristics

stems:	erect or ascending from a caudex, clustered, slightly grooved, glabrous or nearly so
leaves:	alternate, bipinnately compound (5–10 cm long); 6–16 pairs of pinnae (2–4 cm long); 15–30 pairs of leaflets; leaflets lanceolate to elliptic (2–4 mm long), margins entire, glabrous to pubescent; midvein prominent
underground:	taproot and caudex

Inflorescence Characteristics

type:	heads (less than 1 cm in diameter), globose, axillary, flowers many, peduncles ascending (2–6 cm long)
flowers:	white to greenish-white (2 mm long), petals 5; petals united to the middle and then becoming separate; calyx tube lobes 5 (1 mm long)
fruits:	pods (1–2.5 cm long, 4–7 mm wide), thin, strongly curved, reddish-brown, glabrous; in globose clusters; seeds few to several
seeds:	diamond-shaped (3–5 mm long), variable, yellowish-red to brown

Habitat

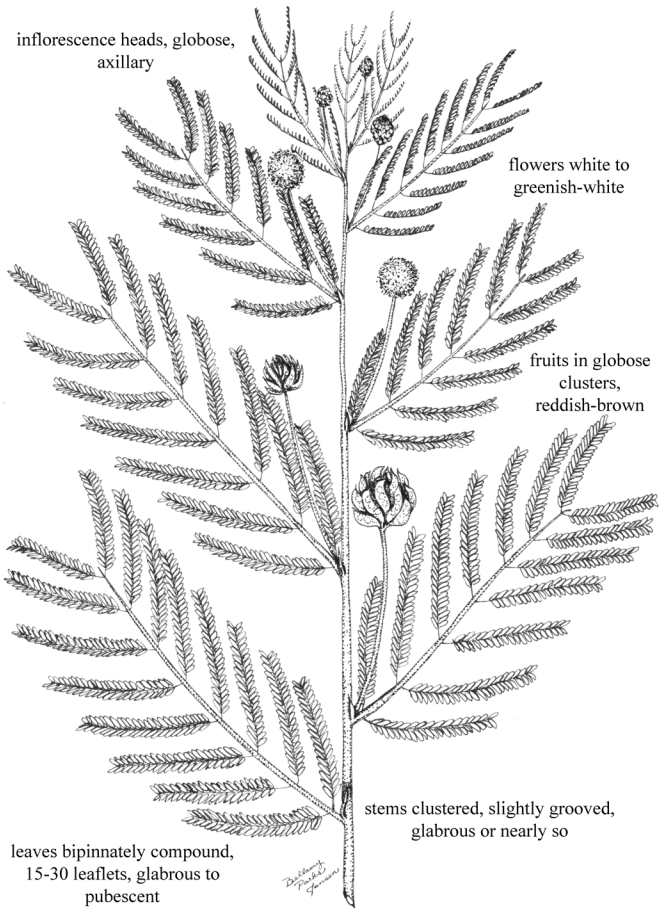
Illinois bundleflower grows in dry or moist soil of rangelands, prairies, open woods, stream banks, wastelands, and roadsides.

Uses and Values

Forage. Illinois bundleflower has good forage quality and is eaten by all classes of livestock. It decreases with continued heavy grazing and is an important native forb.

Poisoning. None

Grassland Seeding. Illinois bundleflower seed is readily available and is frequently included in grassland seedings. It should be scarified and inoculated with the proper *Rhizobium* before seeding. It fixes nitrogen and improves soil fertility.



Illinois bundleflower

Prairie Restoration. It should be included in restorations on adapted sites. Illinois bundleflower is relatively easy to establish. Pre-soaking the seed for 12 hours before planting improves germination.

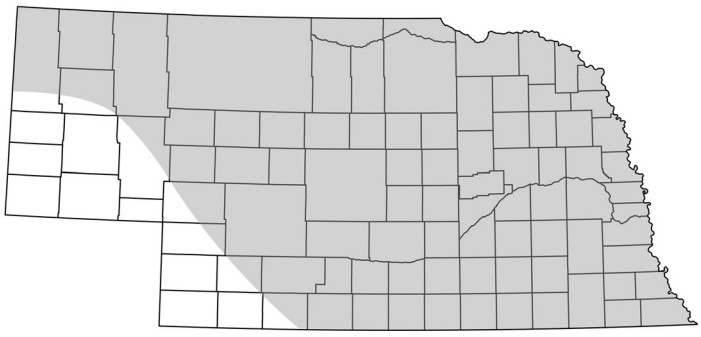
Wildlife. Illinois bundleflower is eaten by deer and elk. It attracts insects. Quail, songbirds, and small mammals eat the seeds.

Ornamental. Illinois bundleflower is rather tall, and its flowers are not showy. Its ornamental value is its unique and interesting fruits. It can be included in mixtures in screen plantings and grows best in full sun and in well-drained soils, but it can grow in heavy clay soils.

Other

Some Pawnee applied a decoction from leaves to relieve skin itching and eye irritation. It is being evaluated as an edible legume for humans.

Canada milkvetch



COMMON NAME:	Canada milkvetch
Species:	*Astragalus canadensis* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	0.1–1.5 m (0.3–4.9 ft)

Vegetative Characteristics

stems:	erect to ascending, robust, few, often branched, solid or hollow, pubescent
leaves:	alternate, odd-pinnately compound (5–35 cm long); leaflets 9–35; leaflets elliptic to lanceolate to ovate (1–4 cm long, 5–15 mm wide), margins entire, both surfaces pubescent but pubescence is more abundant on the lower surface; petiolules short
underground:	rhizomes, short

Inflorescence Characteristics

type:	raceme (3–20 cm long), axillary, dense; flowers many; peduncle 4–10 cm long
flowers:	yellowish-white to greenish-white, sometimes tinged with purple (1.1–1.7 cm long); petals 5, papilionaceous
fruits:	pods (1–1.8 cm long, 5–6 mm wide), terete, bilocular, numerous, ascending or erect; sessile, beaked
seeds:	kidney- to heart-shaped (2–2.5 mm long), brownish-yellow, smooth

Habitat

Canada milkvetch grows on moist rangelands, prairies, roadsides, open woods, and stream banks in all types of soil.

Uses and Values

Forage. Canada milkvetch is palatable to livestock and furnishes good to excellent forage. It decreases with improper grazing. Horses have been reported to selectively graze the pods.

Poisoning. None.

Establishment. Canada milkvetch can be included in grassland seedings. The seed is commercially available.

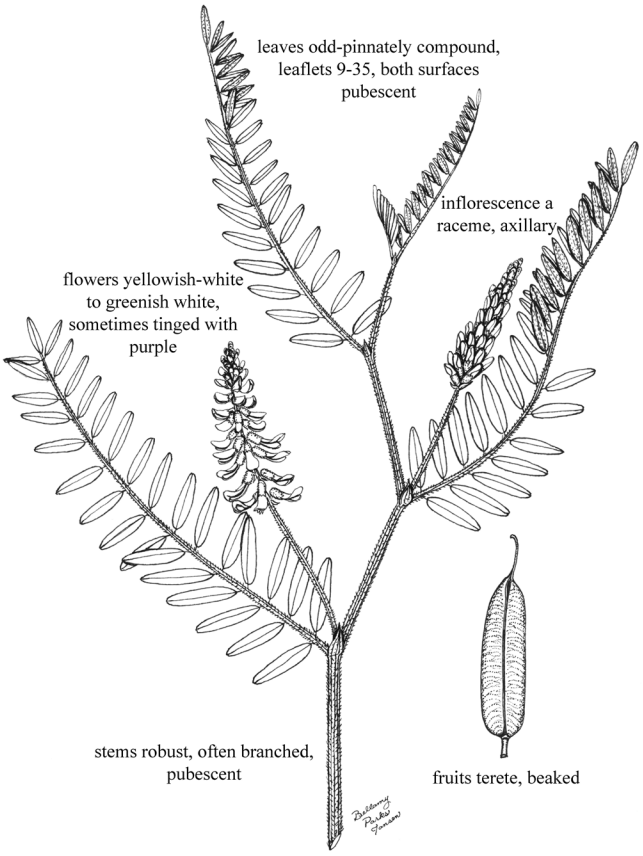
Restoration. It is an important component in prairie restorations on relatively moist sites.

Wildlife. Deer, elk, bighorn sheep, pronghorn, and rabbits eat the herbage. The seeds are eaten by wild turkeys, upland gamebirds, songbirds, and small mammals.

Ornamental. Canada milkvetch can become rather large, but it is an excellent specimen plant. Its creamy flowers in midsummer and legumes in late summer are attractive. It grows best in well-drained soils in full sunlight. Seeds and potted plants are available from nurseries.

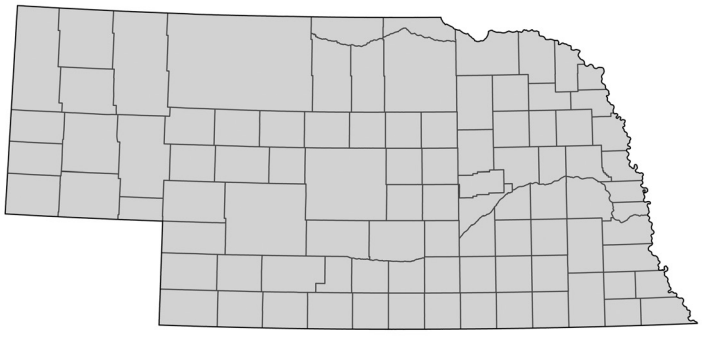
Other

Some Native Americans pulverized and chewed the roots for back and chest pains. Tea was made from the roots to control coughing. A poultice of chewed roots was applied to cuts. Roots were gathered in the spring and eaten raw or after boiling.



Canada milkvetch

Groundplum milkvetch



COMMON NAME:	Groundplum milkvetch (buffalo bean, ground plum)
Species:	*Astragalus crassicarpus* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	March to June
Height:	0.1–0.6 m (0.3–2 ft)

Vegetative Characteristics

stems:	prostrate with ascending tips, several from a caudex; pubescent
leaves:	alternate, odd-pinnately compound (2–10 cm long); leaflets 11–33; leaflets oblanceolate to elliptic (3–17 mm long, 2–6 mm wide); margins entire, upper surface usually glabrous; lower surface pubescent
underground:	taproot

Inflorescence Characteristics

type:	raceme (1–8 cm long), shorter than or equaling the subtending leaves, axillary; flowers 5–25; flowers ascending or spreading
flowers:	purple to blue or pinkish-white, rarely greenish-white to yellowish-white (1.5–2.5 cm long); petals 5, papilionaceous
fruits:	pods, ovoid or globose (1.5–3 cm long, 2 cm in diameter), thick, beaked, sessile; initially succulent, green or reddish-purple on upper side; valves thick-walled, glabrous; seeds many
seeds:	kidney- to heart-shaped (2–4 mm long), black, smooth or pitted

Habitat

Groundplum milkvetch grows in all types of soils but is most common in sandy or rocky areas of rangelands and prairie hillsides.

Uses and Values

Forage. Forage quality of groundplum milkvetch is rated as only fair, but it decreases with continued, heavy grazing.

Poisoning. None.

Grassland Seeding. Groundplum milkvetch is not included in grassland seeding mixtures.

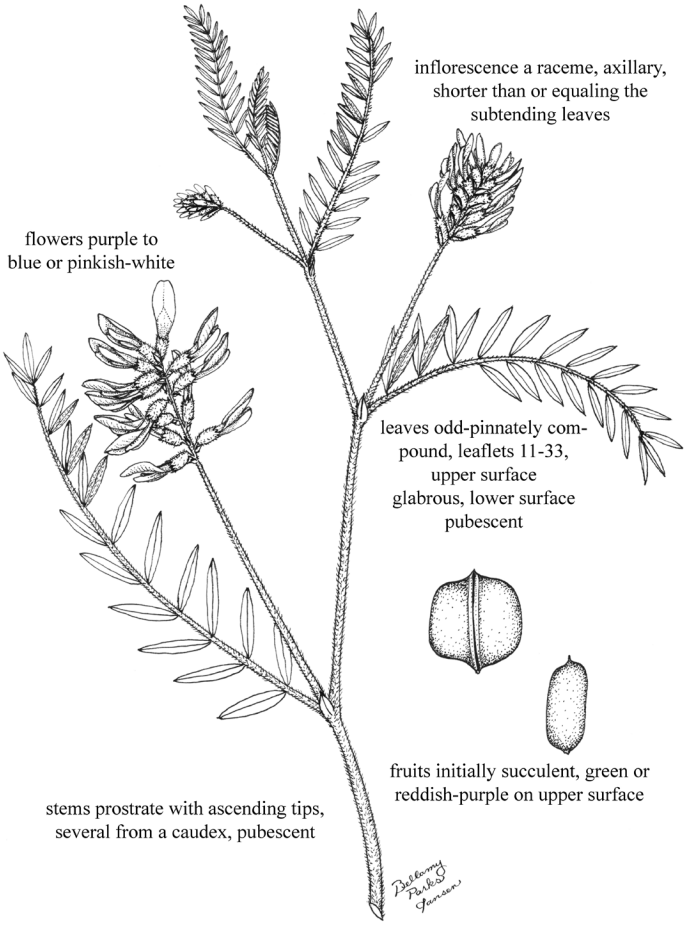
Prairie Restoration. A few plants of this species can be added to prairie restorations to increase diversity.

Wildlife. The foliage is lightly grazed by deer, pronghorn, bighorn sheep, and elk. The pods are collected, stored, and later eaten by small mammals.

Ornamental. Groundplum milkvetch is occasionally grown as an ornamental novelty. It should be planted in well-drained soils in full sun. It is not easily moved because it is relatively intolerant of root disturbance.

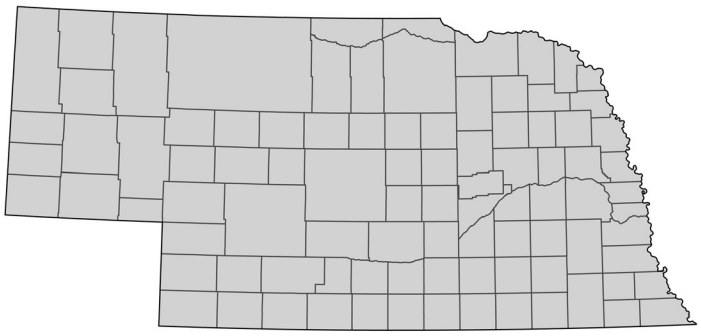
Other

Pioneers ate raw or cooked legumes and made them into pickles. Possibly for a ceremonial reason, the Pawnee placed groundplum milkvetch pods in the water in which they placed their seed corn before planting. Some Native Americans chewed small amounts of leaves for a sore throat. A decoction of boiled roots was used for toothache and applied to insect bites.



Groundplum milkvetch

Lambert crazyweed



COMMON NAME:	**Lambert crazyweed (purple locoweed, Lambert locoweed, stemless loco, whitepoint locoweed, loco)**
Species:	*Oxytropis lambertii* Pursh
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	10–30 cm (4–12 in)

Vegetative Characteristics

stems:	none, leaves arising directly from the base
leaves:	alternate, odd-pinnately compound (4–20 cm long); leaflets 7–19; leaflets linear to narrowly oblong (5–40 mm long, 2–7 mm wide); margins entire; both surfaces pubescent
underground:	taproot

Inflorescence Characteristics

type:	raceme (4–12 cm long), terminal; flowers 5–25
flowers:	purple to rose or blue, white not uncommon (1.2–2.5 cm long); petals 5, papilionaceous; lower petal (keel) with an appendage (5–25 mm long); the appendage differentiates the *Oxytropis* and *Astragalus* genera; calyx tube cylindrical (4.5–8 mm long), silky strigose; fragrant
fruits:	pods (to 3 cm long), oblong to cylindrical, pubescent, beaked (3–7 mm long); seeds many
seeds:	kidney-shaped to nearly circular (2 mm long), brown, smooth

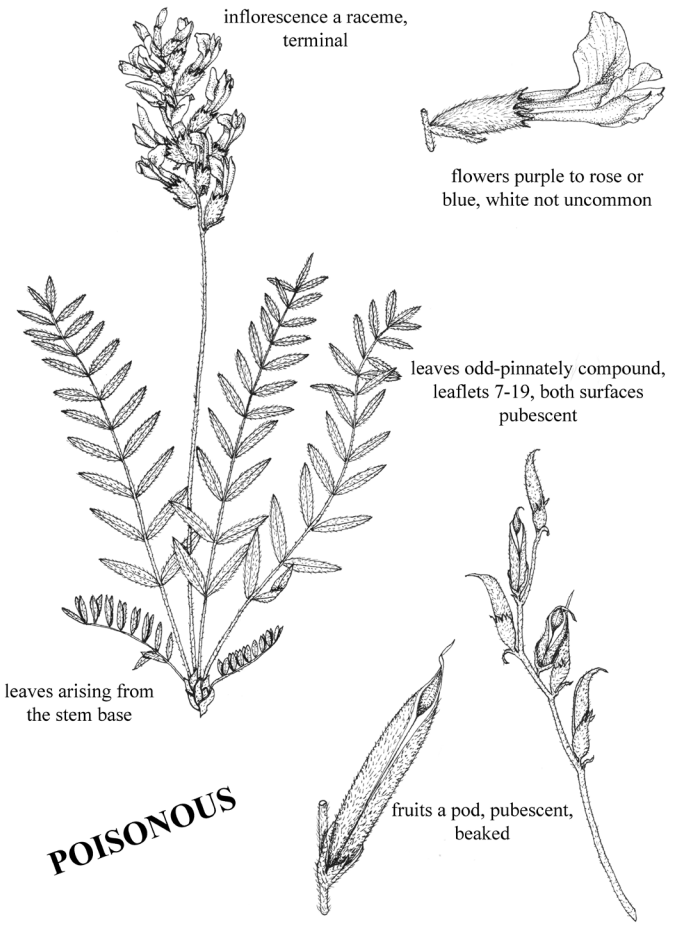
Habitat

Lambert crazyweed grows on dry upland rangelands and prairies.

Uses and Values

Forage. Lambert crazyweed produces poor quality forage and is generally not palatable to livestock, but it will be eaten if other forage is not available. It is highly poisonous and increases with abusive grazing.

Poisoning. Lambert crazyweed causes loco disease in cattle, sheep, goats, and especially horses. Large amounts of the plant material must be eaten before poisoning occurs. Animals may have to eat the plants for a few weeks until the alkaloids accumulate to the point of being toxic. Cattle and sheep show signs of toxicity after eating 90% of their body weight of Lambert crazyweed. Death occurs with ingestion of three times their body weight. Horses need to only consume 30% of their body weight to acquire a lethal dose. Animals may develop a craving for the plants and graze them preferentially. Symptoms of poisoning include crazy actions, running into objects, depression, trembling, and paralysis.



Lambert crazyweed

Grassland Seeding. It is not included in grassland seedings.

Prairie Restoration. Lambert crazyweed is colorful and fixes nitrogen. It can be included in prairie restorations. The seeds should be scarified before planting.

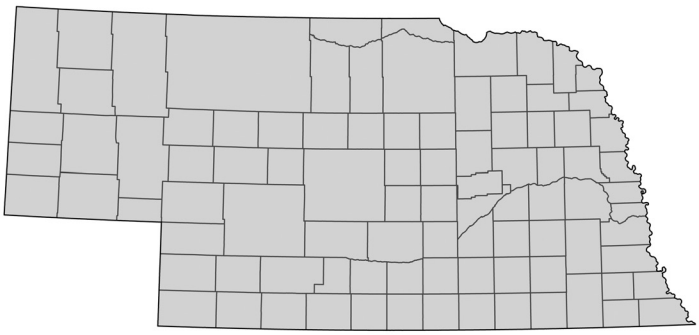
Wildlife. Wild turkeys, upland gamebirds, and small mammals eat the seeds. It may be grazed by pronghorn, deer, and bighorn sheep without any signs of poisoning.

Ornamental. Landscape uses include beds, borders, and mass plantings. The colorful flowers make Lambert crazyweed a nice addition to rock gardens. It requires well-drained soils and full sun.

Other

Loco means "crazy" or "foolish" in Spanish.

Lotus milkvetch



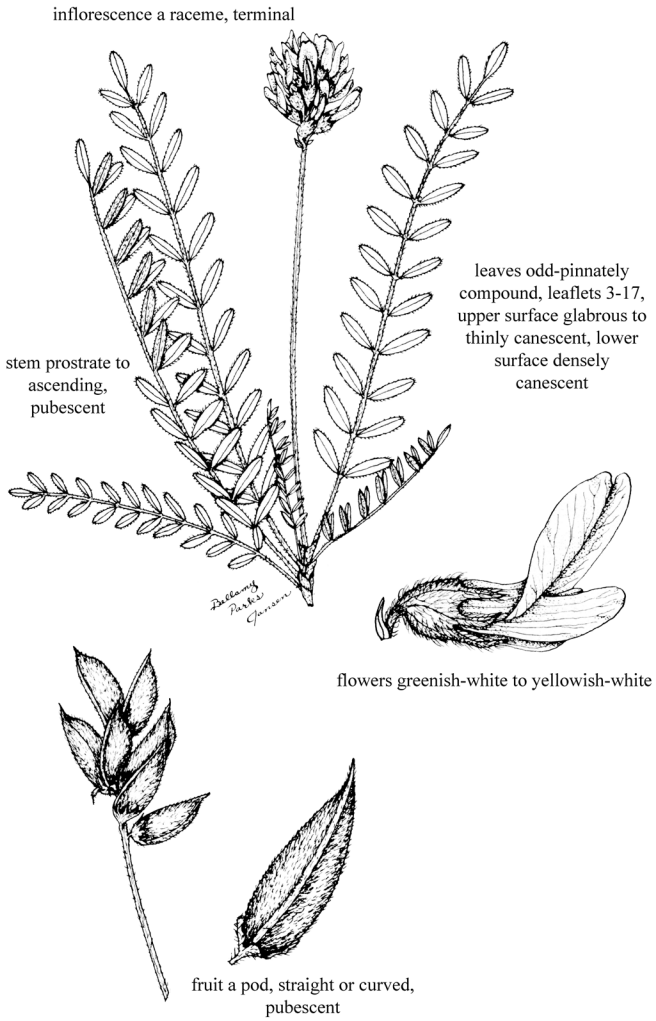
COMMON NAME:	**Lotus milkvetch (low milkvetch)**
Species:	*Astragalus lotiflorus* Hook.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	March to June
Height:	2.5–12.5 cm (1–5 in)

Vegetative Characteristics

stems:	prostrate to ascending, erect above, pubescent
leaves:	alternate, odd-pinnately compound (2–14 cm long), leaflets 3–17; leaflets oblong to elliptic or oblanceolate (5–20 mm long, 1.5–7 mm wide); glabrous to thinly canescent above, densely canescent below; petioles to 2 cm long
underground:	taproot

Inflorescence Characteristics

type:	raceme of chasmogamous flowers subcapitate or ovoid, terminal, flowers 3–17; peduncles seldom surpassing subtending leaves (3–11 cm long); racemes of cleistogamous flowers on short peduncles near the base, flowers 1–5
flowers:	flowers of two kinds; greenish-white to yellowish-white (sometimes suffused with lavender or bicolored) chasmogamous corolla (8–14 mm long); petals 5, papilionaceous; cleistogamous flowers greenish-white to yellowing white (4–7 mm long)
fruits:	pods, oblong-acuminate to ellipsoid (1.5–4 cm long), straight or curved, pubescent; upper margin nearly straight; lower margin convex
seeds:	yellow to brown (sometimes with purple spots) 1.5–2.5 mm long



Lotus milkvetch

Habitat

Lotus milkvetch grows on rocky and sandy prairies. It is most common in the western three-fourths of the state. It is not common on rangelands because improper grazing has removed many of the plants.

Uses and Values

Forage. Cattle, horses and sheep readily graze lotus milkvetch. Because of its low stature, it produces little forage.

Poisoning. None.

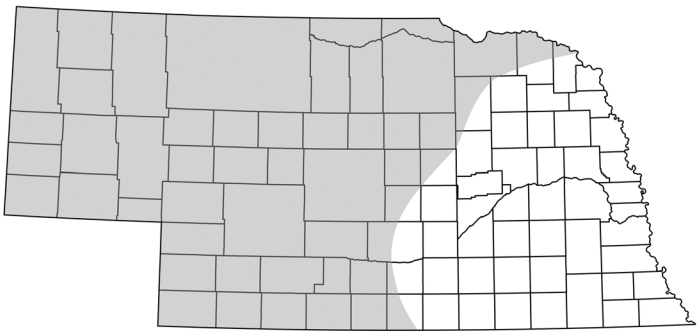
Grassland Seeding. Lotus milkvetch is not used in grassland seedings.

Prairie Restoration. It rarely is used in prairie restorations, and seeds are seldom available.

Wildlife. It is grazed by pronghorn, deer, bighorn sheep, and elk. Ground-foraging birds and small mammals eat the seeds.

Ornamental. It has a small stature and can be used as a specimen plant in rock gardens.

Missouri milkvetch



COMMON NAME:	Missouri milkvetch
Species:	*Astragalus missouriensis* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	April to July
Height:	0.1–0.3 m (0.3–1 ft)

Vegetative Characteristics

stems:	upper stems erect, lower stems prostrate to ascending; surfaces with silvery-gray or white pubescence
leaves:	alternate, odd-pinnately compound (4–14 cm long); leaflets 5–25; leaflets oblanceolate to elliptic (5–7 mm long, 2–6 mm wide); tips sharply pointed to rounded or mucronate; surfaces pubescent
underground:	taproot

Inflorescence Characteristics

type:	raceme, axillary, elevated above the leaves, flowers 3–15; peduncles 10–15 cm long
flowers:	purplish-pink (rarely white or deep purple), drying blue; petals 5, papilionaceous, (1.5–2.5 cm long); calyx tube cylindrical (6–9 mm long), often dark-pigmented; lobes 5; lobes subulate to long-acuminate (1–4 mm long), pubescent; pedicels about 2 mm long
fruits:	pods (1.5–3 cm long excluding the beak, 4–10 mm wide), ellipsoid or oblong-cylindrical, nearly circular in cross-section, dull and reddish in color; becoming leatherlike with age; sessile; beak 4 mm long; seeds several to many
seeds:	kidney-shaped (2–3 mm long), brown, surfaces pitted

Habitat

Missouri milkvetch can be locally common on rangelands, prairies, ravines, hillsides, and roadsides.

Uses and Values

Forage. It produces good forage for livestock, and it decreases with improper grazing.

Poisoning. There are a few unsubstantiated reports that it is poisonous, but it does not accumulate large amounts of selenium.

Grassland Seeding. Missouri milkvetch is not used in grassland seedings.

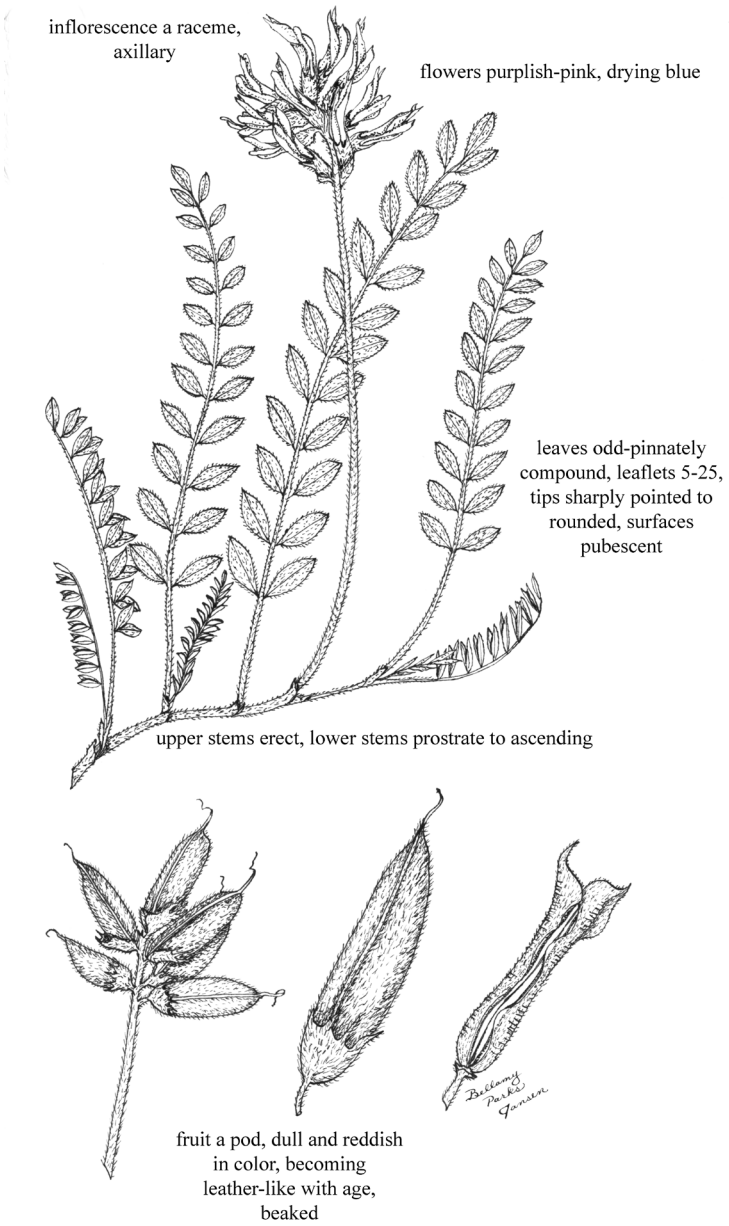
Prairie Restoration. It could be used in prairie restorations on sites to which it is adapted. Scarification improves germination.

Wildlife. Deer, pronghorn, elk, and bighorn sheep graze Missouri milkvetch. Its seeds are eaten by small mammals and birds.

Ornamental. Drought tolerance of this plant makes it appropriate for rock gardens. It is attractive because of its open habit of showy purple flowers.

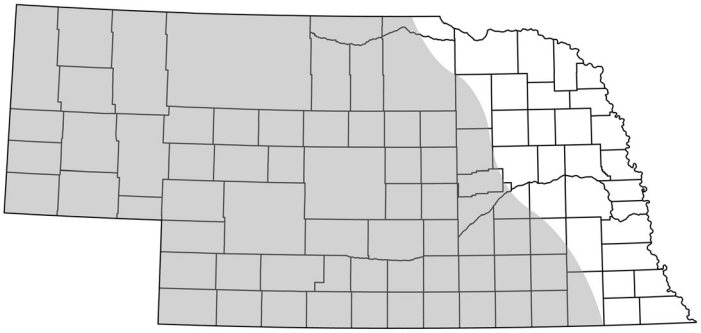
Other

Some Native Americans gathered the immature pods for food. Pioneers sometimes pickled the young pods.



Missouri milkvetch

Platte milkvetch



COMMON NAME:	Platte milkvetch
Species:	*Astragalus plattensis* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	March to July
Height:	0.1–0.4 m (0.3–1.3 ft) long

Vegetative Characteristics

stems:	prostrate with ascending tips, solitary to several, slender, villous
leaves:	alternate, odd-pinnately compound (3–12 cm long), leaflets 9–35; leaflets oblong to elliptic (8–18 mm long, 1.5–5 mm wide), glabrate above, villous beneath; petioles short to subsessile above
underground:	rhizome, taproot

Inflorescence Characteristics

type:	raceme, axillary, short, flowers 3–15; peduncles stout (4–8 cm long), usually shorter than the subtending leaves
flowers:	pink to pinkish-purple (drying whitish-blue) corolla; petals 5, papilionaceous; calyx tube cylindrical (6–9 mm long), lobes 5; lobes long-acuminate (2.5–6 mm long)
fruits:	pods (1–2 cm long, 1–1.3 cm wide), ovoid or ellipsoid, subterete or compressed, fleshy, pubescent; beak 1–3.5 mm long
seeds:	kidney-shaped (2.5–3.5 mm long), pinkish brown to black, smooth

Habitat

Platte milkvetch is found in prairies, rangelands, and open woodlands. It is most common in sandy and rocky soils in western Nebraska.

Uses and Values

Forage. Platte milkvetch is eaten by all classes of livestock and decreases with continued heavy grazing.

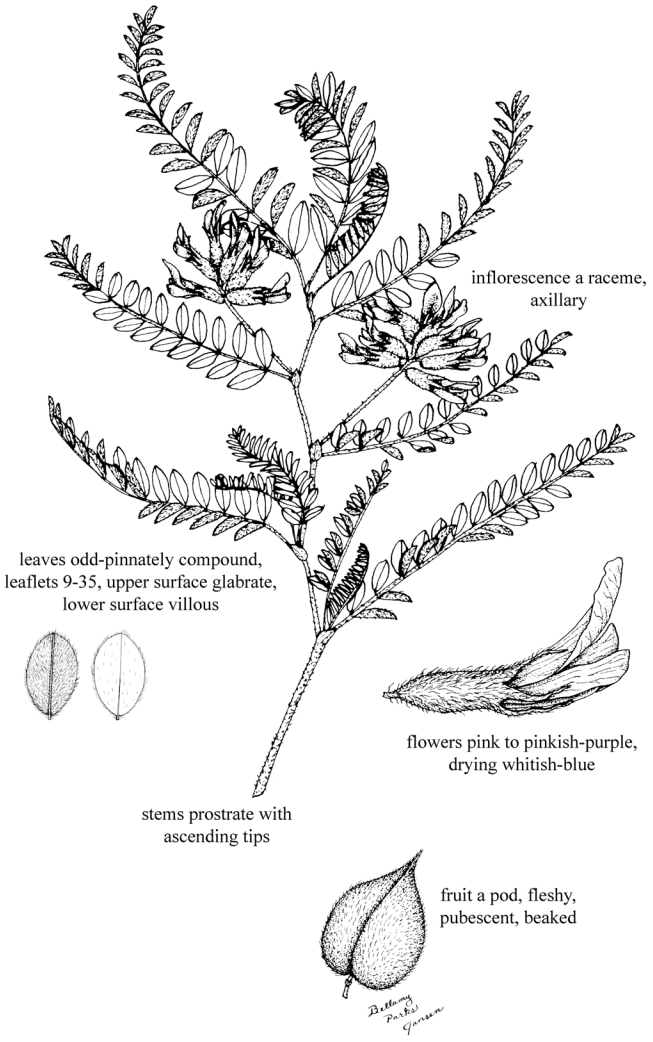
Poisoning. None

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Platte milkvetch may be added to prairie restorations to increase diversity. It may be necessary to hand-harvest seed because it is seldom available commercially.

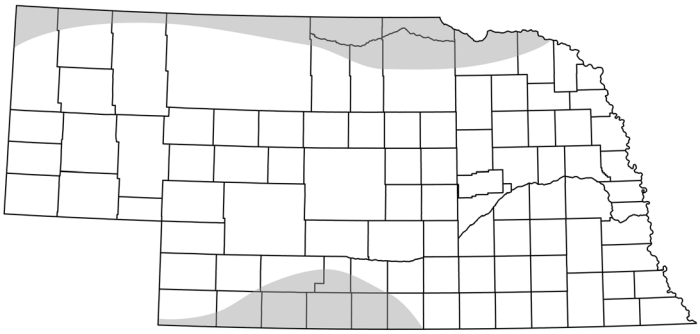
Wildlife. Deer, pronghorn, Rocky Mountain sheep, and elk graze Platte milkvetch. Birds and small mammals eat the seeds.

Ornamental. It has few applications in horticulture, but it may be used as a specimen planting in rock gardens.



Platte milkvetch

Racemed poisonvetch



COMMON NAME:	**Racemed poisonvetch (alkali milkvetch, cream milkvetch)**
Species:	*Astragalus racemosus* Pursh
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	March to July
Height:	0.2–0.7 m (0.6–2.3 ft)

Vegetative Characteristics

stems:	erect to ascending, few to several from a short caudex; usually branched above; pubescent
leaves:	alternate, odd-pinnately compound (4–15 cm long), leaflets 9–31, paired or irregularly arranged, linear to narrowly oblong (1–4 cm long, 1–9 mm wide); margins entire; upper surface glabrous; lower surface pubescent; fetid-scented
underground:	taproot

Inflorescence Characteristics

type:	raceme (4–10 cm long), axillary, dense, flowers 12–70; peduncles stout (3–11 cm long)
flowers:	white or cream outer petals, tinged with pink or purple; inner petals purple, light purple, or tipped with purple; petals 5, papilionaceous (1.2–2 cm long)
fruits:	pods (1–3 cm long, 3–8 mm wide), drooping, ellipsoid to linear, papery, glabrous; seeds 12 to many
seeds:	kidney-shaped (2–2.3 mm long), brown, often purple-spotted, somewhat shiny

Habitat

Racemed poisonvetch grows in dry, sandy soils of prairie uplands, rangelands, and roadsides growing only in soils containing selenium.

Uses and Values

Forage. Racemed poisonvetch increases with improper grazing and produces poor quality forage.

Poisoning. Racemed poisonvetch is an indicator of seleniferous soils and accumulates selenium. Therefore, it is a poisonous plant. Up to 1.5% of the dry weight of plants is made up of selenium. Selenium poisoning is discussed under the description of twogrooved poisonvetch. Twogrooved poisonvetch and racemed poisonvetch often grow together.

Grassland Seeding. Racemed poisonvetch is not used in grassland seedings because of its poisonous properties.

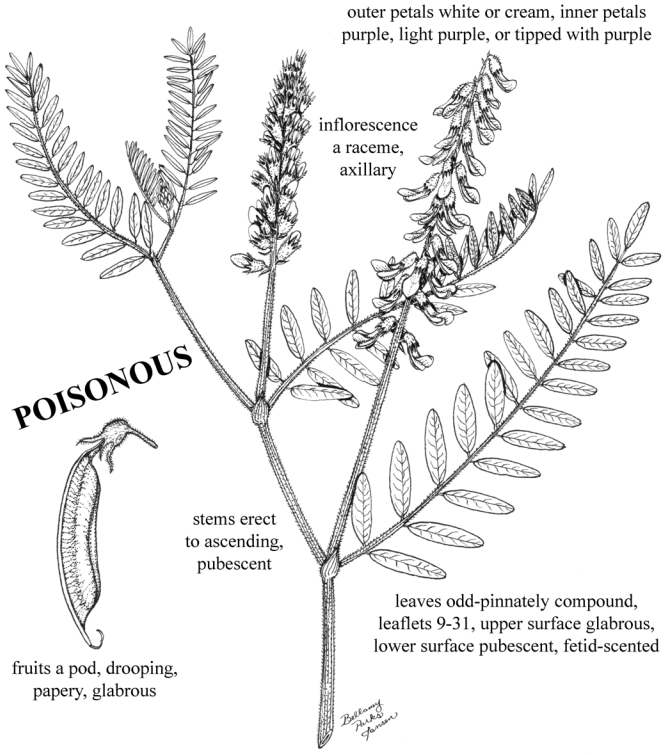
Prairie Restoration. It is not used in prairie restorations.

Wildlife. Wildlife can be poisoned by racemed poisonvetch, but they rarely eat it.

Ornamental. It is not used in ornamental plantings.

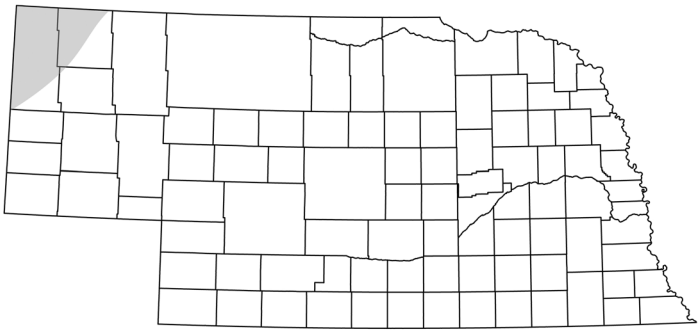
Other

Racemed poisonvetch is sometimes used to remove selenium from contaminated soils or mine waste.



Racemed poisonvetch

Twogrooved poisonvetch



COMMON NAME:	**Twogrooved poisonvetch (twogrooved milkvetch, twogrooved locoweed)**
Species:	*Astragalus bisulcatus* (Hook.) A. Gray
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	0.2–0.8 m (0.6–2.6 ft)

Vegetative Characteristics

stems:	ascending to erect, few to many from a caudex, forming a clump, pubescent to nearly glabrous
leaves:	alternate, odd-pinnately compound (4–13 cm long), leaflets 13–35; lower leaflets ovate to elliptic (1–3.5 cm long); upper leaflets elliptic to linear (0.5–2.5 cm long); margins entire; upper surfaces usually glabrous; lower surfaces usually pubescent; fetid-scented
underground:	taproot

Inflorescence Characteristics

type:	raceme (3–12 cm long), axillary, dense to lax; flowers many; peduncles1–12 cm long
flowers:	purple, white, or white with purple tips (1–1.7 cm long); petals 5, papilionaceous; pedicels 1–3 mm long
fruits:	pods (7–20 mm long, 2–5 mm wide), flattened with two deep grooves on either side of the suture on the upper surface; seeds many
seeds:	kidney-shaped (3–3.5 mm long), yellow to brown or black, smooth

Habitat

Twogrooved poisonvetch is found in dry, alkaline soils of rangelands and roadsides. It grows only in soils containing selenium.

Uses and Values

Forage. Twogrooved poisonvetch is a poisonous plant with poor forage quality and is generally not grazed when other forage is available. It increases with improper grazing.

Poisoning. Twogrooved poisonvetch accumulates selenium in its tissues from the soil. Animals eating these plants are said to acquire "alkali disease," and an early symptom is loss of hair from their tails. Animals consuming a single, massive amount of twogrooved poisonvetch may exhibit blindness, wandering, excitement, and depression. These symptoms may be followed by coma, respiratory failure, and death.

Grassland Seeding. Twogrooved poisonvetch is not used in grassland seedings because of its poisonous properties.

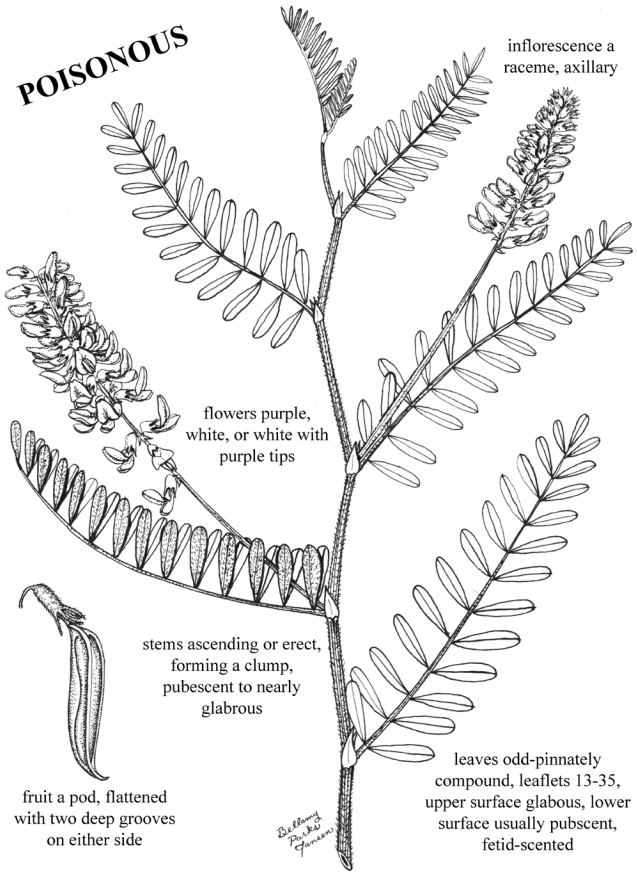
Prairie Restoration. It is not used in prairie restorations.

Wildlife. Wildlife does not eat the foliage of twogrooved poisonvetch, but it does attract nectar-seeking insects.

Ornamental. It is rarely used as an ornamental because the unpleasant odor is a deterrent.

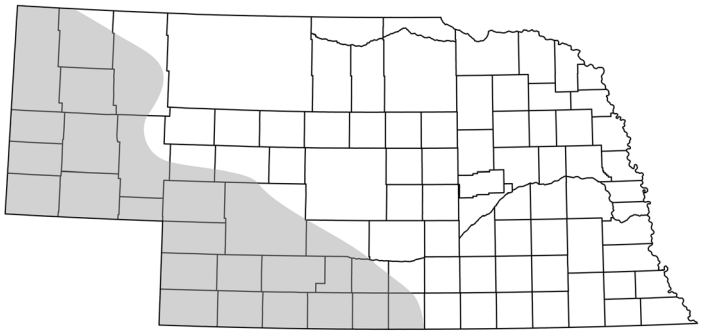
Other

A pungent odor resembling that of urine or old mice nests emits from this plant due to its content of selenium. This plant is being used in phytoremediation to remove selenium from contaminated soils.



Twogrooved poisonvetch

Woolly locoweed



COMMON NAME:	Woolly locoweed (woolly milkvetch)
Species:	*Astragalus mollissimus* Torr.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	April to June
Height:	2.5–25 cm (1–10 in)

Vegetative Characteristics

stems:	ascending to prostrate, 1 to several, stout, pubescent; hairs often yellowing upon drying
leaves:	alternate, odd-pinnately compound (5–22 cm long), ascending or arching; leaflets 15–35; leaflets usually obovate to oblanceolate (5–25 mm long, 2–15 mm wide); margins entire; both surfaces densely pubescent
underground:	taproot

Inflorescence Characteristics

type:	raceme (4–10 cm long), terminal; flowers 10–40; peduncles 5–20 cm long
flowers:	purple to reddish-purple (rarely yellow or white), drying blue (1.7–2.2 cm long); petals 5, papilionaceous
fruits:	pods (1.4–2.5 cm long, 4–9 mm wide), terete to flattened, ascending or spreading, glabrous; beaked; seeds many
seeds:	kidney- to heart-shaped (2–3 mm long), brown, smooth to rough

Habitat

Woolly locoweed grows on dry prairies, rangelands, and roadsides. It is most abundant in sandy or rocky soils.

Uses and Values

Forage. Woolly locoweed is generally unpalatable to livestock, but animals will eat these plants if other forage is unavailable. Its forage quality is poor, and it increases with improper grazing.

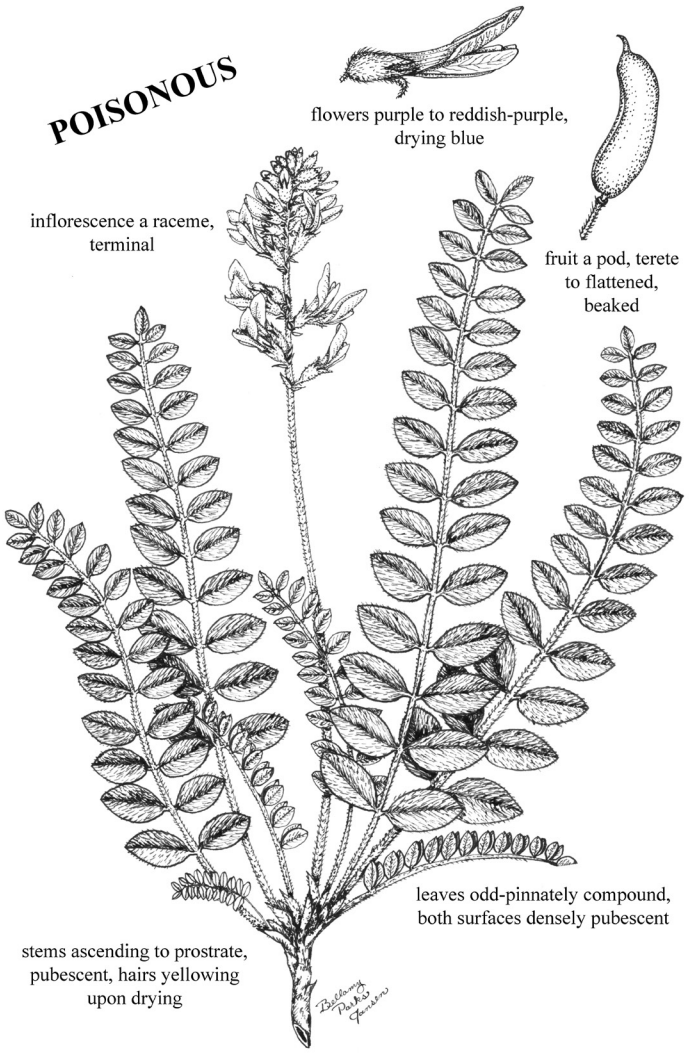
Poisoning. Some animals, especially horses, quickly become addicted to woolly locoweed and refuse to eat better forage. The toxic principle is locoine, and the effect is cumulative. Both green plants and dried plants in hay are poisonous. Symptoms of poisoning are loss of weight, depression, rough coat, and staggering gait. The optic nerve is apparently affected. Animals will leap high over small objects and shy violently from small or imaginary objects. Once animals start to walk forward, they often continue until walking into an obstruction, hence, the term "loco" which is Spanish for crazy or foolish. Both green and dried plants are poisonous. Death is usually from starvation. The poisonous substances are apparently also present in the nectar of the flowers causing heavy losses in honeybees, especially when other nectar sources are not available.

Grassland Seeding. Woolly locoweed is not used in grassland seedings.

Prairie Restoration. It is not included in prairie restorations unless to increase biodiversity.

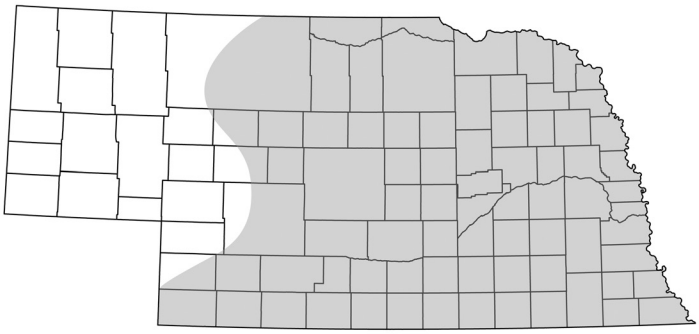
Wildlife. Generally, wildlife will not eat woolly locoweed. Occasionally, pronghorn suffer from eating the flowers and pods, but seldom die from poisoning. Wild turkeys eat the pods and flowers and are not poisoned. Woolly locoweed attracts butterflies and other insects.

Ornamental. It is sometimes used in rock gardens because it has low water requirements.



Woolly locoweed

Common milkweed



COMMON NAME:	Common milkweed
Species:	*Asclepias syriaca* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	0.5–2 m (1.6–6.6 ft)

Vegetative Characteristics

stems: erect, mostly unbranched; pubescence soft and fine; contain a milky juice

leaves: opposite, upper few sometimes alternate, simple; blades oblong to broadly ovate to elliptic (10–25 cm long, 4–12 cm wide); tip rounded and with a small point; margins entire; surfaces pubescent; prominently veined; petioles 2–14 mm long, sometimes sessile; contain a milky juice

underground: fibrous roots, shallow; rhizomes strong

Inflorescence Characteristics

type: umbels 1 to several (5–8 cm in diameter), in axils of upper leaves, on peduncles; flowers many

flowers: pink or rose to purple petals (1.1–1.8 cm tall), rarely white or greenish-white; showy; lobes elliptic-lanceolate (6–9 mm long), curved downward; hoods ovate (3.3–5.3 mm long); calyx lobes lanceolate (2–4 mm long), green to purple-tinged; fragrant

fruits: follicles (7–10 cm long, 2–4 cm wide), broadly or narrowly spindle-shaped; on recurved pedicels with soft tubercles (1–3 mm long), grayish-pubescent; seeds many

seeds: oval (5–10 mm long), brown, flattened with a winged margin; floss white (3–4 cm long)

Habitat

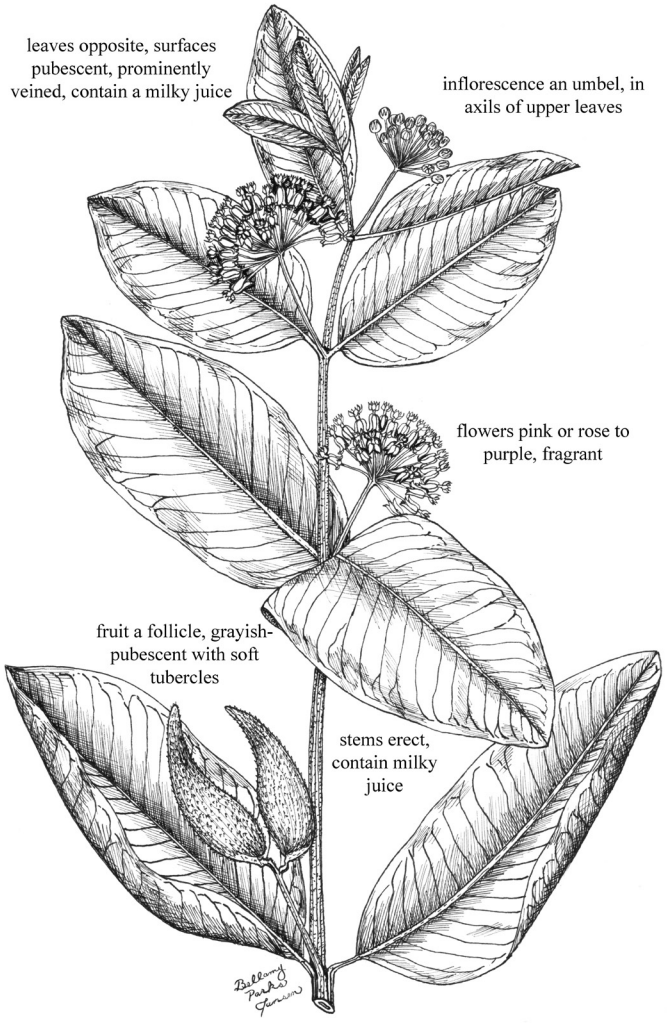
Common milkweed grows in pastures, rangelands, prairies, roadsides, and waste places.

Uses and Values

Forage. Common milkweed increases with improper grazing on rangeland and has poor forage quality.

Poisoning. Rarely are animal losses associated with common milkweed because it is seldom eaten.

Grass Seeding. It is not included in grassland seedings.



Common milkweed

Prairie Restoration. A few plants can be added to prairie restorations to increase biodiversity, but it usually appears on it own in a few years.

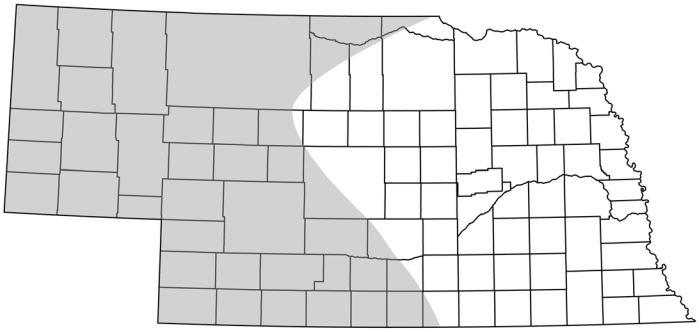
Wildlife. Common milkweed attracts butterflies and other insects. The floss is used by small mammals to line their nests.

Ornamental. It can be planted in full sunlight in butterfly gardens. It quickly spreads by rhizomes and may become a problem weed. The mature follicles are used in dry flower arrangements. Common milkweed spreads readily.

Other

Some Native Americans and pioneers boiled and ate young shoots and well-developed follicles.

Dwarf milkweed



COMMON NAME:	**Dwarf milkweed (plains milkweed, low milkweed)**
Species:	*Asclepias pumila* (A. Gray) Vail
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to September
Height:	5–40 cm (2–16 in)

Vegetative Characteristics

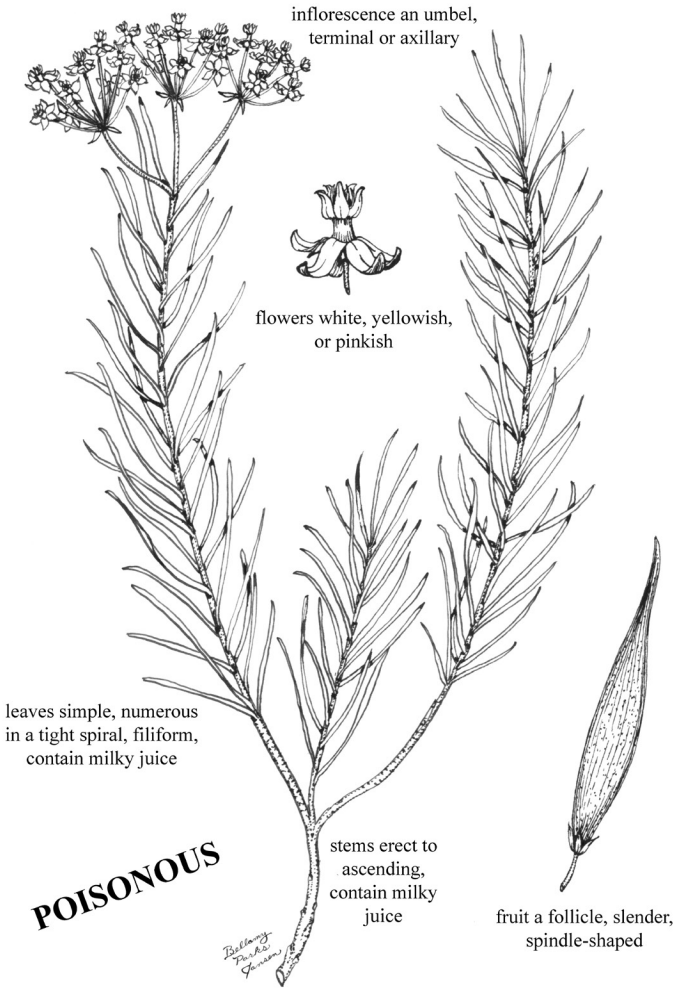
stems:	erect to ascending, 1 to numerous, simple to branched from base, puberulent in lines from leaf buds; contain a milky juice
leaves:	alternate, simple; numerous in a tight spiral, whorled at base; blades filiform (1.5–5 cm long, 0.5–1 mm wide), erect; margins entire and involute; surfaces glabrous to puberulent; sessile; contain a milky juice
underground:	taproot, rhizomes

Inflorescence Characteristics

type:	umbels 1–5, terminal and axillary to the uppermost leaves; flowers 2–20
flowers:	white, yellowish, or pinkish petals (5–8 mm tall); lobes oblong to elliptic (2–4mm long), reflexed, glabrous; calyx lobes triangular to ovate-lanceolate (2–5 mm long), villous; peduncles (1–1.5 cm long)
fruits:	follicles (4–8 cm long, 6–8 mm wide), slender, spindle-shaped, ascending to erect; seeds many; pedicellate
seeds:	ovate (4–6 mm long); floss white to tan (1.2–2.6 mm long)

Habitat

Dwarf milkweed grows in dry sandy, clayey, or rocky soils of rangelands, prairie hillsides, and uplands. It is uncommon in the Sandhills.



Dwarf milkweed

Uses and Values

Forage. Dwarf milkweed increases with improper grazing on rangeland and has poor forage quality. It is one of the most poisonous of the milkweeds.

Poisoning. Ingestion of 1-2% of the animal's body weight of dwarf milkweed is lethal. It contains alkaloids, resins, and cardioactive glycosides. Sheep are more frequently poisoned than cattle. It is unpalatable to cattle because of its bitter taste and poisoning is rarely a problem.

Grassland Seeding. Dwarf milkweed is not used in grassland seedings.

Prairie Restoration. Plants may be added to prairie restorations to increase plant diversity. It can be established from seeds or stem cuttings.

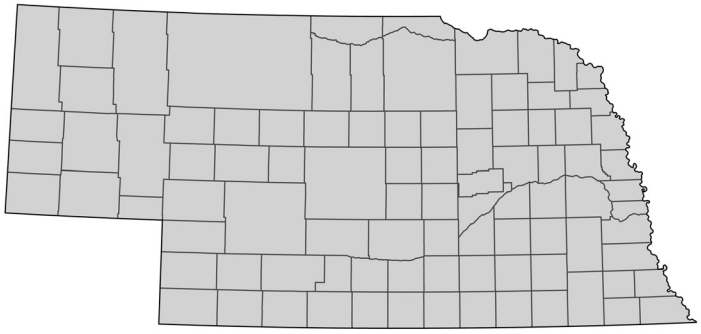
Wildlife. Dwarf milkweed flowers attract butterflies, bees, and other insects.

Ornamental. Dwarf milkweed is occasionally planted in cultivated beds. It grows best in sandy to loamy, well-drained soils in full sunlight to partial shade.

Other

Some Native Americans cooked and ate the unopened flower buds and used them to thicken soups and as a flavoring. They are said to taste like peas. Flowers were boiled down to a sugary syrup. Young follicles were sometimes cooked like okra. An infusion from the leaves was used in the treatment of diarrhea. The entire plant contains a milky juice.

Green milkweed



COMMON NAME:	Green milkweed (greencomet milkweed)
Species:	*Asclepias viridiflora* Raf.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	0.1–0.6 m (0.3–2 ft)

Vegetative Characteristics

stems:	erect to decumbent, solitary or paired; simple to sparingly branched, slender to stout; bases often thickened; contain a milky juice
leaves:	opposite, alternate, or irregularly placed; simple; blades highly variable, ovate to lanceolate (2.5–13 cm long, 1.2–3.5 cm wide); margins entire, flat or undulate; surfaces glabrous; subsessile or with short petioles; contain a milky juice
underground:	rhizomes

Inflorescence Characteristics

type:	umbel, 1–3, terminal and axillary to the upper leaves; flowers 20–80
flowers:	green to purple (9.5–12.5 mm tall); petals reflexed (5.7–7.5 mm long), puberulent; hoods (4–6 mm long) with a small tooth near the base of each margin; horns absent; calyx lobes lanceolate (2.1–3 mm long), puberulent; fragrance none
fruits:	follicles (7–15 cm long, 1.5–2 cm thick), broadly spindle-shaped, erect; without tubercles; brownish
seeds:	obovate (6–7.5 mm long); floss tan (3–5 cm long)

Habitat

Green milkweed is in sandy to rocky soils of rangelands and prairies.

Uses and Values

Forage. Green milkweed increases with improper grazing on rangeland and has little or no forage value.

Poisoning. Green milkweed is potentially poisonous to livestock. It is seldom a problem because its bitter taste makes it unpalatable, and it is rarely abundant.

Grassland Seeding. It is not included in grassland seedings.

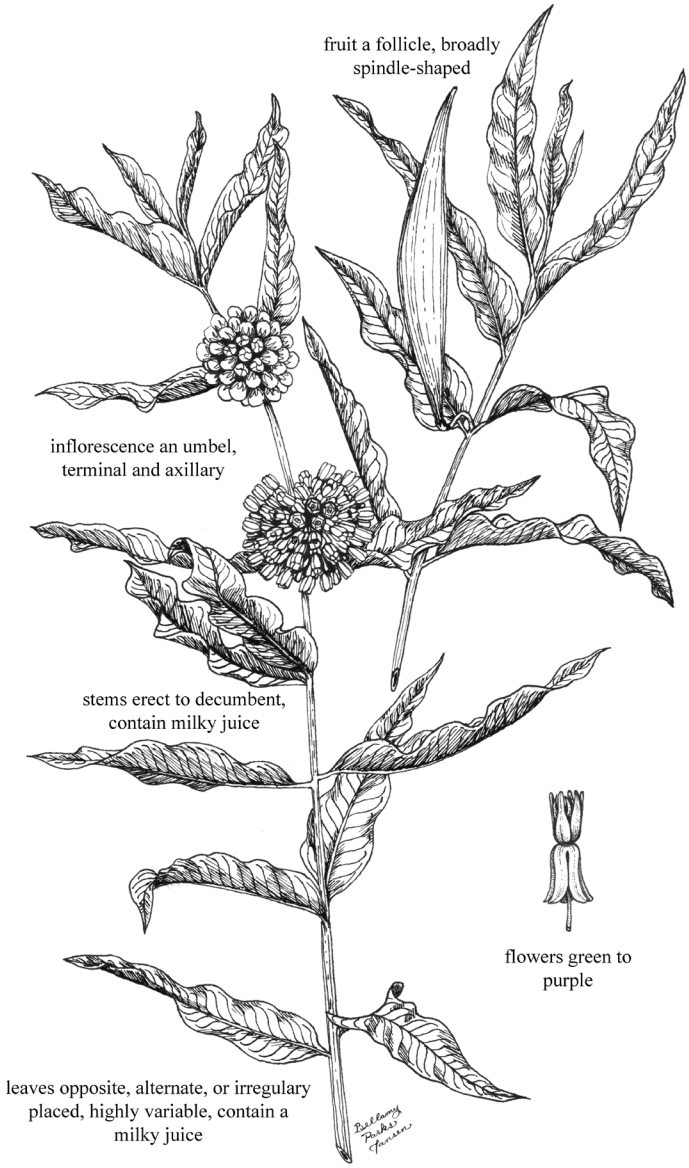
Prairie Restoration. Because green milkweed rapidly spreads it should only be sparingly added to prairie restorations to increase diversity.

Wildlife. It attracts butterflies and other insects, but it is not grazed by big game.

Ornamental. It can be planted in cultivated beds and butterfly gardens in dry sandy to loamy soils in full to partial sun. Green milkweed is a good honeybee plant.

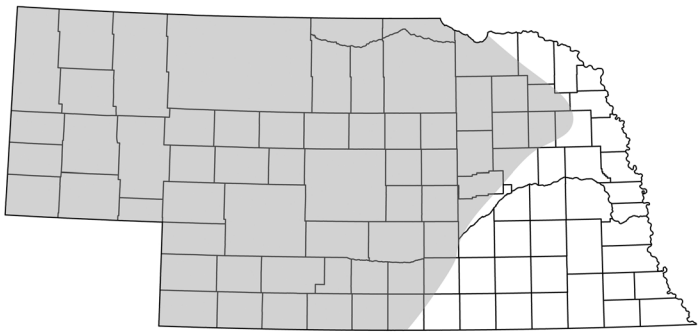
Other

Some Lakota fed crushed roots to children to treat diarrhea. The Blackfoot chewed the roots to relieve sore throat. Members of some tribes use the roots to flavor soup.



Green milkweed

Sand milkweed



COMMON NAME:	Sand milkweed
Species:	*Asclepias arenaria* Torr.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	0.3–0.6 m (1–2 ft)

Vegetative Characteristics

stems:	prostrate (at flowering) to erect (in fruit), solitary to few, stout, unbranched, contain a milky juice
leaves:	opposite, ovate to ovate-lanceolate below (4–8 cm long, 3–7 mm wide), oblong to ovate above, margins undulate, pubescent on both surfaces; midvein whitish, contain a milky juice
underground:	rhizome, deep

Inflorescence Characteristics

type:	umbel (3–4 cm wide), 2–9, axillary, flowers 25–50; peduncles (1–10 mm long) not exceeding the leaves, densely pubescent
flowers:	greenish to cream (sometimes faintly purplish) petals (8–10 mm long), strongly reflexed; hoods (about 4 mm long) shallowly 4-lobed; fragrant
fruits:	follicles (7–12 cm long, 2–3 cm wide), spindle-shaped, erect on recurved pedicels, glabrate, without tubercles; seeds many
seeds:	ovate, floss white to tan

Habitat

Sand milkweed grows in well-drained upland prairies and rangelands. It is most common in deep, loose, dry sand and does not grow in fine-textured soils.

Uses and Values

Forage. Forage of sand milkweed is rated as worthless. It has a bitter taste and is rarely grazed. It increases with improper grazing, but it rarely becomes abundant.

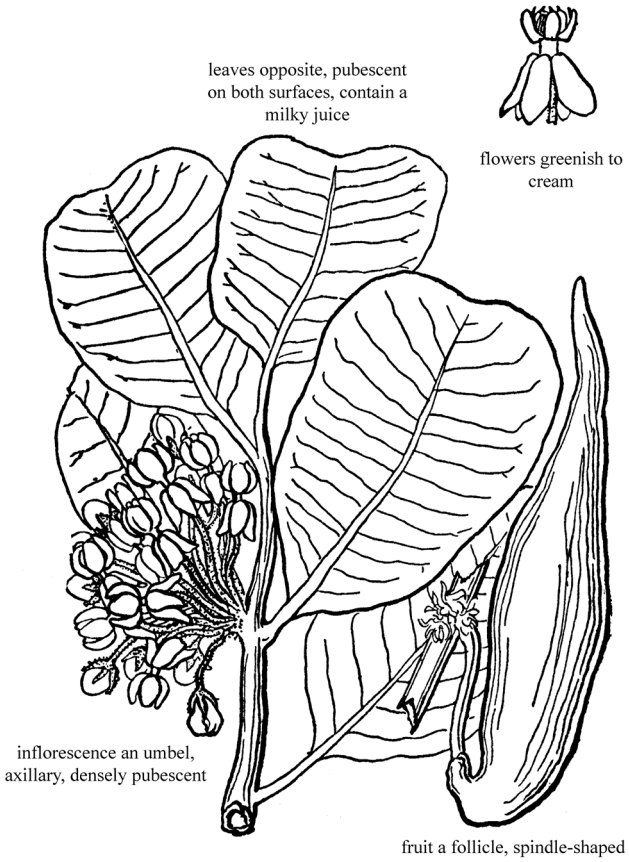
Poisoning. Sand milkweed is classified as potentially poisonous, but it is rarely eaten by livestock because of its bitter taste.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. It is rarely used in prairie restorations. Seed is rarely available commercially. Hand-harvested seed could be planted in restorations on appropriate sites.

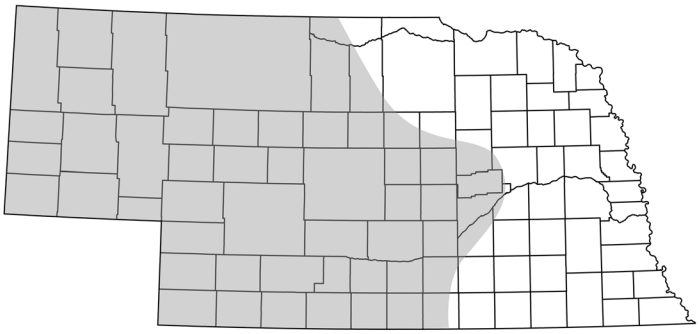
Wildlife. Butterflies and many other insects are attracted to sand milkweed flowers. Seeds are eaten by birds and small mammals, but the herbage is not eaten by big game.

Ornamental. Sand milkweed can be planted for butterfly gardens, but care must be taken so that it does not spread.



Sand milkweed

Showy milkweed



COMMON NAME:	Showy milkweed (silkweed)
Species:	*Asclepias speciosa* Torr.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect, solitary or in small clusters, simple to usually unbranched, stout; densely puberulent above, less so below; contain a milky juice
leaves:	opposite, may be alternate above, simple; blades broadly ovate to elliptic (7–14 cm long, 4–11 cm wide); tips rounded to acute; margins entire, flat or occasionally undulate; surfaces glabrous to puberulent above, tomentose below; midvein white to reddish; sessile to petiolate (petioles to 10 mm long); contain a milky juice
underground:	rhizomes, deep

Inflorescence Characteristics

type:	umbel, 1–4, terminal and axillary in the upper leaves; flowers 10–40; borne on peduncles (1–4 cm long)
flowers:	purplish-rose petals (9–15 mm long), reflexed to spreading, star-shaped; hood (9–15 mm long) and horns often whitish-pink to pink contrasting to the darker petals; calyx lobes green to purple (4–6.5 mm long), ovate, reflexed, densely tomentose; fragrant
fruits:	follicles (7–11 cm long, 2–3 cm thick), spindle-shaped, woolly; rough with numerous tubercles; seeds many
seeds:	tan to brown, ovate (6–9 mm long); floss white to tan (2–4.5 cm long)

Showy milkweed

Habitat

Showy milkweed is found in dry to moist sandy to rocky soils of rangelands, prairies, roadsides, floodplains, lakesides, disturbed sites, and cultivated fields.

Uses and Values

Forage. Forage of showy milkweed is rated as worthless. It is rarely grazed because of its bitter taste. Showy milkweed increases with improper grazing on rangeland, but it is seldom a problem.

Poisoning. Showy milkweed is potentially poisonous. It contains alkaloids, resins, and cardioactive glycosides; however, few losses of animals have been reported. The direct, forced feeding of green plant material has produced only toxic symptoms, not death.

Grassland Seeding. Showy milkweed is not included in grassland seed mixtures. However, it frequently establishes and increases in seeded areas.

Prairie Restoration. Showy milkweed usually appears in restorations within a few years of seeding. Therefore, it is not necessary to include it in restoration mixtures.

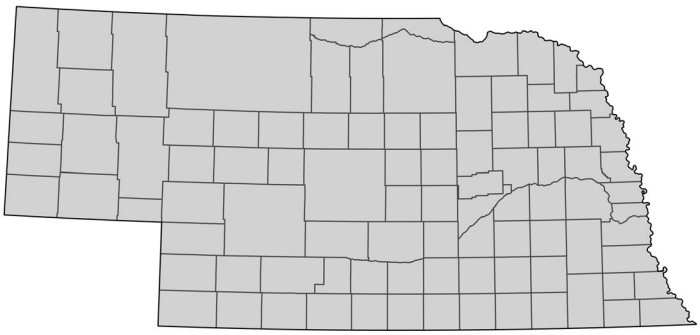
Wildlife. Butterflies and other insects are attracted to its flowers. Monarch butterflies lay eggs on the stems and leaves of most milkweed species. Monarch butterfly larvae feed on the plants, and the milky juice contains the toxins which make these butterflies unpalatable to birds. It is unpalatable to most wildlife and is advertised in garden catalogues as being "deer resistant."

Ornamental. Showy milkweed is sold in nurseries for use in perennial beds and butterfly gardens. It grows best in relatively dry, well-drained soils in full sun or in light shade. Showy milkweed and common milkweed (*Asclepias syriaca*) are more apt to be weedy than the other milkweeds.

Other

Some Native Americans made use of this plant as food, by cooking the young shoots, leaves, flower buds, and follicles. The dried latex was used as chewing gum. The long, silky hairs (floss) produced within the follicles are used as insulating material for clothing and blankets. The insulating properties of the processed floss is said to be superior to goose down. The entire plant contains a white milky juice.

Swamp milkweed



COMMON NAME:	Swamp milkweed
Species:	*Asclepias incarnata* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.3–2 m (1–6.6 ft)

Vegetative Characteristics

stems:	erect, usually solitary, sometimes clustered, simple to branching above; 2 lines of downy hairs on upper branches; sparingly pubescent to glabrate; contain a milky juice
leaves:	opposite, simple; blades linear-lanceolate to rarely ovate (3–15 cm long, 1–4 cm wide); tips sharply or gradually pointed; margins rolled downward toward lower side; finely veined; petioles short (3–18 mm long); contain a milky juice
underground:	fibrous roots, coarse; rhizomes short

Inflorescence Characteristics

type:	umbel, few to many, terminating stems and branches; flowers 8–40
flowers:	pink to rose-purple and rarely white petals (6–10 mm tall); lobes elliptic to oblanceolate (5–6 mm long), reflexed; calyx lobes lanceolate to ovate (1.2–2.4 mm long), green to purple
fruits:	follicles, spindle-shaped (5–9 cm long, about 1 cm wide); glabrous to sparsely pubescent; seeds many; pedicels straight or sometimes curved
seeds:	ovate (6–9 mm long); floss silky, white (1.5–3 cm long)

Habitat

Swamp milkweed grows in marshes and wet areas in pastures, rangelands, roadsides, waste areas, and along ditches, streams, and rivers.

Uses and Values

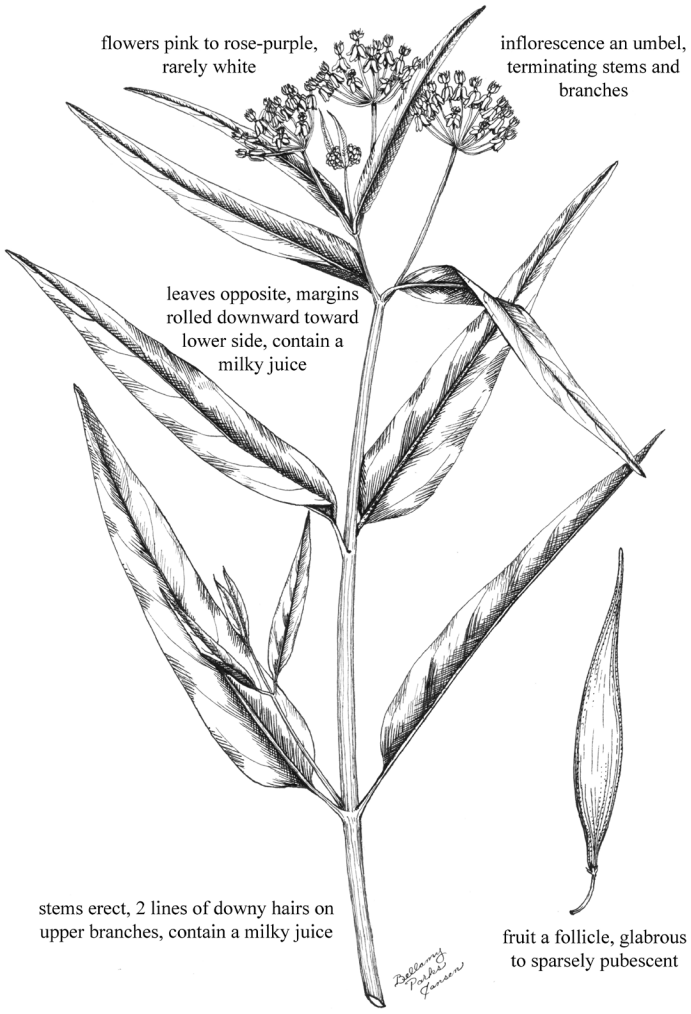
Forage. It is rarely grazed by livestock because it contains a bitter juice high in alkaloids. Swamp milkweed increases with improper grazing.

Poisoning. Swamp milkweed contains cardioactive glycosides and resins. However, few losses of cattle have been reported because it is rarely eaten. Mortality of sheep has been attributed to consumption of swamp milkweed.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Swamp milkweed adds color to prairie restorations containing wet sites.

Wildlife. It attracts many different kinds of butterflies. Big game animals rarely graze the foliage.



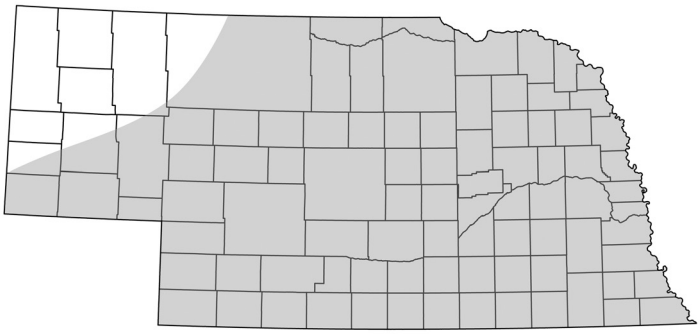
Swamp milkweed

Ornamental. It is commonly used in butterfly gardens, around stormwater basins, and in water gardens. The follicles are used in dry flower arrangements, and the flowers are used in fresh arrangements.

Other

Some Lakota pulverized the roots and applied it as a salve to reduce swelling of lymph glands. Members of some tribes drank a tea made from the leaves to expel worms from the digestive tract. Immature follicles were sometimes cooked and eaten. It was listed as a pharmaceutical plant in the 1800s.

Whorled milkweed



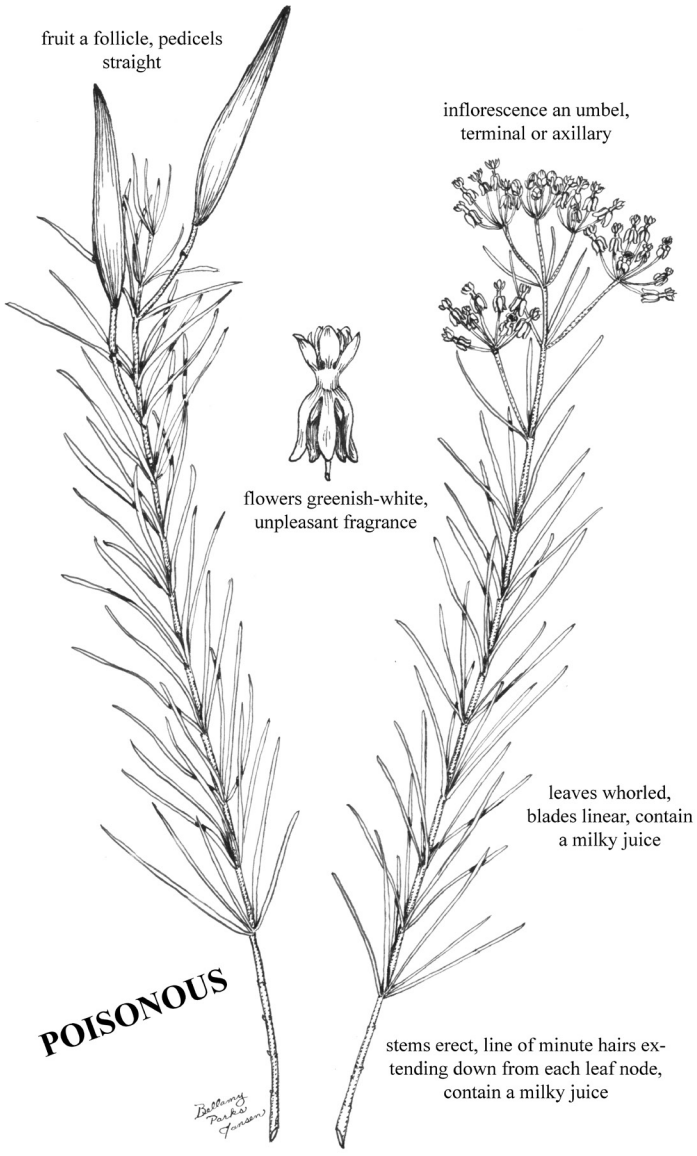
COMMON NAME:	Whorled milkweed
Species:	*Asclepias verticillata* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.3–0.9 m (1–3 ft)

Vegetative Characteristics

stems:	erect, solitary or in small clusters, usually unbranched, line of minute hairs extending down from each leaf node; contain a milky juice
leaves:	whorled (3–4 per node), simple; blades linear (2–7.8 cm long, 0.5–2.5 mm wide), tips pointed; margins entire, revolute; midvein white below; sessile; contain a milky juice
underground:	rhizomes; producing extensive colonies

Inflorescence Characteristics

type:	umbel, 1 to many, axillary or terminal; flowers many
flowers:	greenish-white (6–8 mm long, 4–5 mm wide); petals reflexed (3–4 mm long); hoods (1.5–2 mm long), open above with a tooth on each margin; calyx lobes triangular (1.2–2.5 mm long); fragrance unpleasant
fruits:	follicles (7–10 cm long, 5–8 mm wide), spindle-shaped; without tubercles; pedicels straight
seeds:	elliptic (about 5 mm long); floss white (2.5 cm long)



Whorled milkweed

Habitat

Whorled milkweed grows in sandy, clayey, or rocky soils of rangelands, prairies, floodplains, and open woodlands.

Uses and Values

Forage. Whorled milkweed increases with improper grazing on rangeland and has poor forage quality. It is rarely eaten by livestock.

Poisoning. Whorled milkweed is one of the more poisonous of the milkweeds with consumption of more than 2% of the animal's body weight being lethal. The poisonous principle is the same as for other milkweeds which includes alkaloids, resins, and cardioactive glycosides. These plants are distasteful to livestock when green and are seldom eaten. Death has resulted from feeding hay contaminated with whorled milkweed when the livestock were poorly nourished and hungry.

Grassland Seeding. It is not included in grassland seedings.

Prairie Restoration. A few plants can be added to prairie restorations to increase biodiversity.

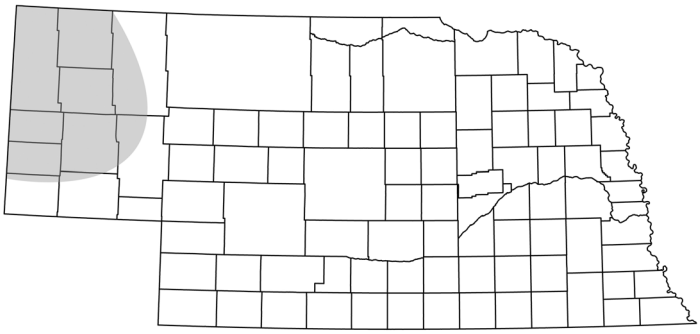
Wildlife. Whorled milkweed attracts butterflies and other insects.

Ornamental. It is sometimes planted in full sunlight in butterfly gardens. Unwanted stems are easy to pull or dig out to prevent aggressive spreading. The mature pencil-thin follicles are very decorative.

Other

Some Native Americans ate boiled leaves and follicles of whorled milkweed. Others used it to treat snakebites and nose and throat ailments. The entire plant contains a milky juice.

Nebraska lupine



COMMON NAME:	**Nebraska lupine (Platte lupine)**
Species:	*Lupinus plattensis* S. Watson [= *Lupinus perennis* L.]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	0.2–0.5 m (0.6–1.6 ft)

Vegetative Characteristics

stems:	erect to ascending, simple or branching, pubescent; hairs of various lengths
leaves:	alternate, palmately compound; leaflets 5–11, oblanceolate to spatulate (2–5 cm long); tips pointed; margins entire; upper surface usually glabrous; lower surface pubescent
underground:	rhizomes

Inflorescence Characteristics

type:	raceme (6–25 cm long), terminal
flowers:	conspicuously bicolored, upper petal (banner) blue with a darker spot, other petals (wings and keel) white or suffused with blue; petals 5, papilionaceous (1.2–1.4 cm long); calyx tube asymmetrical (2–3 mm long)
fruits:	pods (2–5 cm long), densely pubescent, seeds 3–8
seeds:	nearly circular (5–6 mm long, 4–6 mm wide), flat, yellowish-brown to black, smooth

Habitat

Nebraska lupine grows in sandy soils of rangelands, prairies, and stream valleys.

Uses and Values

Forage. Forage quality of Nebraska lupine is rated as fair for livestock. It increases with continued heavy grazing.

Poisoning. Nebraska lupine is classified as a poisonous plant because the pods and seeds contain alkaloids. Losses have occurred when domestic livestock, especially sheep, ate the pods. Symptoms are labored breathing, followed by coma, and then death from respiratory paralysis. Ingestion of only 0.25% of the animal's body weight of seeds has caused death. Even though the seeds are highly poisonous, this species only occasionally causes problems on Nebraska rangeland. Nebraska lupine also causes crooked calf disease. Deformed calves are born to cows that eat the plants when they are 40- to 70-days pregnant. Deer, bighorn sheep, and pronghorn eat these plants but are seldom poisoned.

Grassland Seeding. Nebraska lupine is not used in grassland seedings.

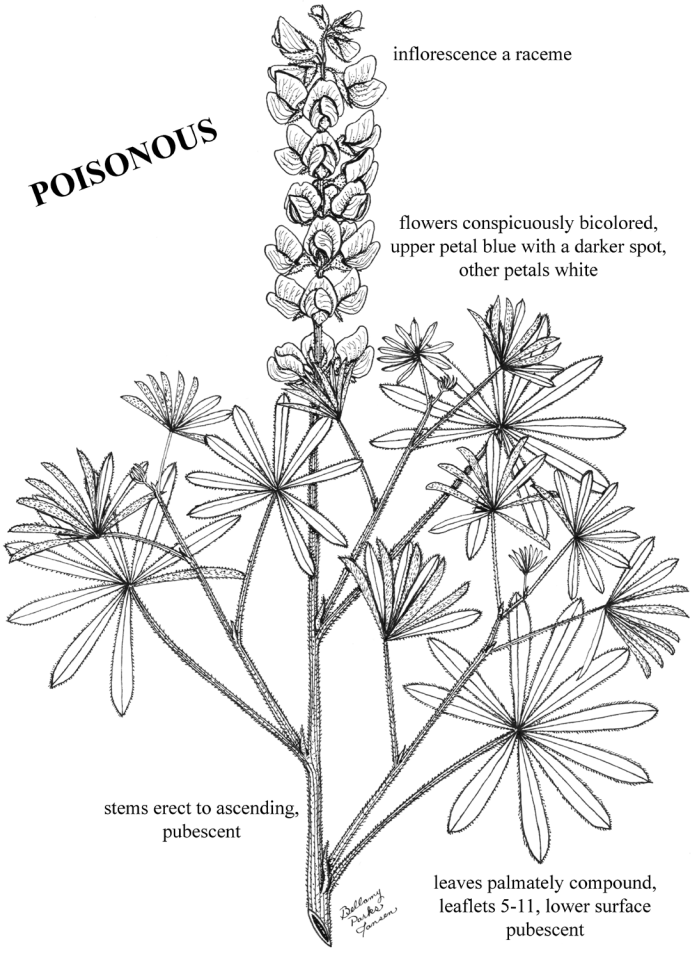
Prairie Restoration. It should be included in prairie restorations on appropriate sites.

Wildlife. Deer, pronghorn, and bighorn sheep occasionally graze Nebraska lupine. The seeds are important food for birds and small mammals.

Ornamental. The bicolored flowers of Nebraska Lupine make a colorful display in native gardens. Nebraska lupine seeds and plants are sold by nurseries. It is planted alone or in mixtures with other wildflowers.

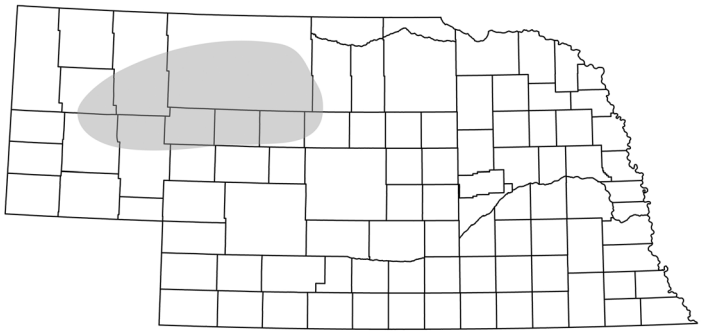
Other

Nebraska lupine has been reported to cause poisoning in children after eating a few seeds.



Nebraska lupine

Blowout penstemon



COMMON NAME:	**Blowout penstemon (blowout beardtongue, blowout bluebells, Hayden penstemon)**
Species:	*Penstemon haydenii* S. Watson
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to July
Height:	0.2–0.6 m (0.6–2 ft)

Vegetative Characteristics

stems:	ascending, decumbent at the base, few to many, often rooting at the nodes, glabrous
leaves:	alternate, leaves of basal shoots linear to linear-lanceolate (4–20 cm long, 3–30 mm wide), sessile and clasping, entire, glabrous, glaucous
underground:	taproot, stout

Inflorescence Characteristics

type:	cymose panicle (6–16 cm long), cylindrical, flowers 16–90; verticillasters 4–16; individual cymes with 4–6 flowers; bracts prominent and distinct from leaves below, broadly ovate, clasping, concealing the peduncles and most pedicels
flowers:	milky lavender to milky blue to rarely pinkish-blue or white; corolla (2.2–3 cm long) strongly bilabiate, lined internally with magenta nectar guides; sepals linear to linear-lanceolate (8–14 mm long); strongly and pleasantly fragrant
fruits:	capsules (1.3–1.7 cm long), sharply pointed, glabrous; seeds few to many
seeds:	discoid (2.5–4 mm long), dark to light brown; seed coat thick

Habitat

Blowout penstemon is restricted to loose sand in and on the margins of blowouts.

Uses and Values

Forage. Blowout penstemon is rarely eaten by cattle unless the area is in an intensive grazing system. Horses occasionally eat the inflorescences.

Poisoning. It has the potential to accumulate selenium, but it does not grow in seleniferous soils.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Seeds are not available.

Wildlife. Pronghorn and deer lightly graze the foliage, and small mammals and birds eat the seeds.

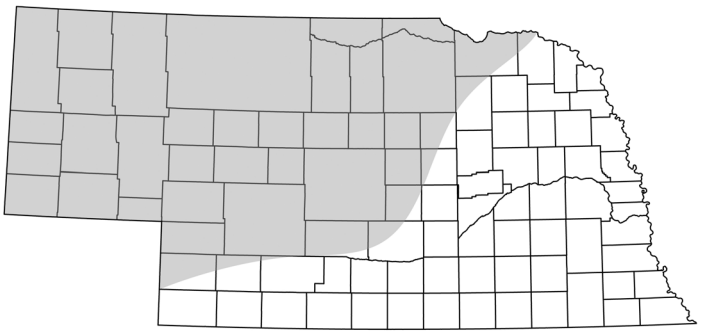
Ornamental. It has the potential to be an ornamental. However, seeds are not available because it is protected by the Federal Endangered Species Act.

Other

Blowout penstemon is included here because it grows on rangelands in the Nebraska Sandhills. It is the rarest plant species in Nebraska and the Great Plains. It is the only plant species in Nebraska listed (1987) as endangered under the Federal Endangered Species Act of 1973. If encountered, the plants should not be disturbed and no plants or plant parts should be removed.

Blowout penstemon

Narrow penstemon



COMMON NAME:	**Narrow penstemon (narrow beardtongue, narrowleaf penstemon)**
Species:	*Penstemon angustifolius* Nutt. *ex* Pursh
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	0.1–0.5 m (0.3–1.6 ft)

Vegetative Characteristics

stems:	erect or ascending, solitary to few, glabrous, glaucous
leaves:	opposite, simple; basal blades linear to spatulate (4–9 cm long, 2–18 mm wide), tips pointed; petioles winged; stem leaves linear to lanceolate (3–11 cm long, 2–24 mm wide), thick; margins entire; surfaces glabrous, usually glaucous; sessile to clasping
underground:	taproot; caudex, short-branching

Inflorescence Characteristics

type:	panicle (4–25 cm long), compact; bracts lanceolate (rarely ovate), acute or acuminate
flowers:	lavender to blue or pink; corolla tubular (1.4–2 cm long), glabrous, strongly bilabiate with 2 upper lobes and 3 lower lobes; calyx of 5 sepals (4–8 mm long); sepals lanceolate to lance-ovate, glabrous; not fragrant
fruits:	capsules (9–14 mm long); seeds many
seeds:	angular (2.5–3.5 mm long), dark brown to black

Habitat

Narrow penstemon grows on open gravelly to sandy soils of rangelands, prairies, and roadsides.

Uses and Values

Forage. Narrow penstemon is rated as fair forage for cattle and sheep. It is seldom grazed except during early spring when its forage value is at its highest. It decreases on improperly grazed rangeland.

Poisoning. All penstemons have the potential to be selenium accumulators, but they are seldom eaten in large enough quantities to be considered as a problem.

Grassland Seeding. It can be included in grassland seedings if seeds are available.

Prairie Restoration. Narrow penstemon should be included in prairie restorations to increase diversity. Seeds

Narrow penstemon

can be planted in the fall because stratification improves germination.

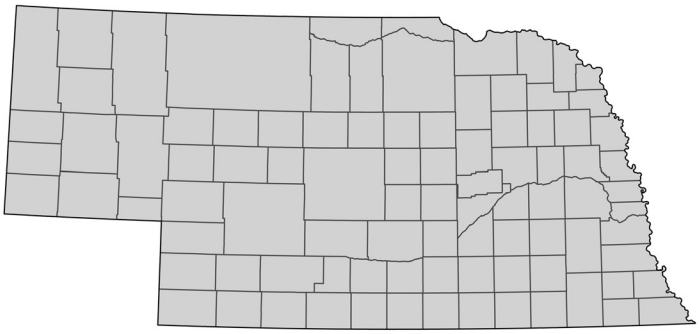
Wildlife. It is grazed by pronghorn, deer, bighorn sheep, and elk. The seeds provide important food for small mammals and ground-foraging birds.

Ornamental. Narrow penstemon can be grown alone or in a mixture of other prairie species in cultivated beds. It can be an attractive addition to rock gardens. It grows best in well-drained soils in full sunlight.

Other

Some Lakota used the blossoms to make a blue paint for moccasins.

Shell-leaf penstemon



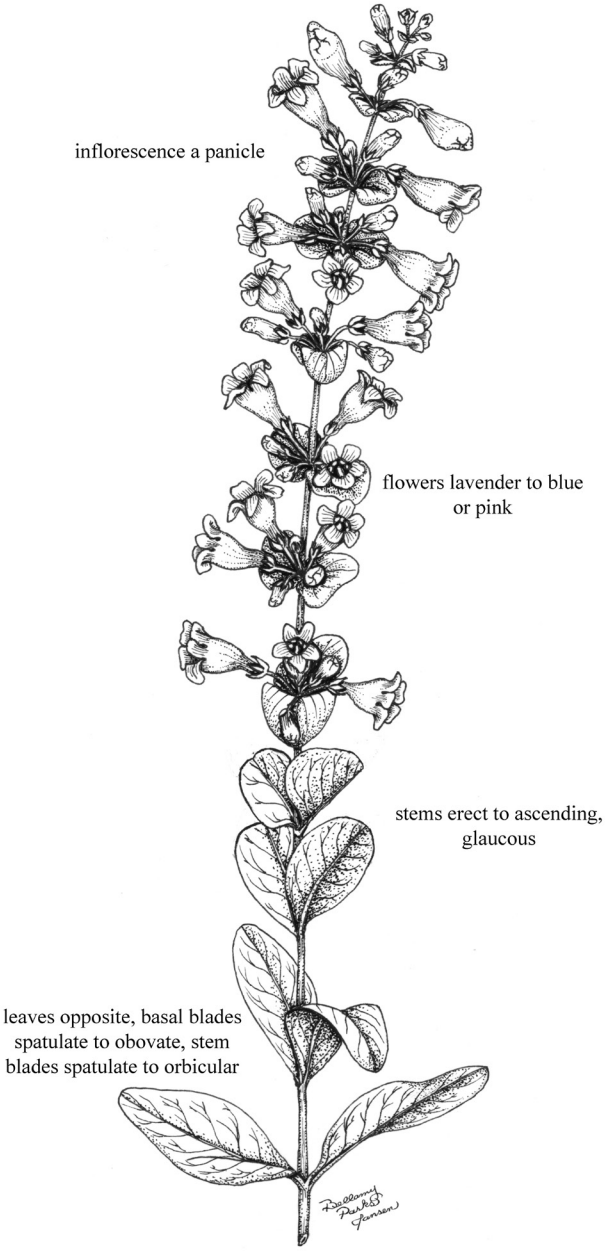
COMMON NAME:	**Shell-leaf penstemon (large beardtongue, largeflower beardtongue)**
Species:	*Penstemon grandiflorus* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to July
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect to ascending, usually 1–2, glabrous, glaucous
leaves:	opposite, simple; basal blades spatulate to obovate (3–16 cm long, 6–50 mm wide), acute to obtuse; petiolate; stem blades spatulate to orbicular (1.8–9 cm long, 1.5–5 cm wide), thick, firm; margins entire; surfaces glabrous, glaucous; clasping
underground:	taproot; woody caudex

Inflorescence Characteristics

type:	panicle (10–40 cm long), compact; bracts prominent, nearly orbiculate, heart-shaped, clasping
flowers:	lavender to blue or pink; corolla inflated (3.5–4.8 cm long), glabrous, bilabiate with 2 upper lobes reflexed or spreading and 3 lower lobes projecting or spreading; calyx of 5 sepals (7–12 mm long); sepals lanceolate to lance-ovate, glabrous; not fragrant
fruits:	capsules (1.6–2.0 cm long); seeds many
seeds:	angular (2.5–4 mm long), brown to dark brown



Shell-leaf penstemon

Habitat

Shell-leaf penstemon grows in sandy to loamy soils of rangelands and prairies.

Uses and Values

Forage. Shell-leaf penstemon has fair forage value for cattle. It tends to decrease on improperly grazed rangelands.

Poisoning. It has the potential to accumulate selenium, but it is seldom abundant enough to be considered as a problem.

Grassland Seeding. Shell-leaf penstemon can be included in grassland seedings on adapted sites if seeds are available. Stratification improves germination, and seeds can be planted in the fall.

Prairie Restoration. It is an important component in prairie restorations.

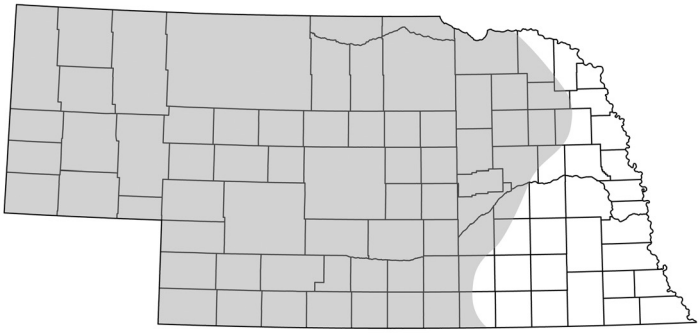
Wildlife. It is grazed by elk, deer, and pronghorn. It attracts hummingbirds, bumble bees, and butterflies. The seeds are an important food for ground-foraging birds and small mammals.

Ornamental. Shell-leaf penstemon seeds and plants are available from nurseries. They can be grown in cultivated beds. They are best adapted to well-drained soils and full sunlight.

Other

Some Dakota used a decoction of roots to treat chest pains and stomach aches. The Pawnee made a tea from the leaves to treat fever and chills and chewed the roots to relieve toothaches.

White penstemon



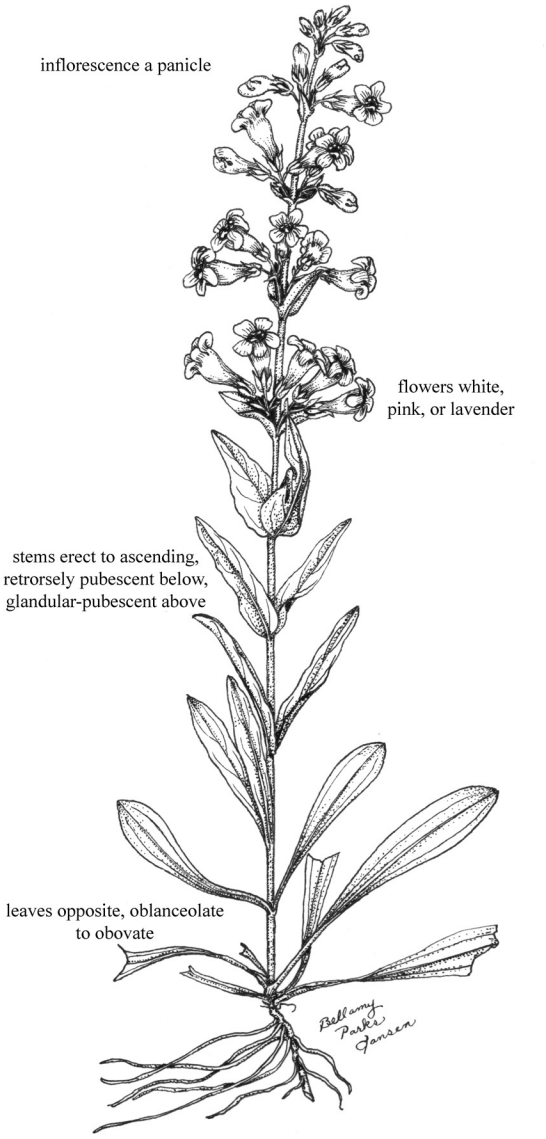
COMMON NAME:	White penstemon (white beardtongue)
Species:	*Penstemon albidus* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	April to July
Height:	0.1–0.5 m (0.3–1.6 ft)

Vegetative Characteristics

stems:	erect to ascending, 1 to few, retrorsely pubescent below, glandular-pubescent above
leaves:	opposite, simple; basal blades oblanceolate to obovate (2–8.5 cm long, 7–19 mm wide), tips pointed, petioled; stem leaves lanceolate (2.5–6.5 cm long, 7–19 mm wide), sessile and clasping; tips pointed; margins entire to remotely serrate; surfaces nearly glabrous to pubescent beneath on the major veins; upper leaves clasping, others sessile
underground:	taproot; short-branched caudex

Inflorescence Characteristics

type:	panicle (4–25 cm long), compact, compound; bracts lanceolate, acute
flowers:	white, pink, or lavender; corolla (1.5–2.5 cm long) with dark purple lines on the throat, funnel-shaped, short glandular hairs present inside, bilabiate with 2 upper lobes and 3 lower lobes; calyx of 5 sepals; sepals lanceolate to lance-ovate (4–8 mm long), glandular to pubescent; not fragrant
fruits:	capsules (8–12 mm long); seeds many
seeds:	black to dark brown (2–3 mm long), angular



White penstemon

Habitat

White penstemon grows in dry sandy to gravelly soils of rangelands and prairies.

Uses and Values

Forage. Forage quality of white penstemon is considered fair for cattle and sheep. Forage quality is much higher when the plants are young. The plants decrease with continuous heavy grazing.

Poisoning. All penstemons have the potential to be selenium accumulators, but they are seldom consumed in large enough quantities to be considered as a problem.

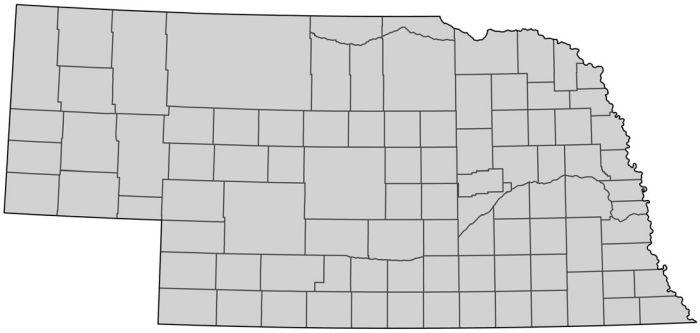
Grassland Seeding. White penstemon is not used in grassland seedings.

Prairie Restoration. It should be included in restorations on adapted sites. Seeds can be planted in the autumn because stratification improves germination.

Wildlife. White penstemon provides fair forage for pronghorn, bighorn sheep, and deer. The seeds are important food for small mammals and ground-foraging birds.

Ornamental. White penstemon seeds and plants are commercially available. It is drought tolerant and makes an excellent addition to native plant and rock gardens, although it has a relatively short life span. It grows best in well-drained soils in full sun.

Prairie coneflower



COMMON NAME:	**Prairie coneflower (upright prairieconeflower, Mexican hat)**
Species:	*Ratibida columnifera* (Nutt.) Wooton & Standl. [= *Ratibida columnaris* (Sims) D. Don]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.2–1 m (0.6–3.3 ft)

Vegetative Characteristics

stems:	erect or ascending, solitary to several, not branched or branched above, strigose-hirsute, ridged
leaves:	alternate, simple; pinnatifid to partly bipinnatifid (up to 12 cm long, 6 cm wide), segments 5–9; segments linear to oblong (to 1.6 cm wide), often very unequal; surfaces strigose and glandular-dotted
underground:	taproot

Inflorescence Characteristics

type:	heads (1–5 cm long), terminal, on a long peduncle; ray florets 4–11; disk florets many
flowers:	yellow (red to brown at base of petals) ray florets, spreading or reflexed, notched at the tip; reddish-brown to purplish disk florets (1.5–2.5 mm long), in a cylindrical column; column rounded on the top
fruits:	achenes (1.5–3 mm long), oblong, ciliate on inner edge, minutely winged; seeds 1
seeds:	small

Habitat

Prairie coneflower is common on rangelands, roadsides, and open wastelands in all types of soil. However, it grows best on well-drained soils that are neutral to alkaline.

Uses and Values

Forage. Prairie coneflower furnishes fair forage for cattle and good forage for sheep and increases with heavy grazing. It is particularly palatable early in the season. It is seldom abundant enough to be an important forage.

Poisoning. None.

Grassland Seeding. It is frequently seeded with grasses to add diversity to the vegetation.

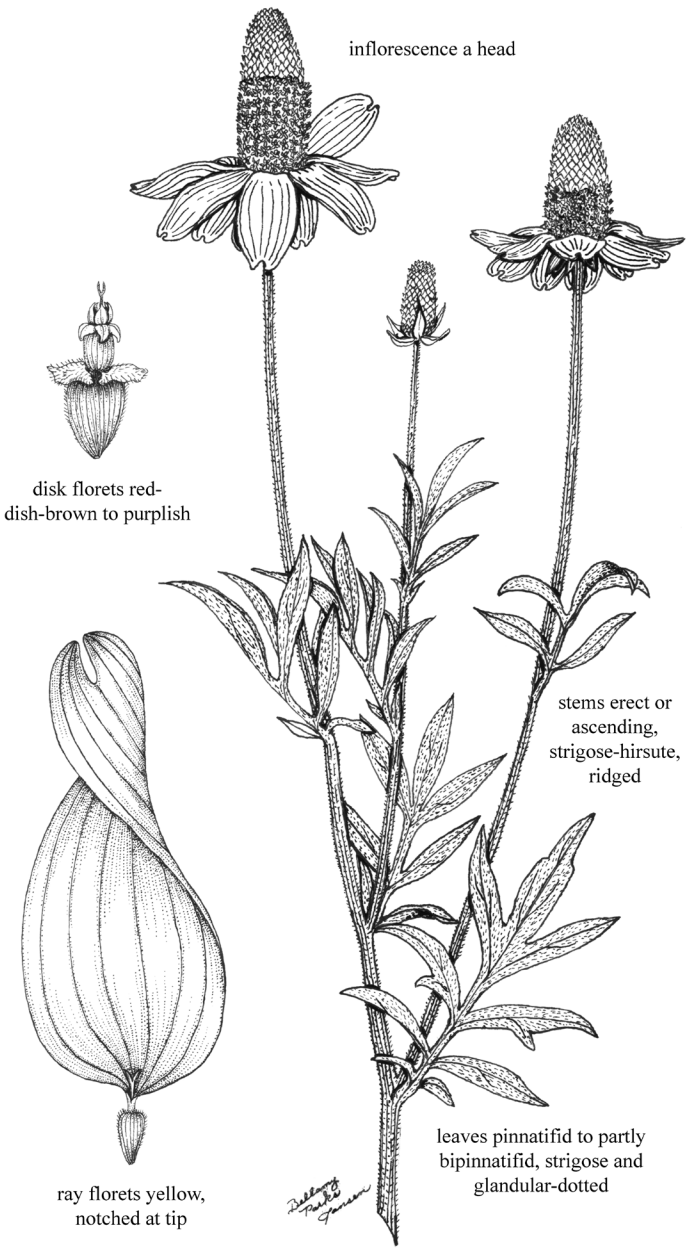
Prairie Restoration. Prairie coneflower should be a component of prairie restoration mixtures. Stratification improves germination. It may flower during the year it is planted.

Wildlife. Prairie coneflower is grazed by deer, elk, bighorn sheep, and pronghorn. Upland gamebirds and small mammals eat the seeds. It attracts butterflies.

Ornamental. It is commonly grown as an ornamental from seeds or plant divisions. It is grown in perennial beds and is sometimes used as a cut flower. Prairie coneflower is a short-lived perennial that reseeds itself. Mexican hat is one of the common names used in horticulture.

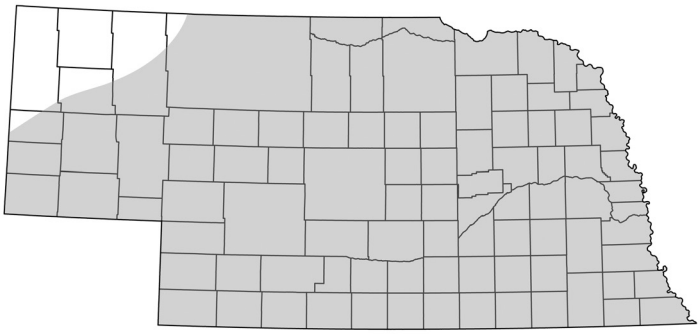
Other

Some Cheyenne boiled leaves and stems to make a yellow solution applied externally to draw out poison from rattlesnake bites and to obtain relief from poison ivy. Members of other tribes made tea from the flowers and leaves.



Prairie coneflower

Prairie larkspur



COMMON NAME:	**Prairie larkspur (plains larkspur)**
Species:	*Delphinium virescens* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	0.3–0.8 m (1–2.6 ft)

Vegetative Characteristics

stems:	erect, branched to unbranched, pubescent
leaves:	alternate, simple; blades rotund (2–7 cm long), basal and cauline, 6 to numerous; upper leaves sessile, palmately segmented, segments lanceolate to linear; both surfaces pubescent
underground:	fibrous roots, with tuberlike divisions

Inflorescence Characteristics

type:	raceme (10–25 cm long), spikelike, terminal, flowers 5–30; pedicels to 1.3 cm long in flower and to 3 cm long in fruit
flowers:	white, occasionally blue-tinged or blue-spotted; lower petals elliptical (4–8 mm long, 3–6 mm wide), bifid; spur (1.1–2 cm long) often curved upward
fruits:	follicles (1–3 cm long), cylindrical, pubescent; usually erect; seeds many
seeds:	shape variable (1.5–2 mm long), brown, scaly with irregular wings

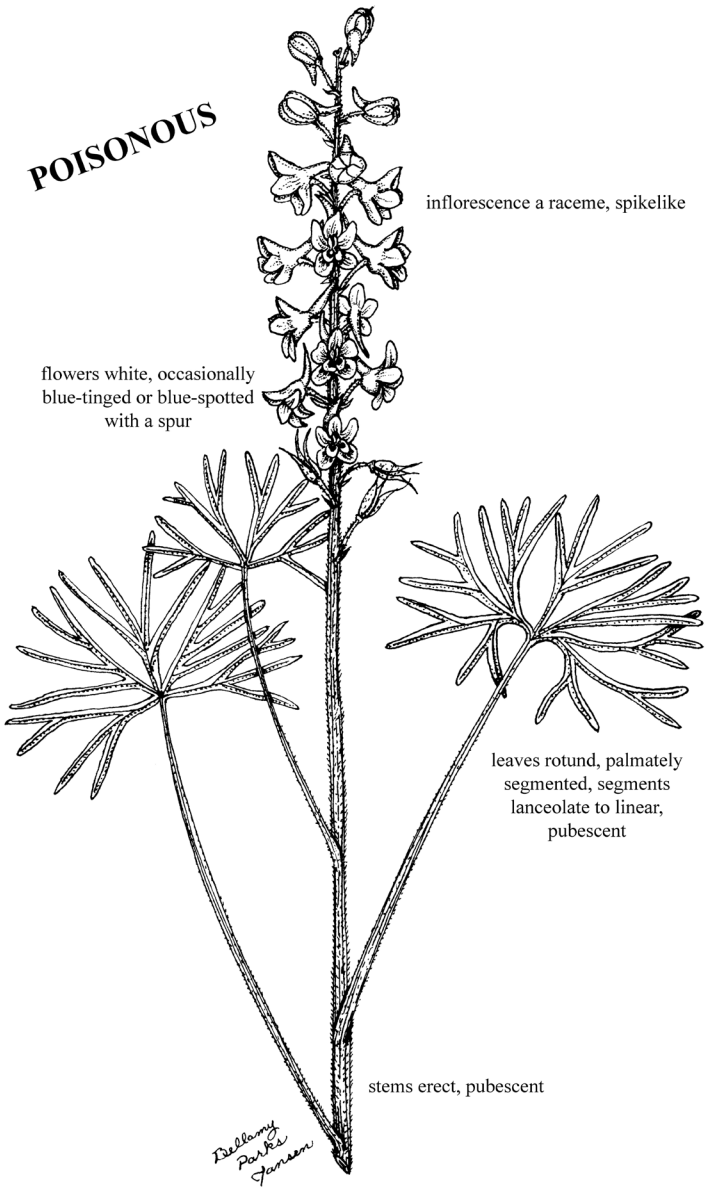
Habitat

Prairie larkspur grows on rangelands, pastures, and prairies in all types of soil.

Uses and Values

Forage. Palatability of prairie larkspur is good for both cattle and sheep. However, forage quality for cattle is poor because it is highly poisonous. Prairie larkspur increases on heavily grazed rangeland.

Poisoning. Prairie larkspur contains several alkaloids. It is highly poisonous to cattle. Poisonous symptoms displayed by cattle are primarily weakness and repeated falling. The animals fall on their front knees while remaining standing on their back legs. Bloat is common. Death is usually a result of respiratory failure. Level of toxicity greatly decreases after seed dispersal. The seeds remain poisonous. Sheep and horses are less likely than cattle to be poisoned by prairie larkspur. Unlike most poisonous plants, it is



Prairie larkspur

highly palatable. Contact of skin with the foliage may cause dermatitis in humans.

Grassland Seeding. Prairie larkspur is not used in grassland seedings.

Prairie Restoration. It can be used in prairie restorations to increase diversity. It is sometimes included in packaged restoration mixtures. Also, it can be started from crown cuttings.

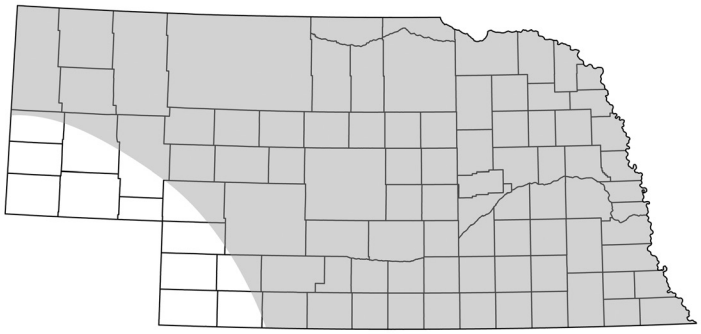
Wildlife. Pronghorn have been observed grazing prairie larkspur. Apparently, they are not poisoned. It attracts hummingbirds, and bumble bees help to pollinate prairie larkspur.

Ornamental. It is a common ornamental and is used in perennial beds and for cut flowers. It grows best in full sun to partial shade in well-drained soil. It requires staking unless it is supported by tall grasses.

Other

Some Native Americans and early pioneers made a salve from prairie larkspur seeds and applied it to kill body lice and mites.

Purple coneflower



COMMON NAME:	**Purple coneflower (blacksamson, echinacea, narrowleaf purpleconeflower)**
Species:	*Echinacea angustifolia* DC.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to July
Height:	0.3–0.6 m (1–2 ft)

Vegetative Characteristics

stems:	erect, usually unbranched, with spreading hairs above, glabrous below; single on plants in poor soils, multiple stems on more fertile soils
leaves:	alternate, simple; blades elliptic to oblong (5–30 cm long, 1–4 cm wide); basal leaves petiolate; stem leaves sessile; veins 3, prominent; margins entire, ciliate; both surfaces with rough, appressed hairs; tapering to a winged petiole
underground:	rhizomes; taproot (1.5–2 m long), woody

Inflorescence Characteristics

type:	head (3–7 cm wide), terminal, solitary
flowers:	purple to purplish-white ray florets 12–20 (2–4 cm long, 5–8 mm wide), often overlapping spreading to drooping, cleft; disk florets (6–8 mm long), purplish-brown bracts (6–11 mm long), chaffy, with apical spines
fruits:	achene (4–5 mm long), flat; seeds 1
seeds:	brown

Habitat

Purple coneflower may be locally common on dry uplands to rocky sites of prairies, rangelands, and open woodlands. It is not common in the Sandhills.

Uses and Values

Forage. Purple coneflower has good forage quality for livestock. It decreases with heavy grazing on rangelands and its presence is generally considered to be an indicator of vegetation in high condition.

Poisoning. None.

Grassland Seeding. It usually is not included in grassland seedings because of the cost of seed.

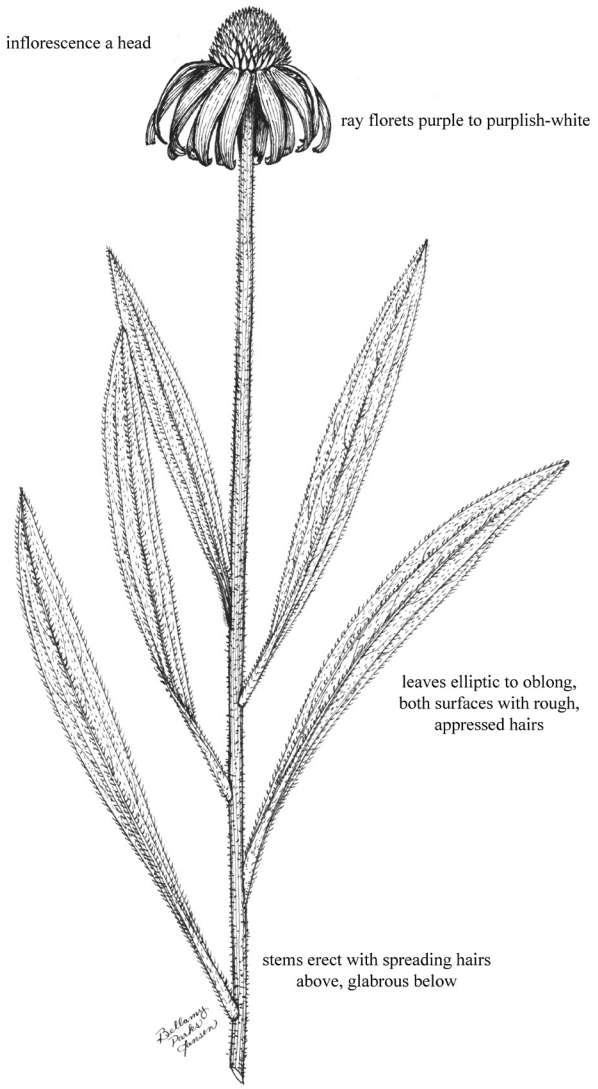
Prairie Restoration. Purple coneflower should be included in prairie restorations for its aesthetic and wildlife values.

Wildlife. The heads of purple coneflower are eaten by deer and pronghorn. The foliage has good forage quality for wildlife, and the seeds are eaten by songbirds and small mammals.

Ornamental. Purple coneflower can be grown alone or in mixtures of wildflowers. Plants and seeds are readily available from nurseries. It should be planted in full sun, but it will tolerate some shade. It takes two growing seasons before flowering profusely. The stems should be cut back after the flowers fade to encourage more blooms and prevent self-seeding.

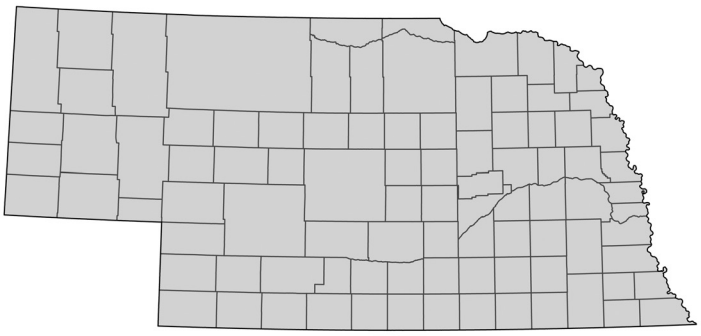
Other

The roots of purple coneflower were used by some Native Americans for an antidote to snakebite, stings, and other venomous bites. Roots were also used to treat toothache, mumps, sore throats, and stomach cramps. Smoke from burning purple coneflower was used to relieve headache and to treat distemper in horses. Some Native Americans discovered that purple coneflower was a burn preventative and allowed the body to endure extreme heat. Medicine men bathed their hands and arms in juice from the root, then would walk through the camp and pick out pieces of meat from boiling pots to impress others with the extent of their power. Medicinal interest in this species remains high, and pharmaceutical firms market the roots in various forms as a homeopathic remedy to treat colds, flu, and other ailments.



Purple coneflower

Purple poppymallow



COMMON NAME:	Purple poppymallow
Species:	*Callirhoë involucrata* (Torr. & A. Gray) A. Gray
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to October
Height:	0.1–0.8 m (0.3–2.6 ft)

Vegetative Characteristics

stems:	trailing to ascending at the tips, rooting from the nodes; few to several per plant, pubescent
leaves:	alternate, simple; blades round to cordate (2–7 cm long, 3–9 cm wide), palmately 5–7-cleft, lobed and toothed; ultimate divisions nearly linear; upper surface covered with straight hairs; lower surfaces with stellate hairs; petioles equal to or longer than the blades
underground:	taproot, turnip-shaped, deep

Inflorescence Characteristics

type:	mostly solitary flowers in leaf axils; involucre bracts 3; bracts linear to lanceolate or oblanceolate (6–15 mm long), veins 3
flowers:	purplish-red corolla with white bases, petals 5; petals obovate to obtriangular (1.5–3.5 cm long); calyx broadly bell-shaped; whitish veins prominent, long spreading hairs; sepals 5 (7–15 mm long); pedicels 2–12 cm long; fragrant
fruits:	schizocarps of a rings of carpels (3–5 mm tall, 9–12 mm in diameter), carpels 15–22, wrinkled, strigose, lateral faces reticulate; beak prominent (1–1.5 mm tall); seeds 1 per carpel
seeds:	broadly elliptic to nearly round (2.5–3 mm long); notched at the hilum, brown lustrous

Habitat

Purple poppymallow grows in prairies, pastures, rangelands, roadsides, and disturbed ground.

Uses and Values

Forage. Purple poppymallow provides fair forage for sheep, but it is nearly worthless to cattle. It increases on improperly grazed areas, especially during dry periods.

Poisoning. None.

Grassland Seeding. It is not used in grassland seeding mixtures.

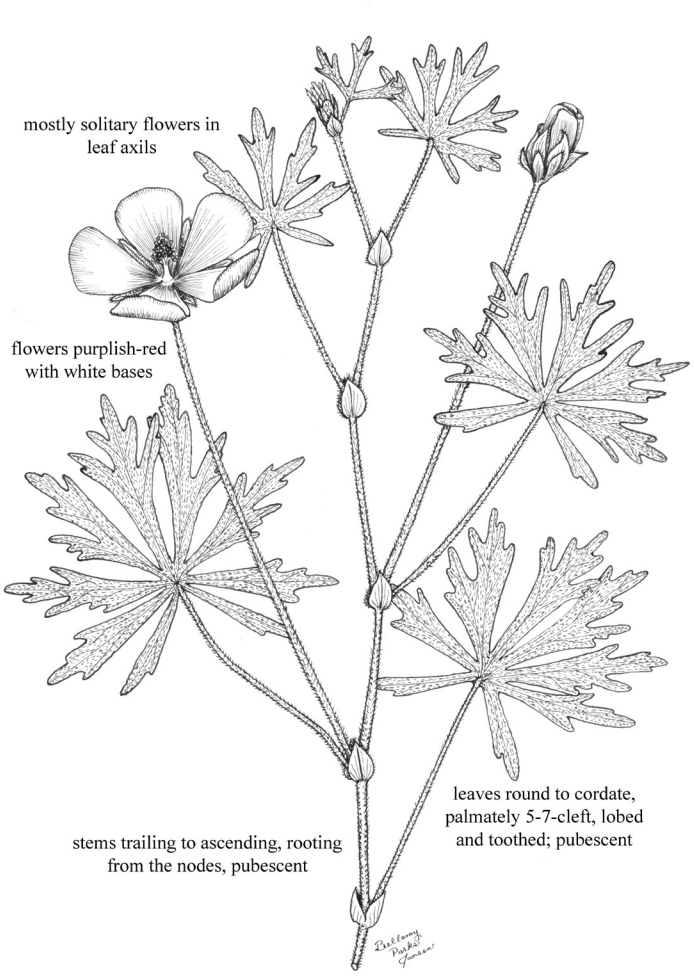
Prairie Restoration. It should be included to add color and diversity to restorations on appropriate sites.

Wildlife. It provides fair forage for deer.

Ornamental. It is commonly available from nurseries and is occasionally grown in rock gardens and in mixtures of wildflowers. The trailing habit of purple poppymallow allows its use as a ground cover or as a cascading plant over garden walls. It does best in full sun and in well-drained soils. It can be planted from seeds, cuttings, or potted plants as it does not tolerate division or root disturbance.

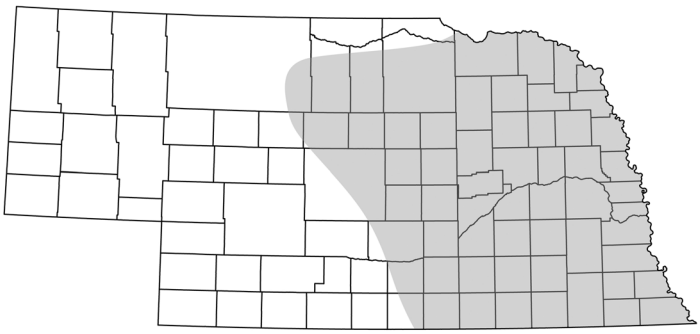
Other

Some Native Americans boiled the roots and drank the liquid for intestinal pains. Others burned the dry roots and inhaled the smoke for head and bronchial colds. Roots were eaten boiled or raw.



Purple poppymallow

Pussytoes



COMMON NAME:	**Pussytoes (catsfoot, catspaw, everlasting pussytoes)**
Species:	*Antennaria neglecta* Greene
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	March to June
Height:	5–20 cm (2–8 in)

Vegetative Characteristics

stems:	mat-forming or in clones, stoloniferous; flowering stem white tomentose
leaves:	alternate, simple; stem leaves few, blades linear, tipped with a flat and curved appendage; basal leaves appearing as a rosette, blades lanceolate to spatulate (1–2 cm long), center vein prominent; margins entire; surfaces with gray-to-white tomentose hairs; petiolate
underground:	taproot, shallow

Inflorescence Characteristics

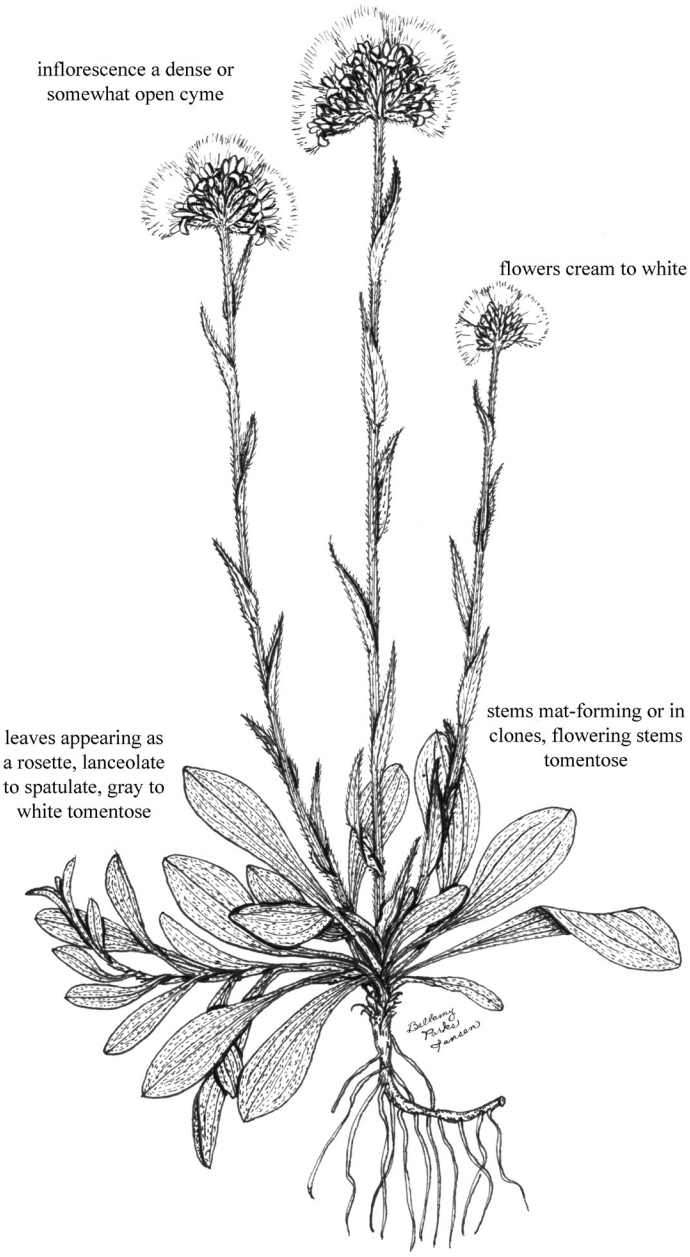
type:	heads several in a dense or somewhat open cyme on an erect stem; dioecious; pistillate inflorescence often appears racemose; involucre bracts in several series (7–10 mm long)
flowers:	cream to white (male florets sometimes pink to red); numerous, discoid, longate; male florets club-shaped, flattened, corolla tubular; female florets like the male florets only the corolla tube is more slender and the pappus longer
fruits:	achenes (1–2 mm long), terete, elliptic, minutely hairy, tan to brown; seeds 1
seeds:	small

Habitat

Pussytoes grows in all types of soil on rangelands, prairies, open woodlands, and pastures. It thrives on poor soils where little else can grow and serves as a soil binder. Five other species of pussytoes grow in Nebraska. They are similar in appearance. The combined species are found in all Nebraska counties.

Uses and Values

Forage. Pussytoes has little or no forage value for cattle. It is too short for grazing and its palatability is low. It increases with improper grazing on rangeland because of re-



Pussytoes

duced competition from the heavily utilized forage plants. Sheep sometimes eat the flowers.

Poisoning. None.

Grassland Seeding. Pussytoes is not included in grassland seeding mixtures.

Prairie Restoration. The seeds are occasionally available commercially, or they could be harvested by hand and planted in prairie restorations. The seeds are extremely small. The plants grow and spread slowly, but the mat-forming growth form could help to reduce soil erosion.

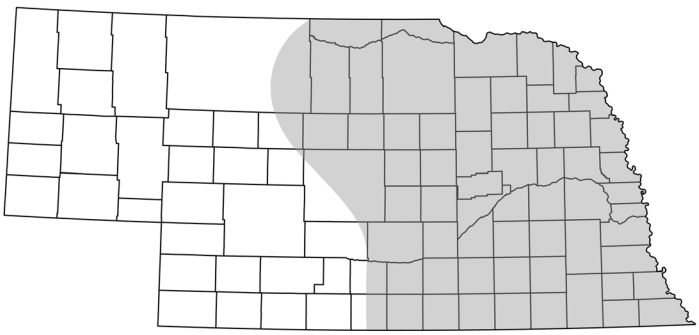
Wildlife. Deer, bighorn sheep, and pronghorn occasionally eat the flowers of pussytoes when taller and more palatable vegetation is not available.

Ornamental. The slow-growing, mat-forming growth, and dark green foliage of pussytoes make it an attractive rock garden plant. This Nebraska native has white flowers while many cultivars are available with white to rose flowers and in heights from 5 cm (2 in) to 45 cm (18 in). Most are evergreen or semi-evergreen. The plants use little moisture and cannot tolerate deep shade. The short flowering stems are sometimes used in autumn and winter flower arrangements.

Other

Some Native Americans used pussytoes for a digestive tonic, to induce labor, and as a treatment for snake bite. Children extracted a gum from the stems and chewed it. It appears to have allelopathic properties, reducing the density and height of other plants within its tight community.

Roundhead lespedeza



COMMON NAME:	**Roundhead lespedeza (roundhead bushclover)**
Species:	*Lespedeza capitata* Michx.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	0.6–2 m (2–6.6 ft)

Vegetative Characteristics

stems:	erect, rigid, simple or branched above, silvery-pubescent
leaves:	alternate, pinnately 3-foliate; leaflets elliptic to lanceolate (2–4.5 cm long, 5–18 mm wide); tip with a small bristle, margins entire, upper surface lightly pubescent, lower surface silvery-pubescent; petioles (2–5 mm long) shorter than the stalk of the terminal leaflet
underground:	taproot, branching caudex

Inflorescence Characteristics

type:	raceme or spike or headlike cluster (1.2–2.5 cm long), globose to short-ovoid, axillary, flowers 10–45, crowded
flowers:	cream to white, sometimes with a purple spot on the banner petal (8–12 mm long), petals 5, papilionaceous; calyx tube persistent (0.5–1 mm long), reddish-brown
fruits:	pods (4–7 mm long), elliptic to oblong, pubescent; seeds 1
seeds:	smooth, shiny

Habitat

Roundhead lespedeza is found on rangelands, prairies, pastures, sand dunes, and roadsides.

Uses and Values

Forage. Roundhead lespedeza is a native legume that has excellent forage value for all classes of livestock. It decreases with continued heavy grazing.

Poisoning. None.

Grassland Seeding. Seeds are commercially available, and it can be included in grassland seedings. The seeds should be scarified to improve germination and treated with the proper *Rhizobium* so that the plants will fix nitrogen.

Prairie Restoration. Roundhead lespedeza should be added to prairie restorations on appropriate sites.

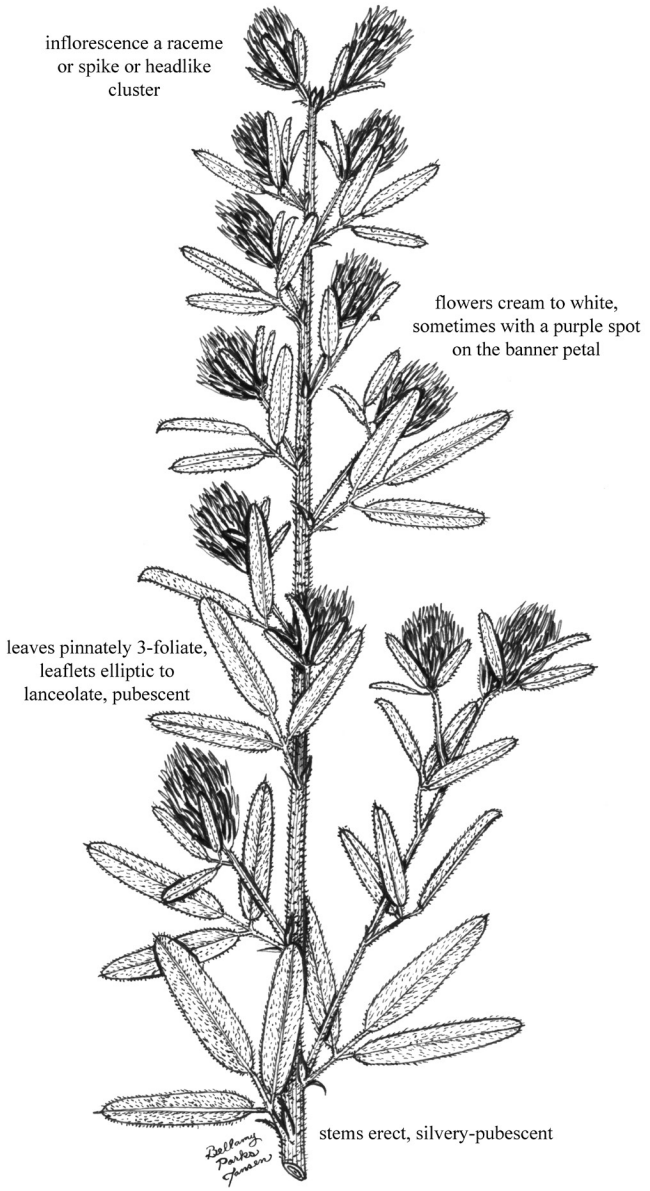
Wildlife. It provides excellent forage for deer and elk.

The seeds provide excellent food for upland gamebirds, especially quail.

Ornamental. Roundhead lespedeza is occasionally used in wildflower mixtures in landscape plantings. It does best in full sun to light shade in well drained soils. Flowers form a greenish, globelike inflorescence which turns brown in the fall. It adds a rich bronze color to dried flower arrangements.

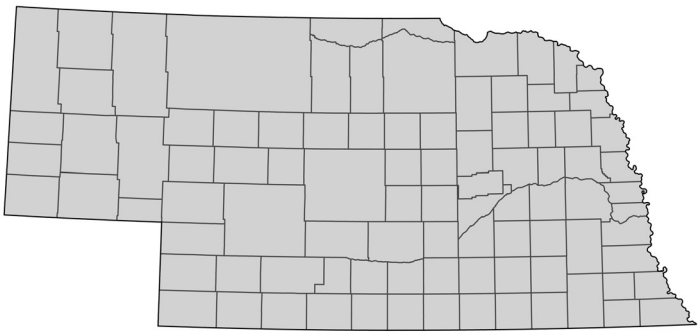
Other

Some Native Americans on the Great Plains made a beverage from the leaves. Members of the Omaha and Ponca burned pieces of stem into their flesh as counterirritants for rheumatism and neuralgia. Young shoots can be added to salads.



Roundhead lespedeza

Rush skeletonplant



COMMON NAME:	**Rush skeletonplant (rush skeletonweed, skeletonweed)**
Species:	*Lygodesmia juncea* (Pursh) D. Don *ex* Hook.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	0.1–0.7 m (0.3–2.3 ft)

Vegetative Characteristics

stems:	erect to ascending, highly branched, stiff, green; contain a yellow, milky latex
leaves:	alternate, simple; blades few; lower blades linear to lanceolate (1–4 cm long); cauline leaves scalelike; tips pointed; veins parallel; margins entire; surfaces glabrous; sessile
underground:	rhizomes; contain a yellow, milky latex

Inflorescence Characteristics

type:	heads (sometimes in corymblike or paniclelike arrangements), solitary, terminating branches, numerous; ray florets 5–7; involucre bracts 5–7 (1.3–1.6 cm tall), linear
flowers:	pink to lavender (sometimes white); ligules 1–1.2 cm long, 5-toothed
fruits:	achenes (6–10 mm long), cylindrical; pappus of bristles (6–9 mm long); seeds 1
seeds:	small

Habitat

Rush skeletonplant grows in all soil types on rangelands, prairies, roadsides, and waste places. It is most abundant in sandy soils and on alkaline sites.

Uses and Values

Forage. Because of a bitter taste, rush skeletonplant has poor forage quality when mature. It may be readily eaten when young. It may increase with abusive grazing, but it never becomes abundant.

Poisoning. Rush skeleton may be toxic to livestock during dry periods due to accumulated nitrates, but it is generally not abundant enough to be a problem.

Grassland Seeding. It is not used in grassland seedings.

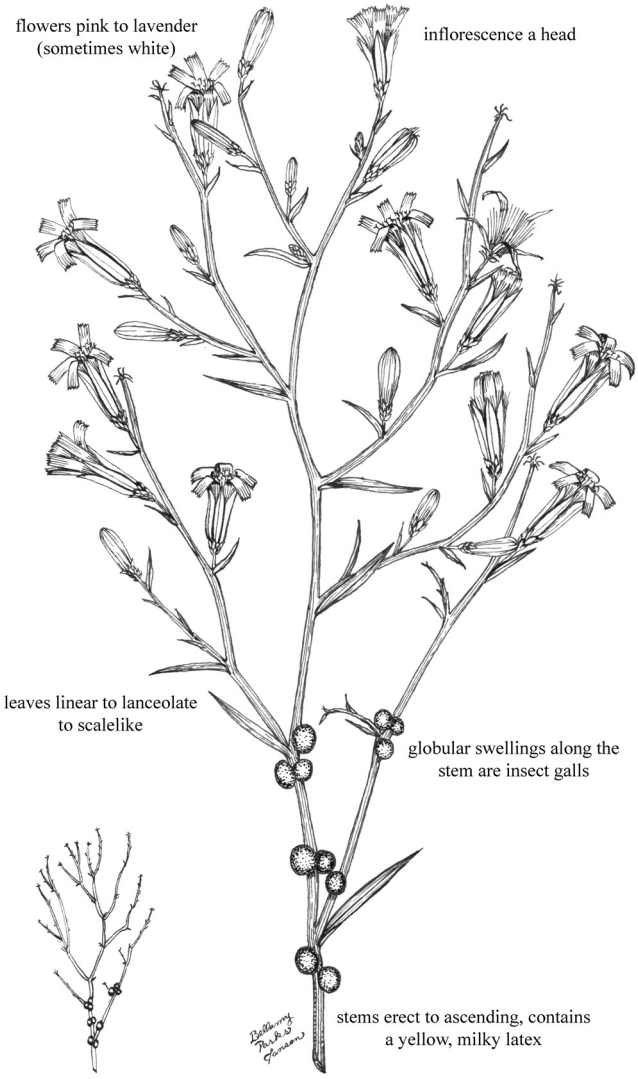
Prairie Restoration. Rush skeletonplant is occasionally added to prairie restorations to increase diversity.

Wildlife. Deer and pronghorn may eat young plants.

Ornamental. It has not been widely used in landscape plantings.

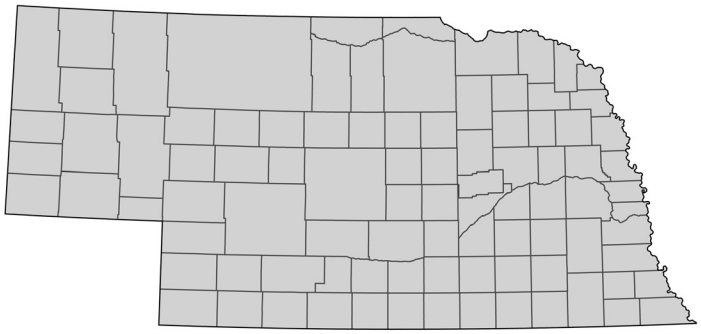
Other

Native Americans made extensive use of rush skeletonplant. They consumed it as a tea to stimulate milk production in nursing mothers, as eyewash, and to stop diarrhea in children. Powdered stems were mixed with fat and used as a hair tonic. The dried juice was chewed as a gum. It rarely produces viable seed. Reproduction is primarily from adventitious shoots. The plants often have globular swellings along the stem. These are galls caused by eggs laid by the gall wasp (*Anistrophus pisum*).



Rush skeletonplant

Cudweed sagewort



COMMON NAME:	**Cudweed sagewort (Lousiana wormwood, gray sagewort, white sage, mugwort wormwood)**
Species:	*Artemisia ludoviciana* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	August to October
Height:	0.3–0.7 m (1–2.3 ft)

Vegetative Characteristics

stems:	erect to decumbent, seldom branching, woolly to nearly glabrous; aromatic
leaves:	alternate, simple; blades elliptic to lanceolate (3–11 cm long, up to 4 cm wide), reduced above; margins entire to irregularly toothed; surfaces densely woolly; sessile; aromatic
underground:	rhizomes

Inflorescence Characteristics

type:	paniclelike, dense, elongate, leafy (15–40 cm long); heads fascicled or on spikelike branches; involucre with 2 series of 10–15 bracts, densely woolly; ray florets 6–12 (1 mm long); disk florets 5–15 (1–2 mm long)
flowers:	yellow to white, inconspicuous (2–4 mm long); outer florets usually sterile, inner florets fertile; densely woolly
fruits:	achenes (1–1.2 mm long), usually cylindrical, elliptic, brown, glabrous; pappus absent; seeds 1
seeds:	small

Habitat

Cudweed sagewort is common on rangelands, pastures, roadsides, open woods, and disturbed sites in all types of soil.

Uses and Values

Forage. Depending on associated vegetation, forage value of cudweed sagewort is fair for cattle and fair to good for sheep. Forage value depends on the associated vegetation.

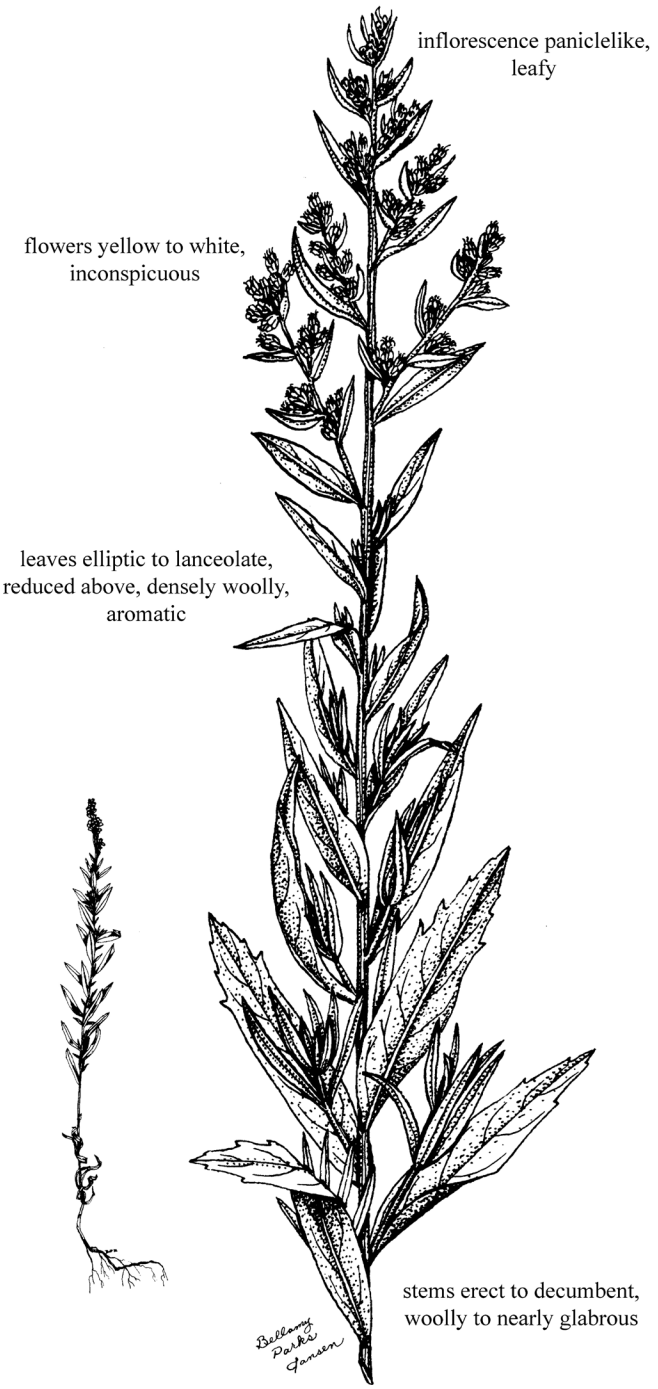
Poisoning. Cudweed sagewort contains volatile oils that may cause skin irritation and reduce rumen activity in cattle. Consumption rarely results in a problem for animals. It causes hay fever in humans.

Grassland Seeding. Cudweed sagewort is not used in grassland seedings.

Prairie Restoration. A small number of cudweed sagewort plants can be established in prairie restorations to add color and plant diversity. It can be grown from seed or from transplanted sections of rhizomes.

Wildlife. Cudweed sagewort provides a small amount of forage for elk, deer, and bighorn sheep. It is most palatable to pronghorn and can be important in their diets.

Ornamental. Cudweed sagewort can be an important component of dry landscapes where it provides year-round color. It is lanky, but when grouped with other plants, provides a grayish color that brings out the reds, blues, and yellows of other flowers. The foliage of the cultivar 'Silver King' turns red in the autumn. Potted plants are available from nurseries. It needs good drainage and does best in full sun. Care must be taken because it can spread rapidly.

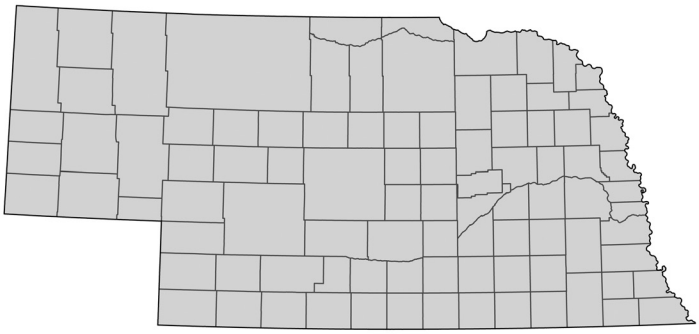


Cudweed sagewort

Other

Some Lakota believed that dried cudweed sagewort plants had a spiritual power that could drive away evil. It was sometimes burned as incense. The Omaha used the plants for a bed on which they placed their sacred pipes. To control headache or other pain, the Kiowa inserted a sharp-pointed section of the stem through the skin over the area with pain, set the stem on fire, allowed it to burn down to the skin, and pinched it out just as it began to burn the skin. Other Plains Indians chewed the plants to cure sore throats and drank a tea prepared from the leaves for stomach ailments. Still, others burned cudweed sagewort to drive away mosquitoes and other insects.

Green sagewort



COMMON NAME:	**Green sagewort (tarragon, silky wormwood)**
Species:	*Artemisia dracunculus* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	August to September
Height:	0.5–1 m (1.6–3.3 ft)

Vegetative Characteristics

stems:	erect, mostly clustered on a taproot or woody caudex (sometimes arising singly from a rhizome); surfaces glabrous or with scattered, short to long soft hairs; dull red to brown above
leaves:	alternate to semi-fascicled, simple; blades linear to lanceolate (2–8 cm long, 1–6 mm wide); margins entire or cleft into 1–3 lobes at the base; bright green; surfaces glabrous; partially deciduous in autumn; aromatic or not aromatic
underground:	rhizomes, taproots, woody caudex

Inflorescence Characteristics

type:	paniclelike, open; heads numerous on many branches; involucre (2–3 mm tall), glabrous or nearly so
flowers:	yellowish-white, inconspicuous (about 1 mm long); outer florets fertile; center florets sterile; bracts glabrous or nearly so; pedicellate
fruits:	achenes (about 1 mm long); those of the outer florets ellipsoid, green, and glabrous; seeds 1
seeds:	small

Habitat

Green sagewort is found on dry sandy to moist silty soils on rangelands, pastures, and roadsides.

Uses and Values

Forage. Green sagewort increases on improperly grazed rangeland and can rapidly spread. It has little forage value for livestock in Nebraska. However, it is considered to be valuable forage for sheep in the western states.

Poisoning. Green sagewort contains volatile oils (up to 0.3% by weight) that may cause livestock skin irritation and decrease rumen activity. The oils may cause dermatitis in humans, and green sagewort pollen causes hay fever in late summer and early autumn.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Green sagewort is seldom used in prairie restorations. It can be propagated from seed or crown divisions, and it can spread rapidly.

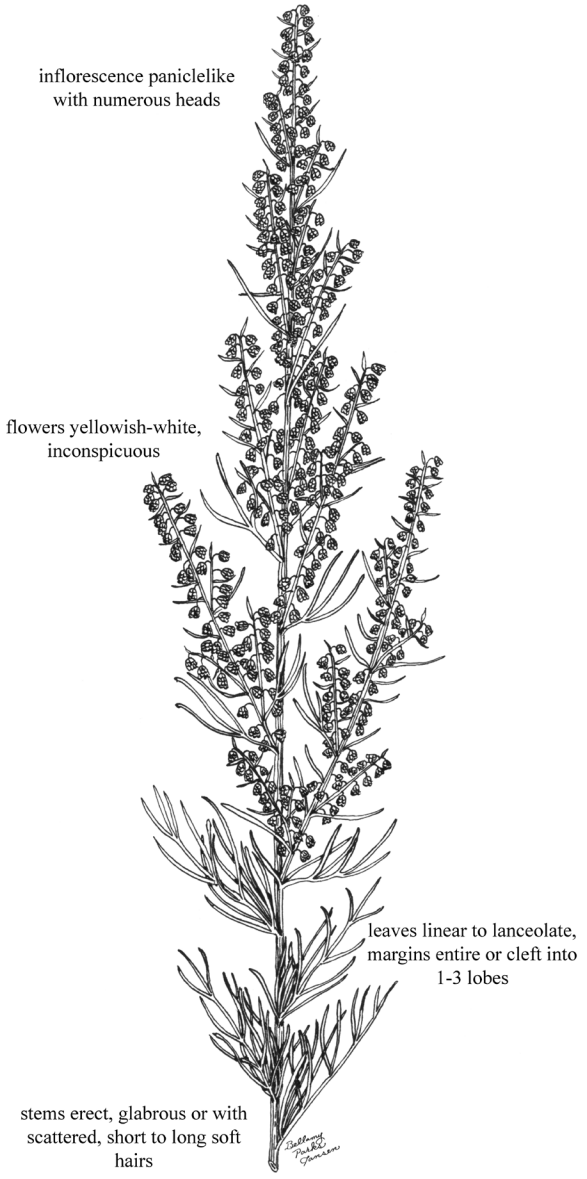
Wildlife. The foliage of green sagewort is eaten by pronghorn and bighorn sheep. It seeds are eaten by sharp-tailed grouse. Many kinds of butterflies visit the plant.

Ornamental. Green sagewort is occasionally grown in herb gardens or as a potted plant. These plants grow best in

full sunlight but can tolerate partial shade. The flowers are insignificant. The aromatic leaves are harvested for the herb tarragon. This anise-scented herb is used for cooking and in the preparation of tarragon vinegar. European or French tarragon has better flavor than the hardier Nebraska varieties.

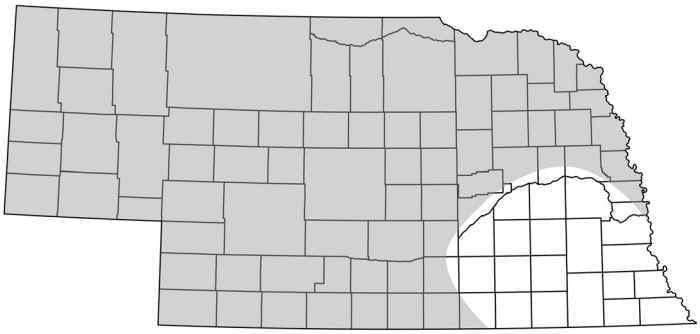
Other

Some Native Americans chewed the leaves of green sagewort as a love or hunting charm and boiled and bathed in it for rheumatism. They chewed the leaves to treat toothache, boiled the roots and gave the liquid to infants with colic, and made brooms from tight bundles of the stems. Pioneers discovered that green sagewort leaves were an effective bedbug repellant.



Green sagewort

Scarlet gaura



COMMON NAME:	**Scarlet gaura (scarlet beeblossom)**
Species:	*Gaura coccinea* Pursh
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.2–0.5 m (0.6–1.6 ft)

Vegetative Characteristics

stems:	erect to ascending, 1 to several, branching from the base or above, hairy to glabrous
leaves:	alternate, simple; blades linear to elliptic (0.7–6.5 cm long, 1–1.5 cm wide), gray-green; tips sharply pointed; margins entire to having a few shallow teeth; surfaces minutely pubescent
underground:	taproot, thick, deep; extensive rhizomes

Inflorescence Characteristics

type:	raceme (5–40 cm long), spikelike; peduncle sometimes branched (1–6 cm long)
flowers:	rose to pink or orangish-red to maroon (initially white) corolla; petals 4 (3–7 mm long, 2 mm wide), clawed; sepals 4 (5–10 mm long), reflexed
fruits:	capsules (4–10 mm wide, 1–3 mm thick), cylindrical, sessile, 4-chambered, lower half abruptly constricted; seeds 1–4
seeds:	reddish-brown (1.5–2.5 mm long)

Habitat

Scarlet gaura may be found on dry upland areas of rangelands, prairies, woodlands, and along roadsides in all types of soil. It is only occasional in the Sandhills where it is restricted to areas with finer-textured soils.

Uses and Values

Forage. Scarlet gaura forage is poor to worthless for livestock, and it increases with abusive grazing on rangeland.

Poisoning. None.

Grassland Seeding. It is not included in grassland seedings.

Prairie Restoration. Scarlet gaura may be added to prairie restorations to increase the plant diversity.

Wildlife. It is occasionally eaten by deer and pronghorn. It attracts pollinating insects.

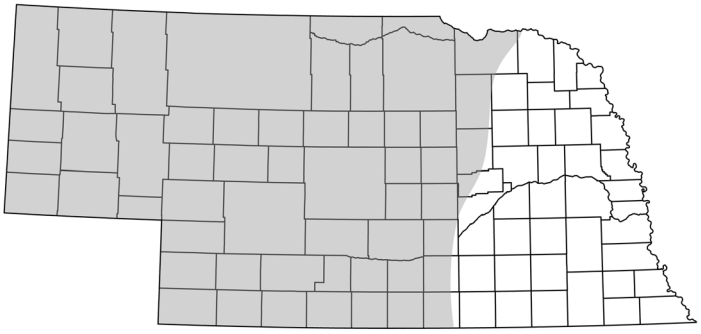
Ornamental. Scarlet gaura is drought tolerant and is occasionally used in rock gardens and cultivated beds, but it can spread rapidly and become a problem. It grows best in full sun to partial shade. It has a mild fragrance.

Other

Due to the extensive rhizomes, scarlet gaura will form large colonies. This plant is highly variable in hairiness, size, and flower color. Some Lakota chewed the plants and rubbed the chewed material onto their hands before trying to catch horses. The horses were curious about the odor allowing the Lakota to approach them.

Scarlet gaura

Scarlet globemallow



COMMON NAME:	Scarlet globemallow (red falsemallow)
Species:	*Sphaeralcea coccinea* (Nutt.) Rydb.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	10–30 cm (0.3–1 ft)

Vegetative Characteristics

stems:	decumbent or ascending, infrequently erect, simple to clustered, branching; surfaces densely pubescent
leaves:	alternate, simple; blades suborbicular to ovate (1–6 cm long, usually wider than long), deeply cleft into 3–5 palmate lobes; lobes irregular, final segments oblong to spatulate; margins entire, both surfaces covered with stellate pubescence; petioles of lower leaves equal to or longer than the blade
underground:	taproot, stout, horizontal

Inflorescence Characteristics

type:	raceme (2–10 cm long) or cluster, terminal, flowers several to many
flowers:	orange or scarlet to salmon-colored, petals 5 (8–20 mm long), much exceeding the calyx; calyx persistent (3–10 mm long); lobes triangular, villous; pedicels shorter than the calyx; lower pedicels sometimes elongate
fruits:	schizocarps, differentiated into an upper smooth and seedless dehiscent portion and a roughened indehiscent base; carpels 10 or more, reniform (3–4 mm long), covered with stellate pubescence; seeds 1 per carpel
seeds:	small (2–3 mm long), enclosed in each carpel

Habitat

Scarlet globemallow grows on rangelands, roadsides, and waste places.

Uses and Values

Forage. Scarlet globemallow is poor quality forage and is seldom grazed by livestock in Nebraska, but it is highly thought of as a forage plant in the southwestern states. It increases in improperly grazed areas, especially during dry periods.

Poisoning. None.

Grassland Seeding. It is not used in grassland seeding mixtures.

Prairie Restoration. It should be included in restorations on appropriate sites.

Wildlife. Deer, pronghorn, elk, and bighorn sheep graze scarlet globemallow. It is important in the diets of prairie dogs. Small mammals and ground-foraging birds eat the seeds.

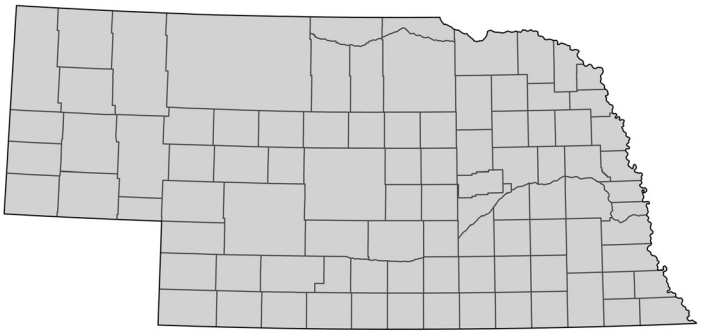
Ornamental. This low growing perennial has eye-catching orange to scarlet flowers and gray-green foliage. It is attractive in rock gardens and can be allowed to weave around other plants. It grows best in full sun and in dry soils. It persists in prolonged dry periods by shedding its leaves to reduce its moisture requirements.

Other

Some Native Americans chewed the plant and applied the paste to burns, scalds, and sores as a cooling agent. Its roots were used to stop bleeding and chewed to reduce hunger when food was scarce. The leaves were dried, ground, and dusted into sores of both horses and humans.

Scarlet globemallow

Breadroot scurfpea



COMMON NAME:	**Breadroot scurfpea (Indian breadroot, prairie turnip, Indian turnip)**
Species:	*Pediomelum esculentum* (Pursh) Rydb. [= *Psoralea esculenta* Pursh]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to July
Height:	0.1–0.4 m (0.3–1.3 ft)

Vegetative Characteristics

stems:	erect to ascending, usually solitary (sometimes up to 3), densely pubescent
leaves:	alternate (sometimes clustered), palmately 5-foliate (sometimes 3-foliate); leaflets elliptic or oblanceolate to obovate (2–6 cm long, 0.6–1.6 cm wide); middle leaflet largest; margins entire; upper surfaces glabrous; lower surfaces pubescent (sometimes with glandular dots)
underground:	taproot, thickened 4–10 cm below the soil surface to a globose to spindle-shaped storage organ (5–10 cm long, 1.5–5 cm wide); storage organ leathery outside, white and starchy inside

Inflorescence Characteristics

type:	racemelike (2–8 cm long), terminal, dense; borne on a peduncle (1–12 cm long)
flowers:	blue to purple (rarely tinged with white), fading to yellow and brown (1.5–2 cm long); petals 5, papilionaceous
fruits:	pods (4–8 mm long), thin, papery, nearly glabrous; seeds 1–2
seeds:	orbicular to kidney-shaped (4–6 mm long, 3–4.5 mm wide), plump to slightly flattened, gray to brown flattened, gray to brown

Habitat

Breadroot scurfpea grows on dry rangelands, prairies, and open woodlands. It does not grow in dense stands.

Uses and Values

Forage. Breadroot scurfpea has fair forage value for cattle and sheep. Forage quality is highest in the early spring. It becomes more abundant with light grazing but rapidly decreases with continued moderate to heavy use.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

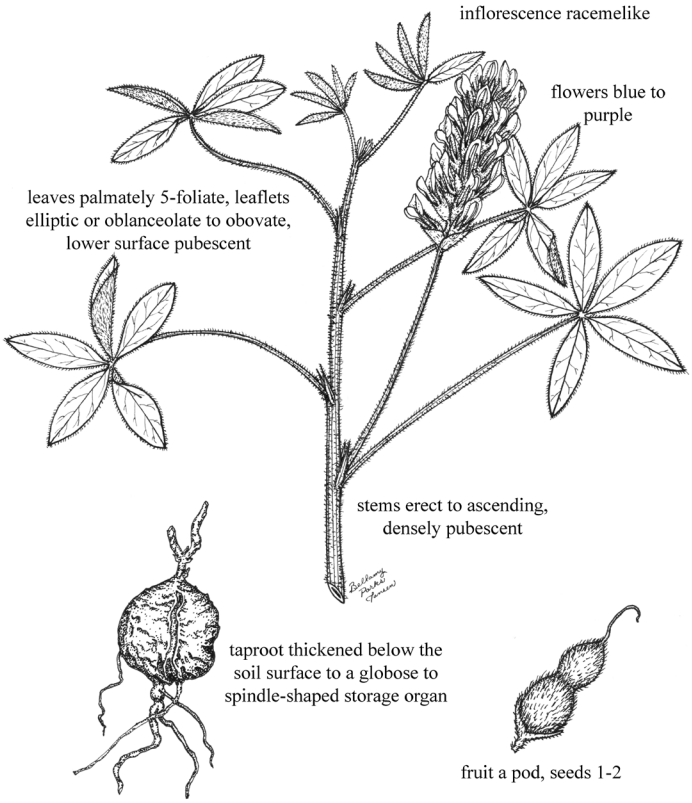
Prairie Restoration. This nitrogen-fixing legume should be included in prairie restorations. The seeds should be scarified and soaked in water for about 24 hours before planting in the spring.

Wildlife. Deer, pronghorn, bighorn sheep, and elk graze the foliage. The starchy root is eaten by many species of small mammals.

Ornamental. Breadroot scurfpea can be grown in rock gardens or in mixed plantings with other prairie species. It requires full sun and well-drained soils.

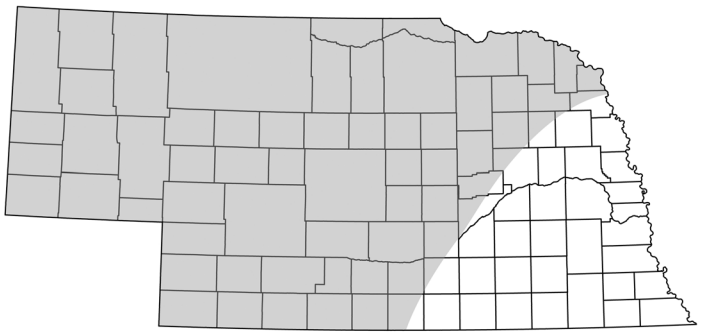
Other

Breadroot scurfpea was one of the most important foods gathered by Native Americans in the Great Plains. They ate both raw and cooked roots. Fresh roots were boiled or roasted. Roots were sometimes dried and stored for long periods. Dried roots were pulverized, mixed with water, and baked over coals. Breadroot scurfpea was first collected on the Lewis and Clark expedition in 1804 in current Cedar County, Nebraska. In late summer the plants break off near the soil surface and scatter seeds as they tumble with the wind. Little breadroot [*Pediomelum hypogaeum* (Nutt. *ex* Torr. & A. Gray) Rydb.] is similar in appearance to breadroot scurfpea. It is stemless or has very short stems. Its leaves are 5–7-foliate, and its flowers are smaller (less than 1.5 cm long). It grows in northern and western Nebraska.



Breadroot scurfpea

Lemon scurfpea



COMMON NAME:	**Lemon scurfpea (lanceleaf scurfpea)**
Species:	*Psoralidium lanceolatum* (Pursh) Rydb. [= *Psoralea lanceolata* Pursh]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	0.1–0.6 m (0.3–2 ft)

Vegetative Characteristics

stems:	erect or ascending, much branched, glabrous to sparingly pubescent, glandular-dotted
leaves:	alternate, palmately 3-foliate (occasionally 5-foliate); leaflets variable, linear to oblanceolate (1.5–5 cm long, 2–13 mm wide); margins entire; both surfaces glandular-dotted, lower surface may be sparsely pubescent, lemon-scented
underground:	rhizomes, long (up to 10 m long), forming colonies

Inflorescence Characteristics

type:	racemelike (1–3 cm long), flowers in clusters, axillary; peduncles 1–10 cm long, scarcely projecting above the foliage
flowers:	white or violet-tinged (5–7 mm long), petals 5, papilionaceous; calyx tube bell-shaped (2–3 mm long); calyx lobes nearly equal, less than half as long as the tube; pedicels 0.5–3 mm long

fruits:	pods (4–6 mm long), globose, short-beaked, pubescent, glandular-dotted; seeds 1
seeds:	nearly round in outline (3–5 mm long, 3–4.5 mm wide), slightly flattened, reddish-brown

Habitat

Lemon scurfpea grows on dry rangelands and is common in sandy soils. It is most common in and near blowouts in the Sandhills.

Uses and Values

Forage. Lemon scurfpea is rarely grazed by livestock, and it increases with heavy grazing.

Poisoning. None.

Grassland Seeding. It is not included in grassland seedings.

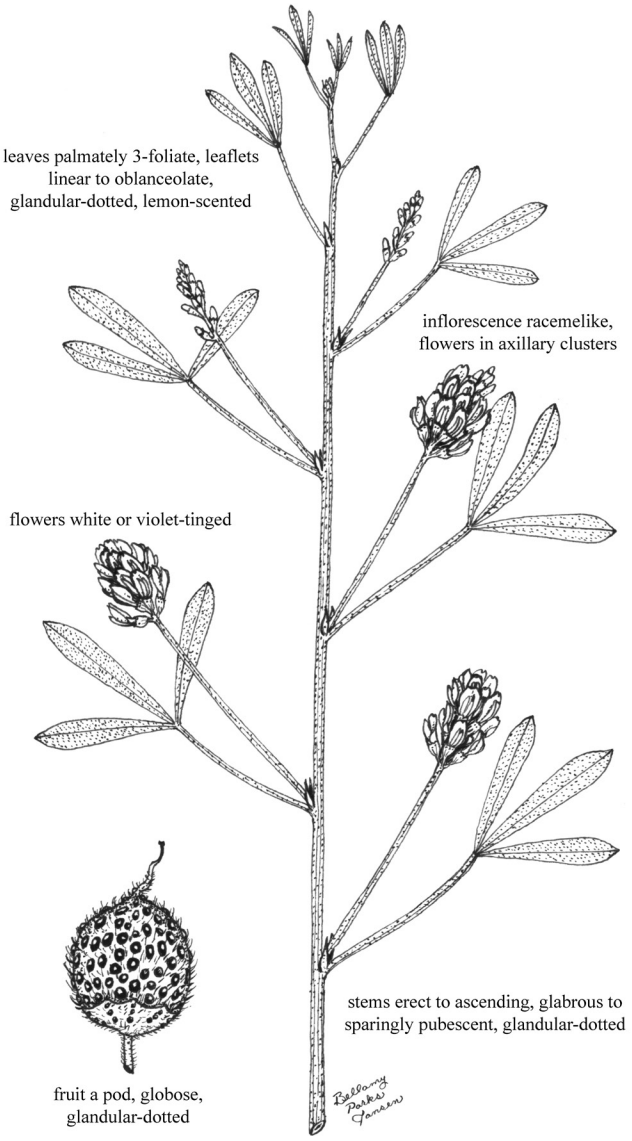
Prairie Restoration. Lemon scurfpea is rarely used in restorations. Commercial seed is not available. Hand harvested seed should be pre-soaked in water for 24 hours before planting.

Wildlife. It is rarely grazed by wildlife. Small mammals and ground-foraging birds eat the seeds.

Ornamental. It is infrequently used as an ornamental. It is intolerant of root disturbance.

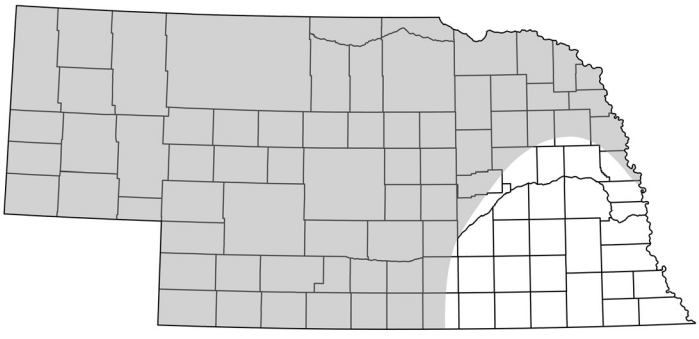
Other

Lemon scurfpea can be important for erosion control of sandy soils, acting as a pioneer species in blowouts and on recently denuded sites. Since it is rarely grazed, it is more persistent on these sites. Bruised foliage emits a lemonlike fragrance. The roots can be eaten raw or cooked. Some Native Americans dried the roots and ground them into a powder before using it in soups and breads.



Lemon scurfpea

Palmleaf scurfpea



COMMON NAME:	**Palmleaf scurfpea (finger scurfpea)**
Species:	*Pediomelum digitatum* (Nutt. *ex* Torr. & A. Gray) Isely
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to July
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect, simple below, branched above, pubescent
leaves:	alternate, 5-foliate (sometimes 3- or 7-foliate); leaflets linear to oblong-linear (1.5–6 cm long, 3–7 mm wide), middle leaflet longest; smooth to glandular above, strigose on the midvein; densely strigose beneath; petioles 2–7 mm long
underground:	taproot, deep; occasionally rhizomes

Inflorescence Characteristics

type:	spikelike racemes, interrupted, flowers few; flowers in whorls of 3–10; peduncles (5–16 cm long) much longer than the leaves
flowers:	blue or purple (rarely white); corolla 7–10 mm long; petals 5, papilionaceous; calyx tube bell-shaped (2.5–3.5 mm long at anthesis), upper 4 lobes 3–4 mm long, lower lobe slightly longer
fruits:	pods, ovoid (6–8 mm long) tapering to a flat beak, thin-walled; seeds few to several
seeds:	broadly elliptic (4–4.5 mm long, about 3 mm wide), slightly flattened, olive gray to brown, shiny

Habitat

Palmleaf scurfpea is most common in sandy soils.

Uses and Values

Forage. It is unpalatable to livestock.

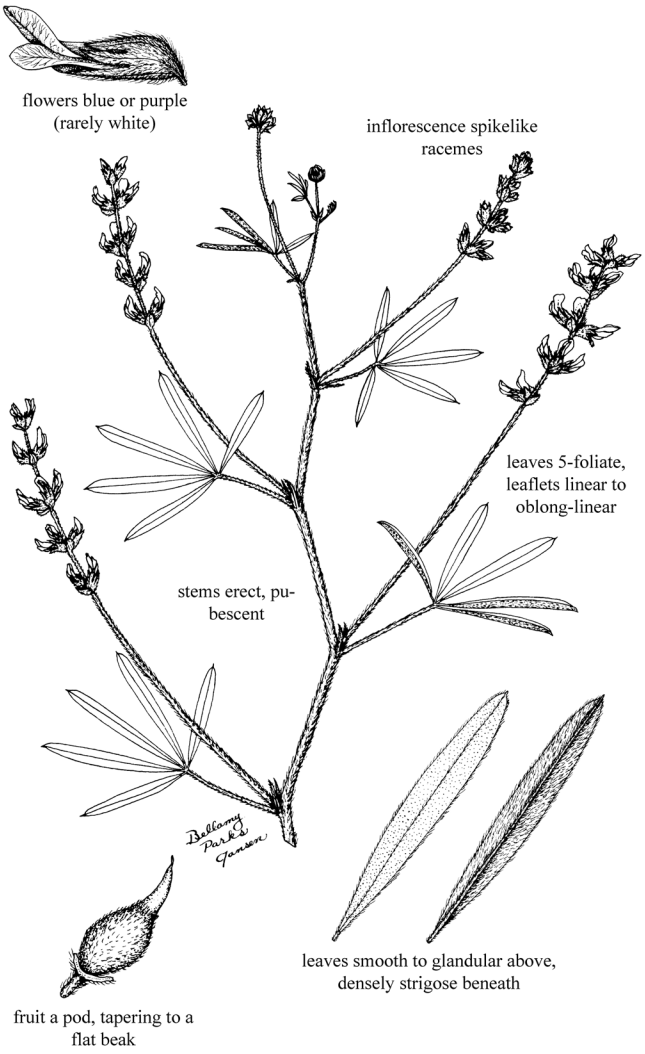
Poisoning. None

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. It is not used in restorations. Seeds are not commercially available. Seeds could be hand-harvested and planted to increase plant diversity.

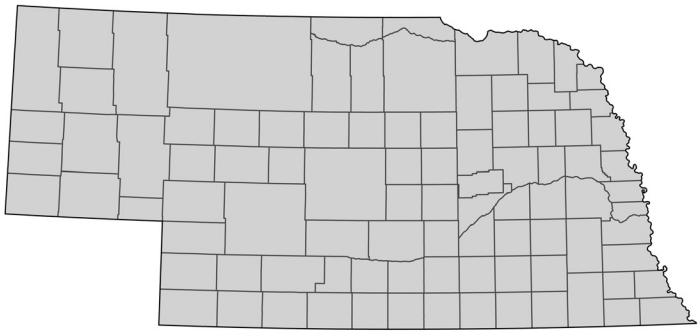
Wildlife. Pronghorn, deer, and elk lightly graze palmleaf scurfpea. Birds and small mammals eat the seeds.

Ornamental. Palmleaf scurfpea has little landscaping potential.



Palmleaf scurfpea

Silverleaf scurfpea



COMMON NAME:	Silverleaf scurfpea
Species:	*Pediomelum argophyllum* (Pursh) J.W. Grimes [= *Psoralea argophylla* Pursh]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.2–0.8 m (0.6–2.6 ft)

Vegetative Characteristics

stems:	erect or ascending, much branched, densely white-silky
leaves:	alternate, 3- to 5-foliate on the main stem and palmately 3-foliate on the branches; leaflets elliptic or lanceolate to narrowly obovate (1–5 cm long, 0.6–1.8 cm wide); tips obtuse or acute, usually with a short mucro; margins entire; both surfaces densely white-silky, but less pubescent and more green above; sparingly glandular above; petioles (1–3 cm long) shorter than or equaling the leaves
underground:	woody taproot, forming colonies from root suckers

Inflorescence Characteristics

type:	spikelike (2–8 cm long), axillary; 1–8 whorls each with 2–8 flowers
flowers:	dark blue to purple, fading to yellow or brown (6–10 mm long); petals 5, papilionaceous; calyx tube bell-shaped (2–5 mm long), silky; sessile
fruits:	pods (5–8 mm long), oblong-lanceolate to ovoid, silky; seeds 1
seeds:	orbicular to kidney-shaped (4–5 mm long), olive to black, smooth

Habitat

Silver scurfpea grows on prairie hills, dry rangelands, roadsides, and woodlands. It is most common in sandy soils.

Uses and Values

Forage. Silverleaf scurfpea has little value for livestock. It increases with abusive grazing.

Poisoning. Seeds of silverleaf scurfpea may be poisonous to animals and humans. One case was reported of a child being severely poisoned after eating a relatively large quantity of seeds.

Grassland Seeding. Seeds are not readily available commercially, and it is not included in grassland seedings.

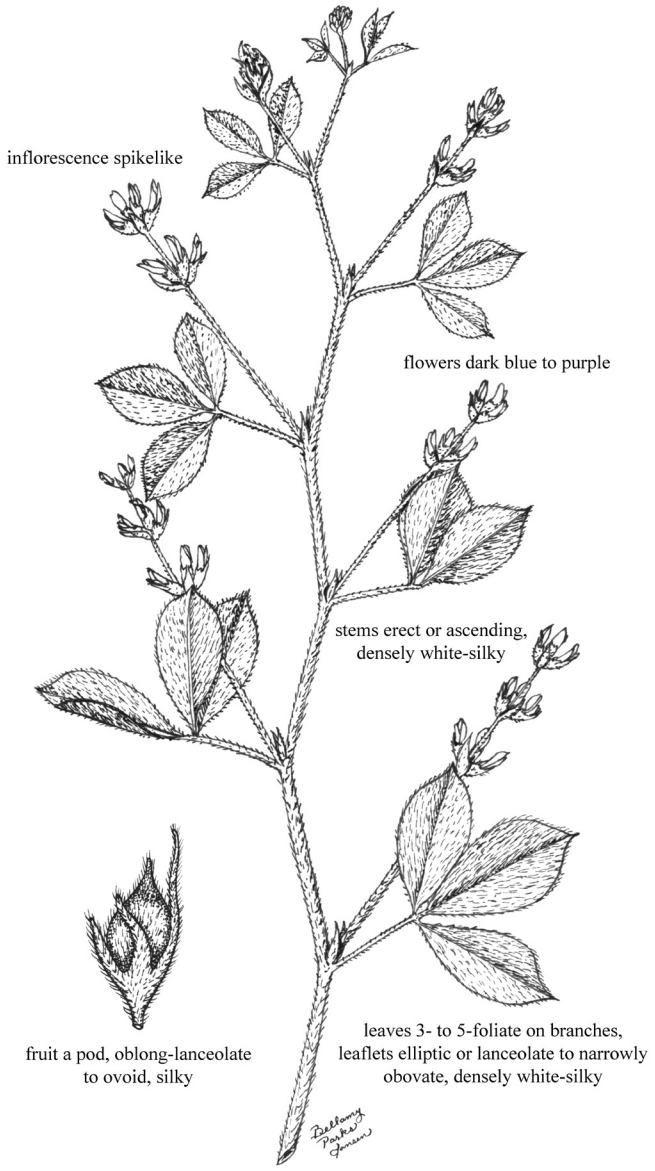
Prairie Restoration. Silverleaf scurfpea can be added to prairie restorations on adapted sites. The seeds should be scarified before planting. It fixes nitrogen.

Wildlife. Deer and pronghorn occasionally eat the foliage. Birds and small mammals eat the seeds.

Ornamental. Silverleaf scurfpea may be planted in native flower gardens. It requires full sun and well-drained soils. Its widely branching stems, with a stiff main stem, gives silverleaf scurfpea the appearance of a small shrub.

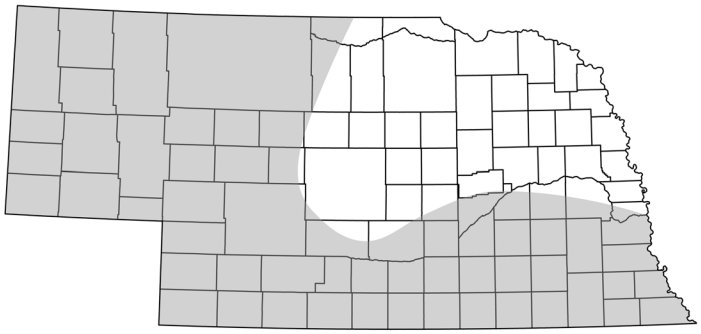
Other

The plants break off near the soil surface in early autumn and scatter seeds as the plants are tumbled by the wind. Some Native Americans used silverleaf scurfpea to treat fevers and wounds, and they made a mild stimulant from the roots. Lakota made baskets from the stems and fed the roots to horses when they were tired. Roots were eaten raw or cooked. Sometimes, they were dried and ground into a powder and then used in soups or with flour to make bread.



Silverleaf scurfpea

Slimflowered scurfpea



COMMON NAME:	Slimflowered scurfpea (wild alfalfa)
Species:	*Psoralidium tenuiflorum* (Pursh) Rydb. [= *Psoralea tenuiflora* Pursh]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to July
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect, much-branched, pubescent (especially when young), glandular-dotted
leaves:	alternate, palmately 3-foliate (lower leaves 5-foliate); leaflets linear or oblanceolate to obovate (1–5 cm long, 4–12 mm wide); margins entire; both surfaces glandular-dotted, lower surface pubescent
underground:	taproot (rarely with rhizomes)

Inflorescence Characteristics

type:	racemelike (2–8 cm long), flowers in clusters, axillary, 1–4 flowers at each node, loose; peduncles longer than the leaves
flowers:	blue to violet (rarely white); petals 5, papilionaceous (4–6 mm long); calyx tube bell-shaped (1.5–2.5 mm long); lobes acuminate (lower lobe 1.2–2.5 mm long, upper lobes 1–1.5 mm long)
fruits:	pods (5–9 mm long), elliptic, flattened, glabrous, glandular-dotted; seeds usually 1
seeds:	nearly round to kidney-shaped (4.5–5 mm long), slightly flattened, grayish-green to orangish-brown, sometimes purple-spotted, shiny

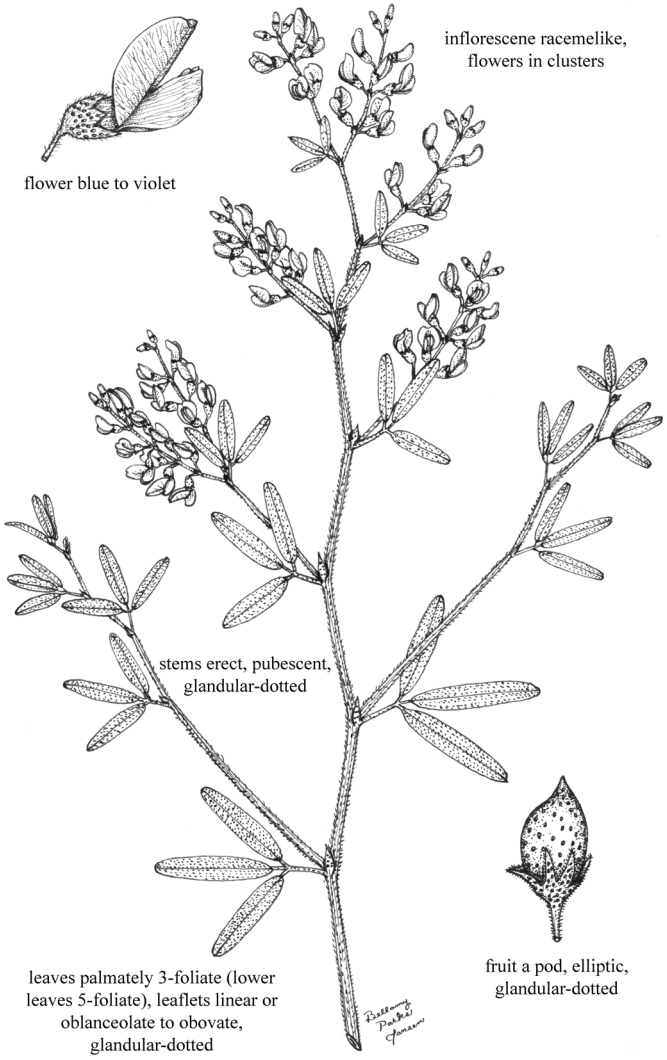
Habitat

Slimflower scurfpea grows on dry rangelands, prairies, and openings in woodlands.

Uses and Values

Forage. Palatability of slimflowered scurfpea is low. It is not generally grazed by livestock, but it may be readily eaten in prairie hay. It increases with heavy grazing.

Poisoning. None.



Slimflowered scurfpea

Grassland Seeding. It is not used in grassland seedings, and it has little value for erosion control. Slimflower scurfpea seeds are not available commercially.

Prairie Restoration. It is used occasionally in prairie restorations.

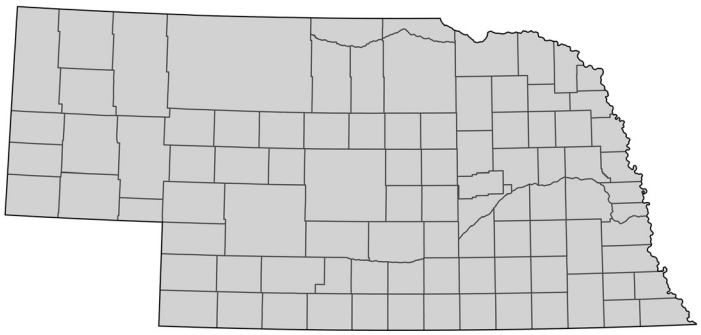
Wildlife. Slimflower scurfpea is only lightly grazed by deer and pronghorn because its forage quality is low. The seeds are eaten by ground-foraging birds and small mammals. It is considered to be an excellent plant for honey production.

Ornamental. This drought tolerant species is similar in appearance to silverleaf scurfpea (*Pediomelum argophyllum*) but with somewhat larger and darker leaves and flowers. Seed is available from companies specializing in native seeds.

Other

Some Lakota made tea from the roots for headaches, burned the leaves to repel mosquitoes, and made garlands from the tops to be worn for protection from the sun. Other tribes reportedly used slimflowered scurfpea for fish poison. The stems break off near the soil surface in late summer, and the wind tumbles the plants along the ground scattering seeds. Manyflowered scurfpea [*Psoralidium floribundum* (Pursh) Rydb.] grows primarily in southeastern Nebraska. Manyflowered scurfpea has larger flowers (6–8 mm long), 2–4 flowers at each node, and longer racemes (6–10 cm) with crowded flowers. Currently, it is not clear if *Psoralidium floribundum* is a separate species. It is likely a variety of *Psoralidium tenuiflorum.*

Serrateleaf eveningprimrose



COMMON NAME:	**Serrateleaf eveningprimrose (plains eveningprimrose, halfshrub sundrops, toothleaf eveningprimrose, yellow sundrops)**
Species:	*Calylophus serrulatus* (Nutt.) P.H. Raven [= *Oenothera serrulata* Nutt.]
Growth Form:	Forb (or halfshrub)
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	0.1–0.7 m (0.3–2.3 ft)

Vegetative Characteristics

stems:	erect to decumbent, few to many from a much-branched caudex, highly branched, slightly woody, stout, somewhat hairy
leaves:	alternate, simple; blades linear to oblanceolate (1–10 cm long, 1–12 mm wide), sessile; margins entire to usually serrate; surfaces glabrous to strigose
underground:	taproot and caudex, woody

Inflorescence Characteristics

type:	flowers solitary, axillary
flowers:	yellow, fading to pinkish, showy; petals 4 (5–14 mm long, 1.5–3 cm wide); floral tube 2–16 mm long, 3–12 mm wide; sepals 4 (1.5–9 mm long, 2–6 mm wide), greenish-yellow, keeled, hairy below; stamens 8; unopened buds 4-angled; sessile
fruits:	capsules (1–3 cm long,1–3 mm wide); seeds many
seeds:	truncate (1–2 mm long)

Habitat

Serrateleaf eveningprimrose grows in sandy, rocky, or gravelly soils of rangelands, prairies, woodlands, and roadsides. It is common on Sandhills dunes and in blowouts.

Uses and Values

Forage. Forage value of serrateleaf eveningprimrose is good for livestock, and it decreases with improper grazing on rangeland.

Poisoning. None.

Grassland Seeding. It is rarely added to grassland seeding mixtures.

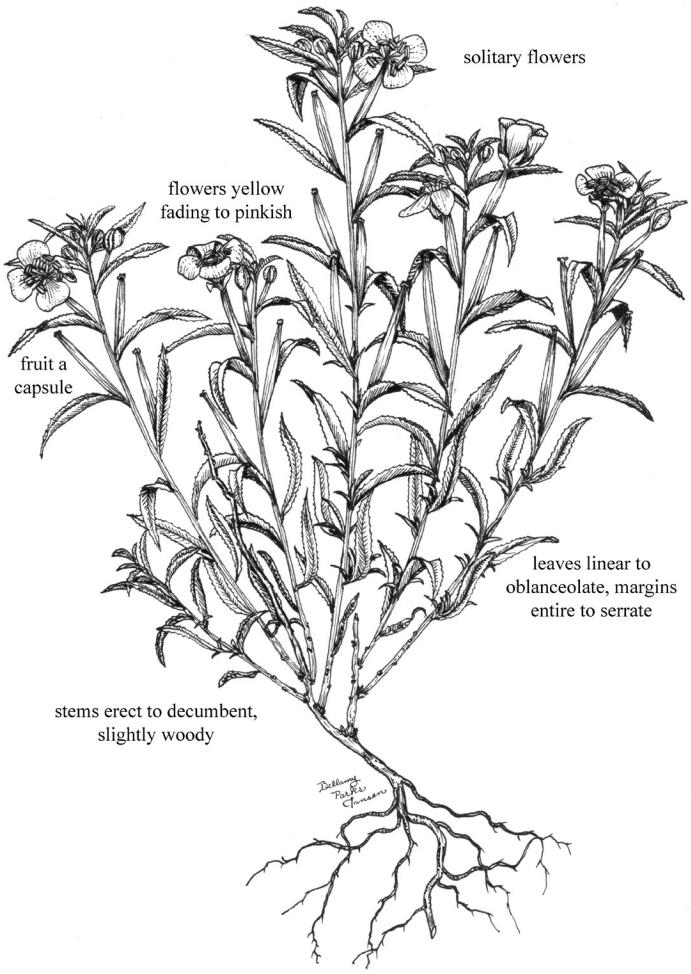
Prairie Restoration. Serrateleaf eveningprimrose should be added to prairie restorations, especially in the Sandhills and shortgrass prairie regions.

Wildlife. It provides fair to good forage for pronghorn, deer, elk, and bighorn sheep.

Ornamental. Serrateleaf eveningprimrose blooms heavily and makes an excellent addition to borders and xeriscapes. This drought tolerant species is sometimes sold under the names of dwarf sundrops and bush sundrops.

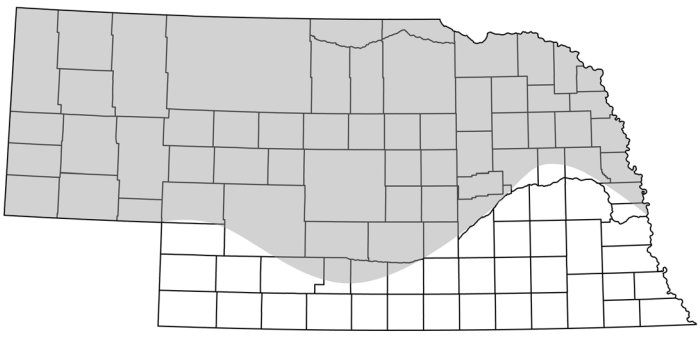
Other

Some Native Americans gathered, dried, and ate the roots of young plants for food. The woody, branched base of this plant is responsible for its classification as a half-shrub. Its leaves fold in the summer so that only the edges of the leaves point toward the mid-day sun, which results in less water loss from the leaf surfaces.



Serrateleaf eveningprimrose

Showy peavine



COMMON NAME:	**Showy peavine (hoary vetchling, manystem pea)**
Species:	*Lathyrus polymorphus* Nutt.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	0.1–0.5 m (0.3–1.6 ft)

Vegetative Characteristics

stems:	erect or ascending, glabrous to pubescent, wingless
leaves:	alternate, even-pinnately compound, leaflets 4–10; leaflets scattered or paired, linear-lanceolate to linear-elliptic (1.5–5 cm long, 1–5 mm wide); margins entire, glabrous (rarely pubescent), prominently-veined; midvein extended to a bristle; lacking tendrils
underground:	hizomes and a branching caudex

Inflorescence Characteristics

type:	raceme, axillary; flowers 2–8; peduncle (6–7 cm long) usually surpassing the leaves
flowers:	rose-purple to pink, often with some blue to white petals (2–3 cm long); petals 5, papilionaceous; fragrant
fruits:	pods (2–6 cm long, 5–10 mm wide), leathery; seeds few
seeds:	nearly spherical (5–6 mm long), dark green to brown, smooth

Habitat

Showy peavine grows on dry, sandy rangelands and in rocky, open woods.

Uses and Values

Forage. Showy peavine provides good forage for cattle and sheep. While it tends to increase under continued heavy grazing pressure, it is never more than a minor component of grasslands.

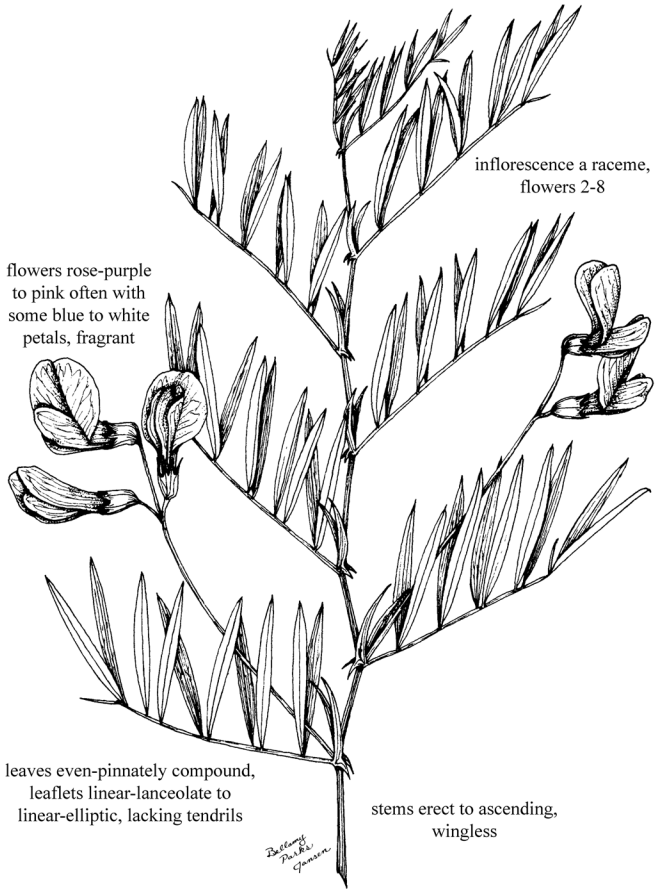
Poisoning. Showy peavine seeds are reported to be poisonous to horses, producing lameness.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Showy peavine can be included in prairie restoration mixtures. Germination can be improved by soaking the seeds in water for 24 hours before planting.

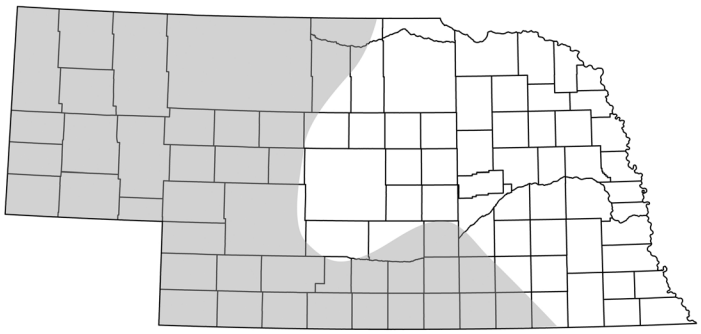
Wildlife. Showy peavine is grazed by deer, pronghorn, and elk. The seeds are eaten by upland gamebirds and small mammals.

Ornamental. Showy peavine seed is commercially available. It is closely related to common sweetpea (*Lathyrus latifolius* L.) for which there are many cultivars.



Showy peavine

Slender greenthread



COMMON NAME:	Slender greenthread (rayless greenthread)
Species:	*Thelesperma megapotamicum* (Spreng.) Kuntze
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.3–0.7 m (1–2.3 ft)

Vegetative Characteristics

stems:	erect, single or clustered from a branching crown
leaves:	opposite, simple; lower blades once or twice (rarely) pinnatisect, sometimes undivided (4–10 cm long); lobes linear or linear-lanceolate, glabrous or lightly pubescent at the leaf bases
underground:	taproot and rhizomes

Inflorescence Characteristics

type:	heads (7–14 mm wide), radiate or discoid, solitary on a naked peduncle; involucre bell-shaped; outer bracts 7–9, much shorter than the inner bracts, lanceolate; inner bracts 4–8 mm long; disk florets many; ray florets rarely present
flowers:	yellow to orange disk florets, petals with reddish-brown veins, deeply and irregularly lobed
fruits:	achenes (4–8 mm long), slightly flattened; 2 terminal awns, retrorsely barbed; seeds 1
seeds:	small

Habitat

Slender greenthread grows on rangelands and open woodlands, especially in dry soils.

Uses and Values

Forage. Slender greenthread is rated as fair to good forage for cattle and sheep, especially in the spring. It is seldom present in large enough quantities to be important to livestock. It increases with abusive grazing.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

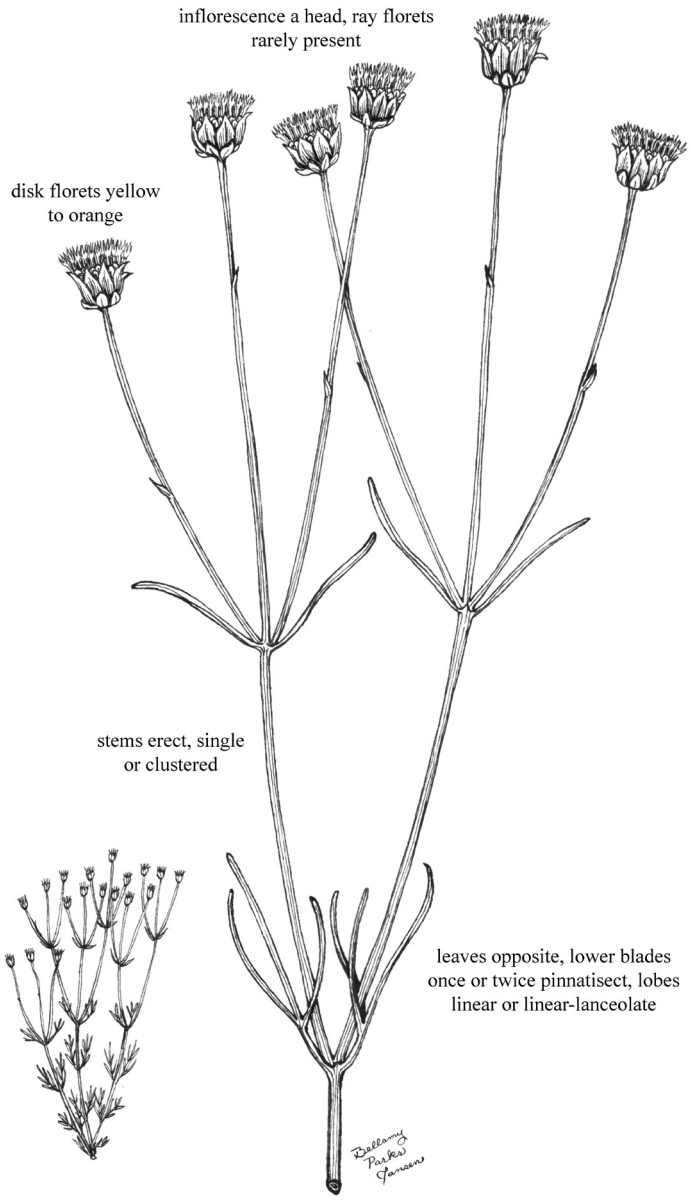
Prairie Restoration. It could be added to restorations on appropriate sites to add to diversity.

Wildlife. Deer and pronghorn eat slender greenthread.

Ornamental. Slender greenthread seeds are sold for herb gardens. It grows best in well drained soils.

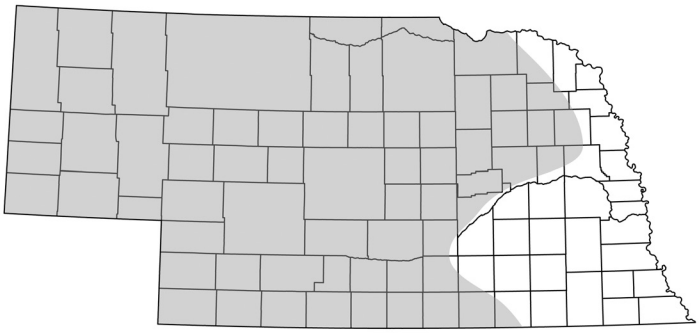
Other

It contains the compound luteolin, and some Native Americans made and drank a medicinal tea from slender greenthread flowers and leaves to settle the stomach, purify the blood, treat toothache, and as a nervous stimulant. A yellow dye was made from the flowers, and a rust-colored dye was made from the leaves.



Slender greenthread

Spiderwort



COMMON NAME:	Spiderwort
Species:	*Tradescantia occidentalis* (Britton) Smyth
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	0.2–0.4 m (0.6–1.3 ft)

Vegetative Characteristics

stems:	erect, rarely branching, subsucculent; sap is mucilaginous, clear
leaves:	alternate, simple; blades linear to lanceolate (7–32 cm long, 6–16 mm wide), arched; margins entire; uppermost margins ciliate; surfaces glabrous to sparsely pilose; sheaths clasping, becoming loose, inflated with age
underground:	fibrous roots

Inflorescence Characteristics

type:	cymose-umbellate, terminal and often also axillary, flowers 3–25, subtended by leafy bracts; bracts somewhat smaller than leaves
flowers:	blue to rose-purple to dark lavender, petals 3; petals broadly ovate, much exceeding the sepals (less than 1 cm long); pedicels glabrous to sparingly pubescent
fruits:	ovaries 3-locular, oblong (2–4 mm long), compressed; seeds 1–2 per locule
seeds:	ellipsoid, somewhat flattened, small, gray, pitted

Habitat

Spiderwort grows on rangelands, prairies, meadows, and roadsides.

Uses and Values

Forage. Spiderwort furnishes fair to good forage for cattle and sheep. It is seldom present in sufficient quantities to be an important forage source. It increases with improper grazing.

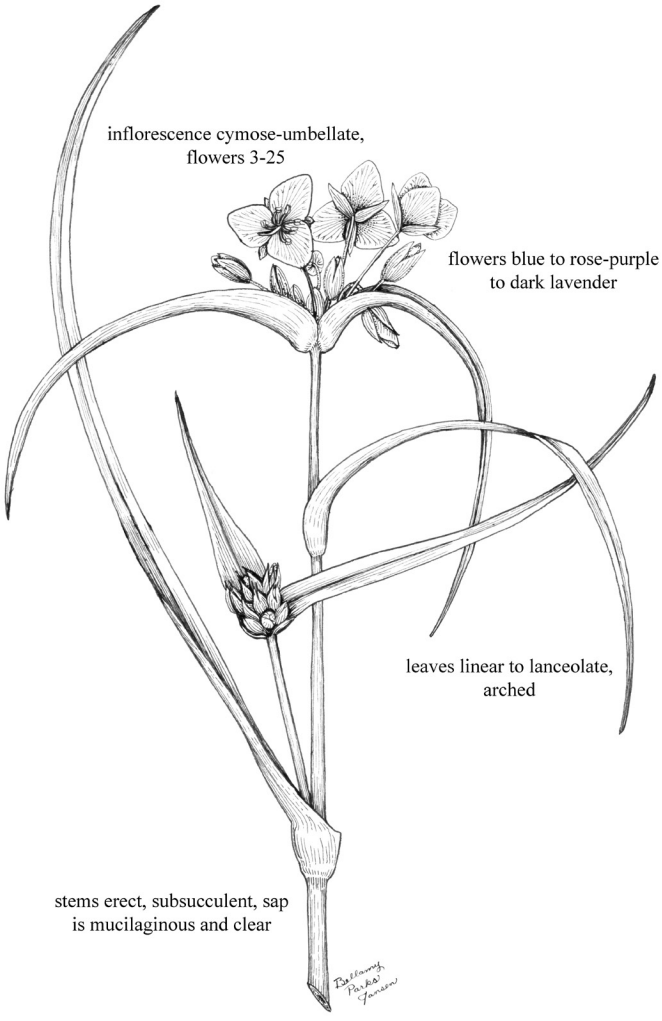
Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. It can be added to prairie restorations on adapted sites to increase diversity.

Wildlife. It is grazed by pronghorn and deer, and it attracts butterflies and other beneficial insects.

Ornamental. Spiderwort is drought tolerant and occasionally grown in a bed of cultivated plants or in mixtures of wildflowers. It can be grown as ground cover, filler, or edging. Spiderwort grows best in well-drained soils in full to partial sun.

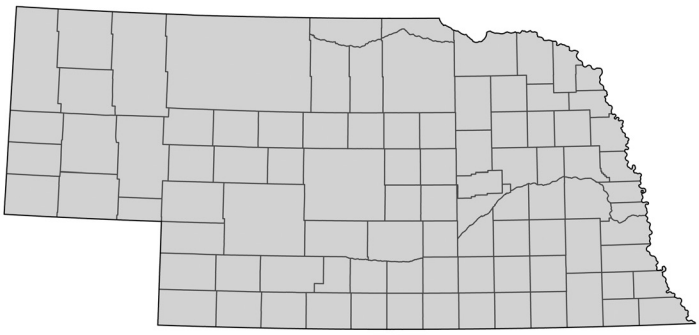


Spiderwort

Other

Some Lakota ate the young stems and leaves as a pot herb. The flowers provided a blue jellylike paint that was commonly used on moccasins. When the stems are broken a stringy, mucilaginous substance appears resembling spider web material. Some believe that this is the basis for its common name, while others say it received its name because it was once thought to be a cure for spider bites. Bracted spiderwort (*Tradescantia bracteata* Small *ex* Smyth) grows in the northern and eastern one-half of Nebraska on non-sandy soils. It differs from spiderwort by having larger flowers (usually more than 1.5 cm long) and densely pubescent pedicels. It flowers from May to June.

Spotted waterhemlock



COMMON NAME:	**Spotted waterhemlock (common waterhemlock, spotted cowbane, poison parsnip, spotted parsley, spotted hemlock, feverroot)**
Species:	*Cicuta maculata* L.
Growth Form:	Forb
Life Span:	Perennial (occasionally biennial)
Origin:	Native
Flowering:	July to September
Height:	0.5–2 m (1.6–6.6 ft)

Vegetative Characteristics

stems: erect, stout, thickened at the base, glabrous, covered with a wax that rubs off easily, with purple stripes and spots; lower portion enlarged, chambered, and contain a yellow oil

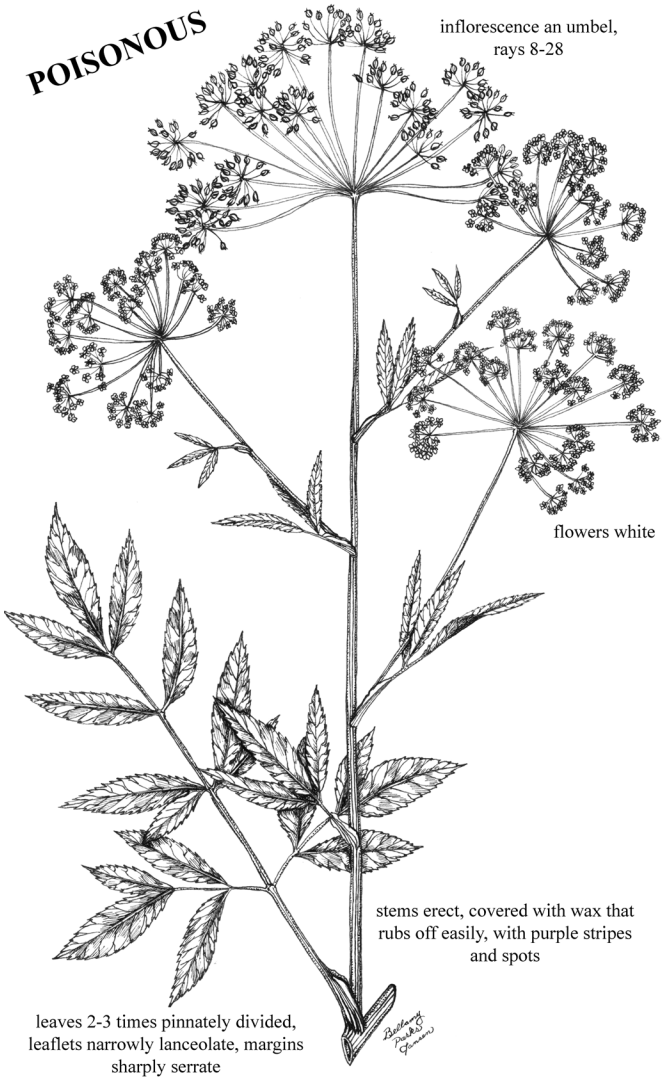
leaves: alternate, 2–3 (sometimes 4–5) times pinnately divided; upper blades sometimes simple; leaflets narrowly lanceolate (2–12 cm long, 5–40 mm wide); margins sharply serrate; surfaces glabrous; petioles 10–30 cm long

underground: taproot; fleshy, chambered tuber containing a yellow oil

Inflorescence Characteristics

type: umbel (4–13 cm wide), compound, terminating stems and branches; rays 8–28

flowers: white, petals rounded (1–1.5 mm long), subtended by 1–2 linear bracts



Spotted waterhemlock

fruits:	schizocarps, oval to orbicular (2.2–4.5 mm long), glabrous; dividing into 2 mericarps each with 1 seed
seeds:	obovate to oblanceolate (2–3.5 mm long), flat on one side and rounded on the other; straw-colored with dark blotches

Habitat

Spotted waterhemlock grows in wet locations along streams, lakes, ponds, marshes, sloughs, road ditches, and low spots in meadows and prairies.

Uses and Values

Forage. Spotted waterhemlock increases with improper grazing on wet grasslands and has no forage value.

Poisoning. Spotted waterhemlock is one of the most poisonous of all flowering plants, with consumption of as little underground plant material as 0.3% of an animal's body weight being lethal. The yellow oil found in the lower parts of this plant is the most poisonous portion of the plant. When it is cut, the plant will ooze oil, which smells like parsley. Toxicity is reduced little with age, and dead plants are still poisonous. The underground parts are the most poisonous. Poisoning is most frequent when young shoots are pulled from the moist soil and the underground parts eaten. Poisoning symptoms are violent and are characterized by nausea, stomach pain, diarrhea, difficulty in breathing, rapid weak pulse, convulsions, and death.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Spotted waterhemlock is not used in prairie restorations.

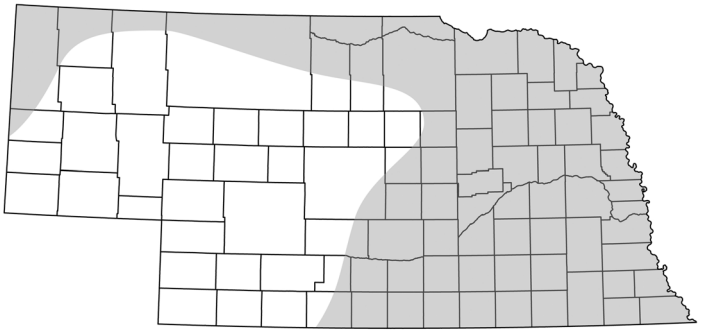
Wildlife. Songbirds occasionally eat the seeds. The foliage is not eaten by wildlife.

Ornamental. It is not used in ornamental plantings.

Other

Spotted waterhemlock requires wet soil and can be reduced by providing better drainage. Some Native Americans were aware of the toxicity of this plant and used it to commit suicide.

Jerusalem artichoke



COMMON NAME:	**Jerusalem artichoke**
Species:	*Helianthus tuberosus* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	August to October
Height:	1–3 m (3.3–9.8 ft)

Vegetative Characteristics

stems:	erect, branching above; surfaces scabrous to hirsute or sometimes glabrous
leaves:	opposite below, may be alternate above, simple; blades ovate to lanceolate (10–25 cm long, 6–15 cm wide), seldom more than 3-times longer than broad; margins serrate; upper surface scabrous; lower surface minutely pubescent; petiole winged or partially so
underground:	tuber-bearing rhizomes, well developed; forming large colonies

Inflorescence Characteristics

type:	heads (4–8.6 cm wide), 1 to few, terminal on upper branches; involucral bracts linear to lanceolate, imbricate, multi-serrate, equaling or exceeding the disk; ray florets 20–30; disk flowers numerous
flowers:	yellow ray florets (3–4 cm long), sterile; yellow disk florets (6–7 mm long), more golden or darker than the ray florets, fertile; chaffy bracts acute
fruits:	achenes (4–8 mm long), oblong to deltoid, flattened, dark brown; pappus of 2 deciduous awns; seeds 1
seeds:	flattened (3–6 mm long), tan

Habitat

Jerusalem artichoke is found in prairies, rangelands, edges of hay meadows, and roadsides

Uses and Values

Forage. Jerusalem artichoke provides good to excellent forage for livestock. Livestock will eat the tubers. It decreases with abusive grazing.

Poisoning. None.

Grassland Seeding. It is not included in grassland seeding mixtures.

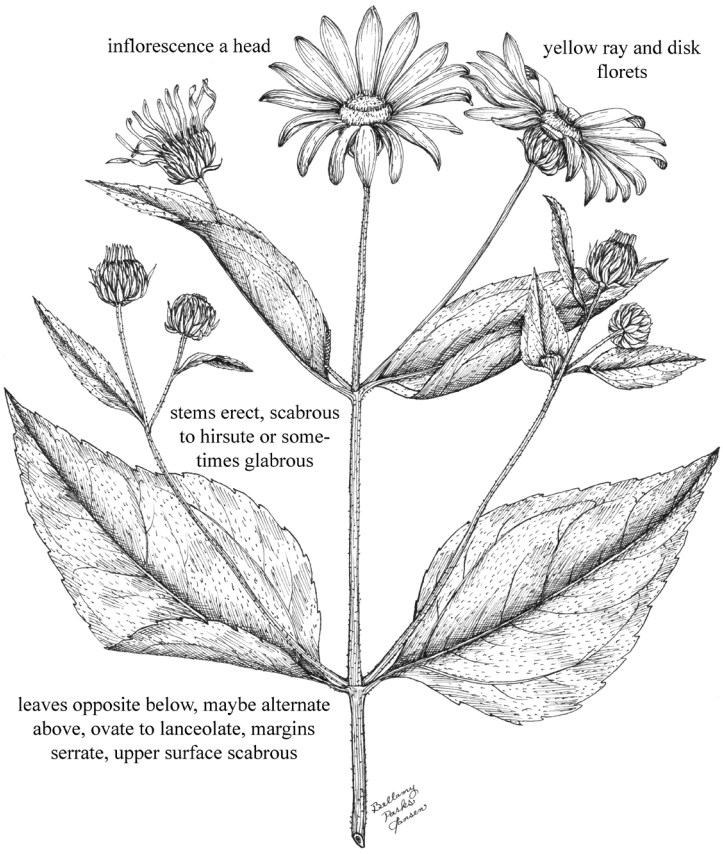
Prairie Restoration. Jerusalem artichoke should be included only sparingly in prairie restorations because it spreads rapidly.

Wildlife. Deer, elk, and pronghorn graze Jerusalem artichoke which provides high quality forage. Upland gamebirds and small mammals eat the seeds. The tubers provide food for many types of wildlife. It attracts butterflies and many other kinds of insects.

Ornamental. Jerusalem artichoke grows well in sunny, relatively damp soils. Care must be taken in its cultivation because it can spread aggressively by rhizomes.

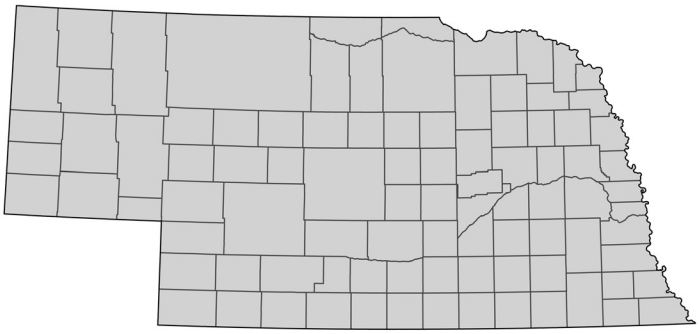
Other

Some Native Americans collected the tubers for food. The tubers contain a starch which is not easily digested. It tends to ferment in the digestive system causing formation of gas in the gastrointestinal tract. It was introduced into England in the early 1600s for human food, but it soon became food for livestock only.



Jerusalem artichoke

Maximilian sunflower



COMMON NAME:	Maximilian sunflower
Species:	*Helianthus maximiliani* Schrad.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	September to October
Height:	1–3 m (3.3–9.8 ft)

Vegetative Characteristics

stems:	erect, unbranched or branched above, glabrous to pubescent, sometimes reddish above
leaves:	alternate, lanceolate (15–20 cm long, 2–3 cm wide), gradually reduced upward, shallowly serrate to entire, scabridulous above, pustular-scabridulous beneath, characteristically folded upward into a trough shape; sessile or a short-petioled; petiole wingless, densely hirsute; pubescence gives the whole plant a grayish-green appearance
underground:	rhizomes, extensive, thickened, fleshy; forming large colonies

Inflorescence Characteristics

type:	racemelike, heads many (4–6 cm wide); ray florets 10–40; disk florets numerous, showy
flowers:	lemon-yellow ray florets; yellow disk florets, not toothed
fruits:	achenes (3–7 mm long), linear-oblong, flattened; pappus of 2 deciduous awns; seeds 1
seeds:	flattened (2–6 mm long), tan

Habitat

Maximilian sunflower is found in wet areas of river valleys, meadows, prairies, rangelands, railroad rights-of-way, and roadsides. It grows in all soil textures.

Uses and Values

Forage. Maximilian sunflower provides poor to fair forage for cattle and horses. It remains green late in the autumn, and livestock often graze it then. It is not plentiful on rangeland that has been continuously heavily grazed.

Poisoning. None

Grassland Seeding. It is used in grassland seedings, and several cultivars are available.

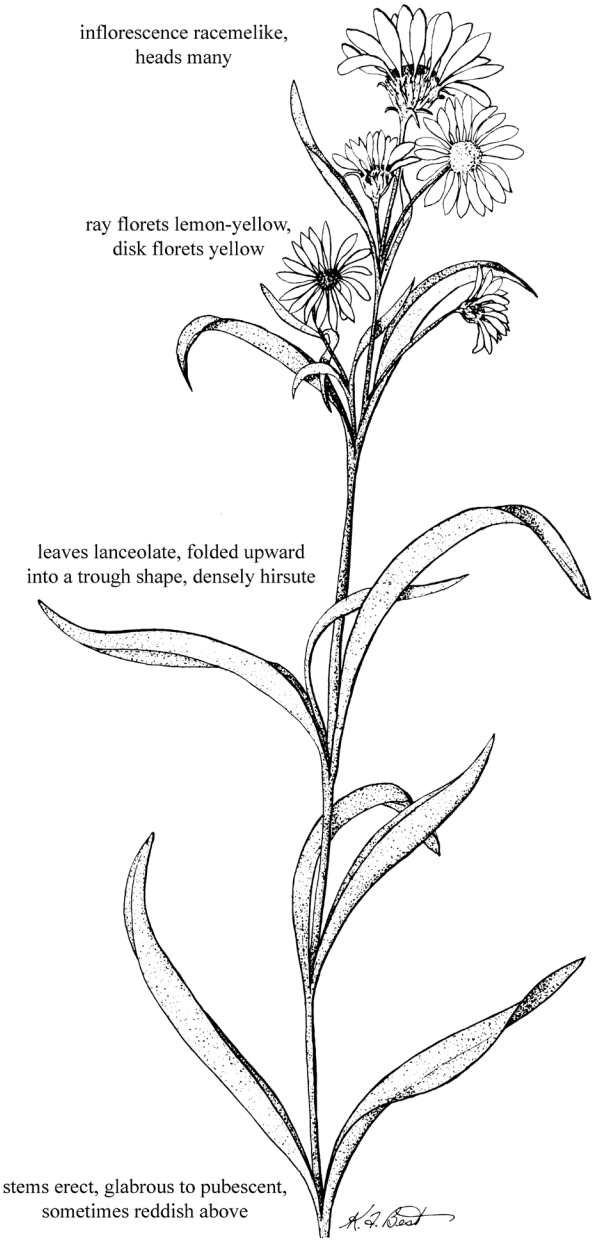
Prairie Restoration. It is used in small amounts in prairie restorations. Without grazing, it spreads quickly.

Wildlife. Maximilian sunflower provides poor nutritional value but it is grazed by deer, elk, and pronghorn. Rabbits eat the young foliage, and it is used for nesting and escape cover by many species. It attracts butterflies and other insects.

Ornamental. Maximilian sunflower can be used as a natural screen. However, it aggressively spreads.

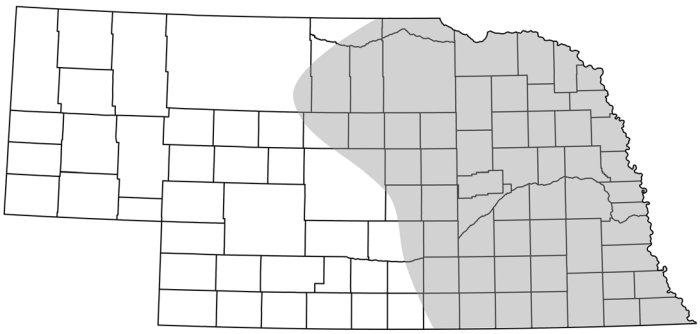
Other

Some Native Americans prepared and ate the roots like those of Jerusalem artichoke. It produces a yellow dye and contains a natural rubber.



Maximilian sunflower

Sawtooth sunflower



COMMON NAME:	Sawtooth sunflower
Species:	*Helianthus grosseserratus* M. Martens
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	August to October
Height:	1–4 m (3.3–13 ft)

Vegetative Characteristics

stems: erect, simple or branching above; surfaces glabrous and often waxy below, appressed pubescence above

leaves: mostly alternate, simple; blades lanceolate to lance-ovate (10–30 cm long, 2–10 cm wide), largest upwards; margins strongly serrate to subentire; upper surface scabrous; lower surface slightly hairy to densely pubescent; tapering to the base to a reduced petiole

underground: rhizomes extensive, tough, woody; forming large colonies

Inflorescence Characteristics

type: paniclelike or racemelike clusters of numerous heads; loose; heads showy (4.5–9 cm wide, 2.5–3.5 cm tall); involucre with several series of imbricate bracts; bracts linear-lanceolate, loose, spreading, pubescence appressed; ray florets 10–20; disk florets numerous; disk 1.5–2.6 cm in diameter

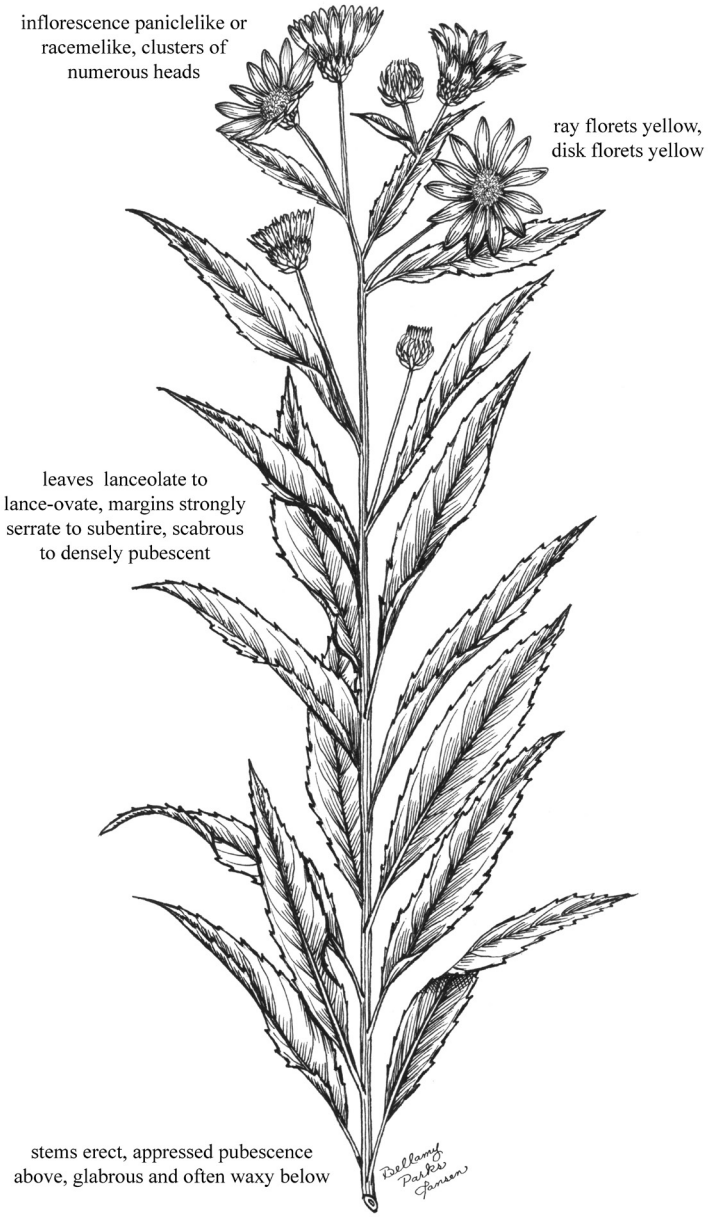
flowers: yellow ray florets (3–4 cm long), sterile; yellow disk florets (5–8 mm long), fertile; chaffy bracts entire or shallowly 3-forked

fruits: achenes (3–4 mm long), rhombic in cross-section, dark brown to black; pappus of 2 deciduous awns or scales; seeds 1

seeds: flattened (2–3 mm long), tan

Habitat

Sawtooth sunflower grows in wet prairies, hay meadows, rangelands, roadsides, and margins of wetlands. It is mostly absent in the Panhandle and southwest.



Sawtooth sunflower

Uses and Values

Forage. Sawtooth sunflower has good to excellent forage quality for livestock. It decreases with abusive grazing.

Poisoning. None.

Grassland Seeding. It can be added to moist areas to add diversity and produce forage.

Prairie Restoration. It is included sparingly in prairie restorations, because it spreads rapidly.

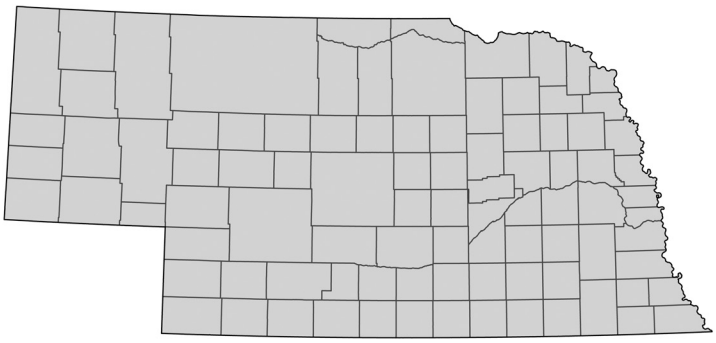
Wildlife. Deer, elk, and pronghorn graze sawtooth sunflower which provides high quality forage. Upland gamebirds and small mammals eat the seeds. It attracts butterflies and many other kinds of insects.

Ornamental. Sawtooth sunflower does well in sunny, relatively wet soils. It requires a large area in which to grow and can lodge because of its height. Care must be taken in its cultivation because it can aggressively spread.

Other

Some Native Americans prepared various foods from the seeds. A poultice of flowers was applied to burns.

Stiff sunflower



COMMON NAME:	Stiff sunflower
Species:	*Helianthus pauciflorus* Nutt. [= *Helianthus rigidus* (Cass.) Desf.]
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to September
Height:	0.3–2 m (1–6.6 ft)

Vegetative Characteristics

stems:	erect, simple to few-branched, green to reddish-purple, glabrous to scabrous
leaves:	opposite, simple; lower blades lanceolate to elliptic, upper blades linear (6–23 cm long, 1–7 cm wide); lower leaves tapering to winged petioles; upper leaves subsessile; margins entire to serrate; surfaces rough and leathery; light green to grayish-green
underground:	fibrous roots, extensive tuber-bearing rhizomes; tubers small

Inflorescence Characteristics

type:	heads (5–8 cm wide), showy, 1 to few, terminal, on long peduncles; ray florets 10–20; disk florets numerous
flowers:	yellow ray florets (1.3–3.5 cm long); disk florets reddish-purple to yellow; bracts entire or 3-forked, lightly pubescent
fruits:	achenes (5–6 mm long), glabrous to hairy; pappus awns 2; seeds 1
seeds:	flattened (2–4 mm long), tan

Habitat

Stiff sunflower grows in pastures, rangelands, prairies, and roadsides in all types of dry soil. It is common in the Sandhills both between and on the dunes.

Uses and Values

Forage. Stiff sunflower decreases with improper grazing on rangelands and has good to excellent forage quality for livestock. It is most common on rangelands grazed in winter, and it is readily depleted under continual summer grazing.

Poisoning. None.

Grassland Seeding. It can be added to grassland seedings to add diversity and produce forage. Seed is available commercially. It is sometimes planted in conservation buffer strips.

Prairie Restoration. It is included sparingly in prairie restorations because it spreads rapidly.

Wildlife. Deer, elk, pronghorn, and bighorn sheep graze stiff sunflower, which produces high quality forage. Upland

gamebirds, songbirds, and small mammals eat the seeds. Stiff sunflower attracts butterflies and many other kinds of insects.

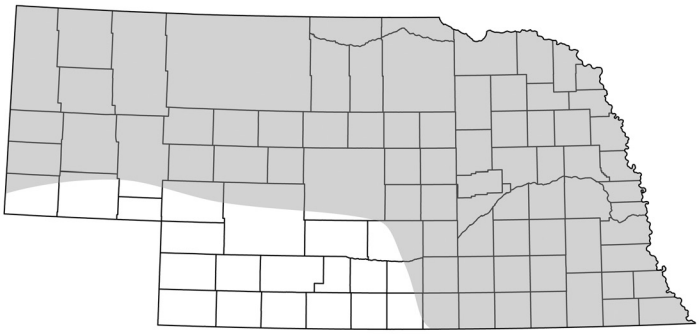
Ornamental. Stiff sunflower does well in sunny, relatively dry areas. Slugs can be a problem when the plants are small. Care must be taken in its cultivation because it can spread aggressively by rhizomes.

Other

Stiff sunflower seeds were sometimes eaten by Native Americans. The tubers were eaten raw or cooked much like those of Jerusalem artichoke (*Helianthus tuberosus*), but the yields of stiff sunflower tubers are low.

Stiff sunflower

Flodman thistle



COMMON NAME:	**Flodman thistle (prairie thistle)**
Species:	*Cirsium flodmanii* (Rydb.) Arthur
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect, usually branched above; surfaces white-tomentose
leaves:	alternate, simple; highly variable; rosette leaves elliptic to oblanceolate (12–22 cm long, 3–7 cm wide), petiole winged; stem leaves similar and clasping at the base; margins subentire to shallowly lobed, spine 3–6 mm long; surfaces green and woolly above, gray and woolly below
underground:	taproot; rhizomes with numerous buds

Inflorescence Characteristics

type:	heads, solitary, terminal on the branches, discoid, florets many; involucre (2–3 cm tall, 1.5–2.5 cm wide) with 6–7 series of bracts; bracts oval (5–9 mm long, 2–4 mm wide); with a divergent spine (2–4 mm wide)
flowers:	deep purple to pink (rarely white) disk florets (2–3.5 cm long)
fruits:	achenes (3–4 mm long, 1.5–2 mm wide); pappus of white or tawny bristles (2–3 cm long); seeds 1
seeds:	brown to tan

Habitat

Flodman thistle is common on moist meadows and ditches and on drier, open sites on pastures, rangelands, and disturbed areas. It is not common in the Sandhills.

Uses and Values

Forage. Flodman thistle increases with improper grazing on rangelands and has no forage value for domestic livestock. However, horses occasionally eat the heads.

Poisoning. None.

Grassland Seeding. It is not included in grassland seedings.

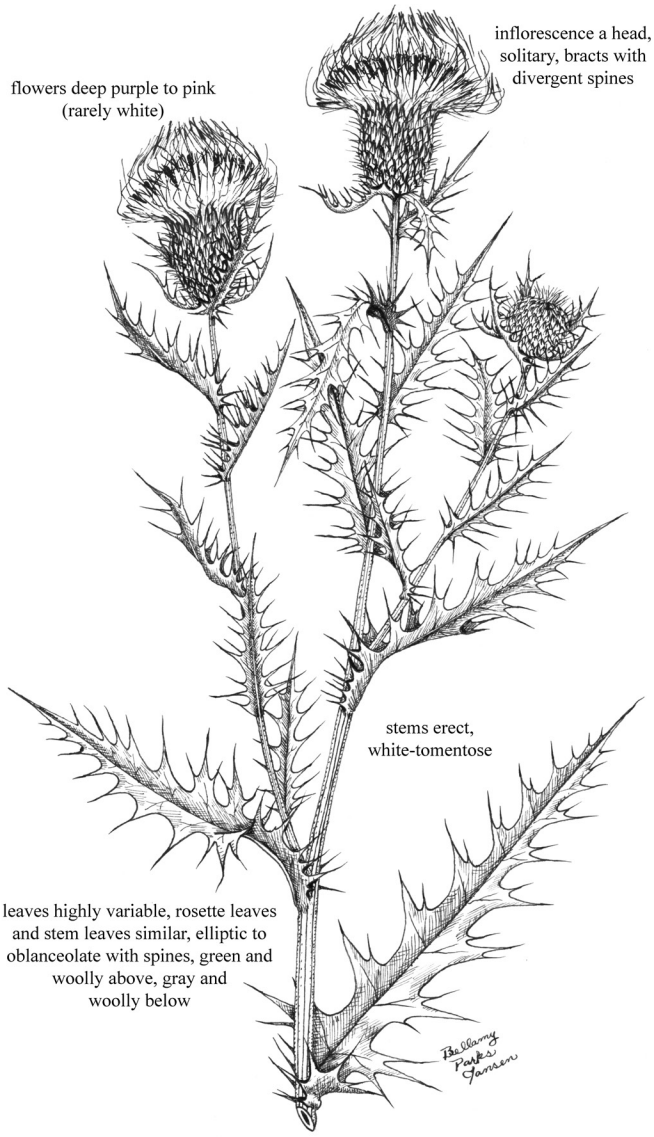
Prairie Restoration. Flodman thistle is a natural part of the prairie vegetation across Nebraska and should be added to prairie restorations. Inclusion in restorations occurs only rarely, because of the negative feelings about thistles.

Wildlife. Butterflies visit the flowers, and the seeds are eaten by songbirds and small mammals. Pronghorn eat the heads. The pappus is used by birds and small mammals to line nests.

Ornamental. Flodman thistle is occasionally grown in butterfly gardens. Commercial sources of seeds are available.

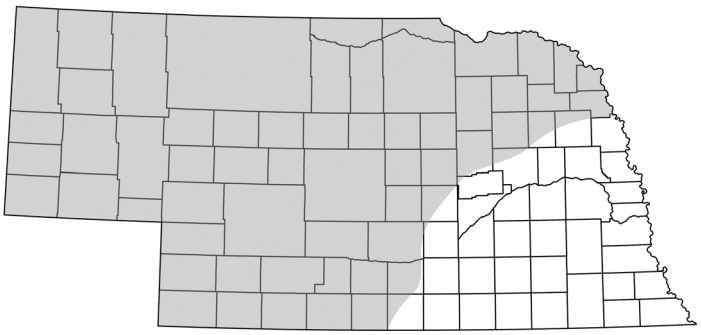
Other

Some Lakota peeled and ate the stems. Roots of the rosettes were eaten raw or cooked. Flodman thistle is not classified as a weed and is not an aggressive thistle.



Flodman thistle

Platte thistle



COMMON NAME:	Platte thistle
Species:	*Cirsium canescens* Nutt.
Growth Form:	Forb
Life Span:	Perennial (or biennial)
Origin:	Native
Flowering:	May to July
Height:	0.4–0.8 m (1.3–2.6 ft)

Vegetative Characteristics

stems:	erect, simple or branched above; often spiny-winged, surfaces tomentose
leaves:	alternate, simple; blades of the first basal leaves narrowly elliptic, margins entire to wavy; later blades larger (12–30 cm long, 3–5 cm wide) and more deeply lobed; lobes spiny; stem blades reduced upwards (3–7 cm long, 5–25 mm wide); uppermost blades only shallowly lobed to subentire; margins spiny, upper surface green and cobweblike with tangled, slender, and loose hairs; lower surface densely tomentose, white; decurrent leaf bases forming spiny wings on the stems
underground:	taproot, deep, slender to stout

Inflorescence Characteristics

type:	heads few (3–4 cm tall, 2.5–4 cm wide, occasionally as small as 1.5 cm tall), terminal and axillary; heads discoid, flowers many; involucre with 6–8 series of bracts; outer bracts (7–17 mm long, 1.5–2.5 mm wide) with yellow spines (2–6 mm long); inner bracts without spines
flowers:	yellowish-white to rarely pale lavender disk florets (2.4–2.8 cm long)
fruits:	achenes (5–7 mm long, 2.3–2.7 mm wide), smooth, curved, straw-colored with brown streaks; pappus a ring of numerous white bristles (1.8–3 cm long), plumose; falling as a unit; seeds 1
seeds:	small

Habitat

Platte thistle grows in sandy and gravelly soils of rangelands, pastures, roadsides, waste areas, and disturbed sites.

Uses and Values

Forage. Platte thistle increases with improper grazing on rangelands and has no forage value for livestock or wildlife.

Poisoning. None.

Grassland Seeding. It is not included in grassland seedings.

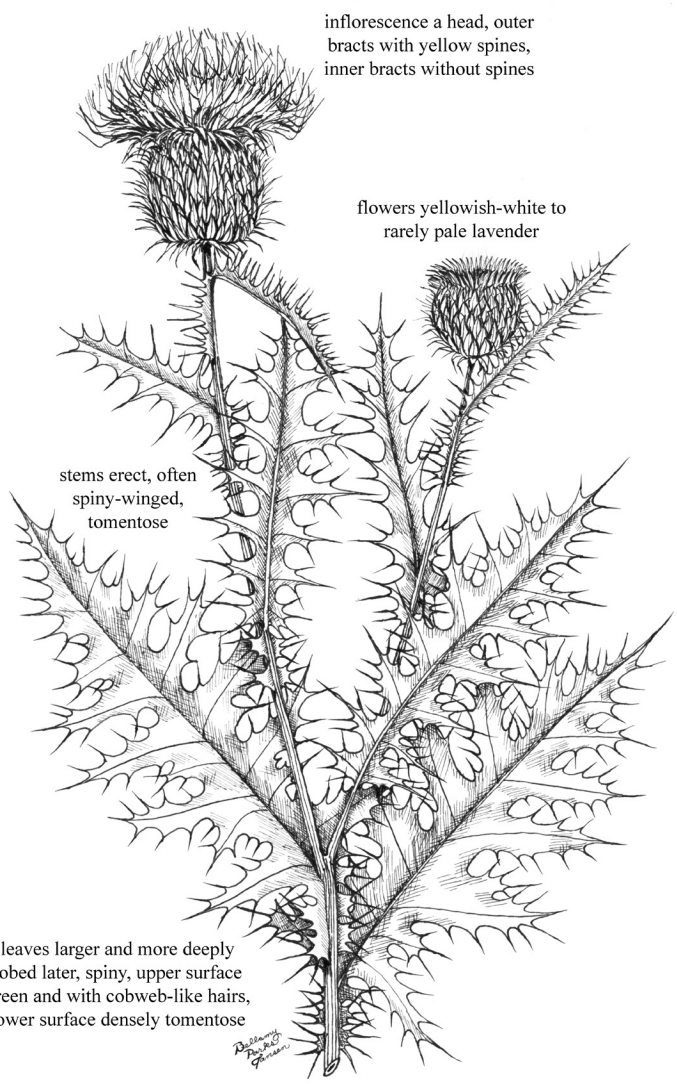
Prairie Restoration. Platte thistle is a natural part of the prairie vegetation across Nebraska and should be added to prairie restorations. However, this occurs only rarely because of the negative feelings about thistles.

Wildlife. Platte thistle attracts butterflies, and the seeds are eaten by songbirds and small mammals. Pronghorn eat the heads. The pappus is used by birds and small mammals to line nests.

Ornamental. Platte thistle is sometimes grown in butterfly gardens.

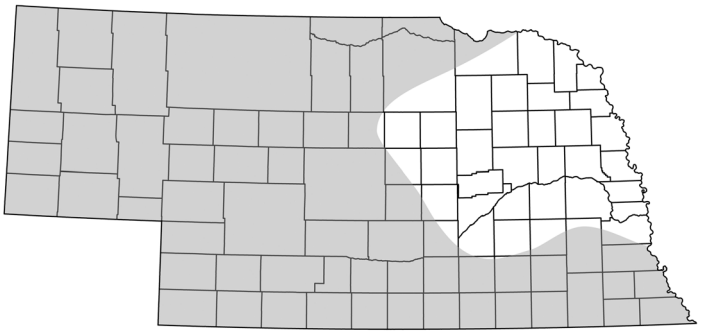
Other

Some Lakota peeled and ate the stems and roots. Platte thistle is not classified as a weed and is not as aggressive as many other thistles. This is the only thistle in Nebraska with yellowish flowers.



Platte thistle

Wavyleaf thistle



COMMON NAME:	Wavyleaf thistle (gray thistle)
Species:	*Cirsium undulatum* (Nutt.) Spreng.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to August
Height:	0.4–1 m (1.3–3.3 ft)

Vegetative Characteristics

stems:	erect; sparingly branched above; densely tomentose
leaves:	alternate, simple; rosette leaves elliptic (10–30 cm long, 2–7 cm wide), lobed; lobes tipped with a yellow spine (5 mm long); margins undulate; surfaces densely tomentose, upper surface less so and greenish; petiole winged and clasping; cauline leaves similar only ovate to lanceolate, shallowly lobed; sessile and clasping
underground:	taproot, deep

Inflorescence Characteristics

type:	heads solitary (2–4 cm tall, 2–3.5 cm wide), terminal on the branches; heads discoid, flowers many; involucre with 6–8 series of bracts (6–17 mm tall, 2–4.5 mm wide), tipped with a spine (2–5 mm long)
flowers:	purple to pinkish-rose or white disk florets (3–4 cm long)
fruits:	achenes (5–7 mm long, 2–3 mm wide); conspicuous yellow collar, smooth, flattened, and slightly curved; pappus of white bristles (2–4 cm long); seeds 1
seeds:	tan to brown

Habitat

Wavyleaf thistle is most abundant on Sandhill dunes and abused rangelands, prairies, meadows, pastures, and disturbed sites.

Uses and Values

Forage. Wavyleaf thistle increases with improper grazing on rangeland and has little or no forage value because the spines cause livestock to avoid it. Horses may eat the heads.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. It can be used sparingly in prairie restorations to increase the biodiversity.

Wildlife. Butterflies are attracted to wavyleaf thistle flowers. Pronghorn eat the heads. Songbirds and small mammals eat the seeds and line their nests with the pappus attached to the achenes.

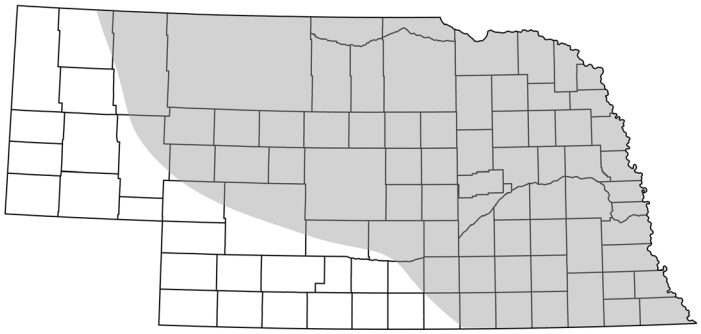
Wavyleaf thistle

Ornamental. Wavyleaf thistle is sometimes grown in cultivated beds in full sun. A limited amount of seed is available commercially. The flowering heads are used in floral arrangements, and the fruiting heads are used in dried arrangements.

Other

Some Native Americans made a tea from the roots and drank it to treat diabetes and stomach ache. The roots were cooked and eaten. It is not classified as a weed.

Canada tickclover



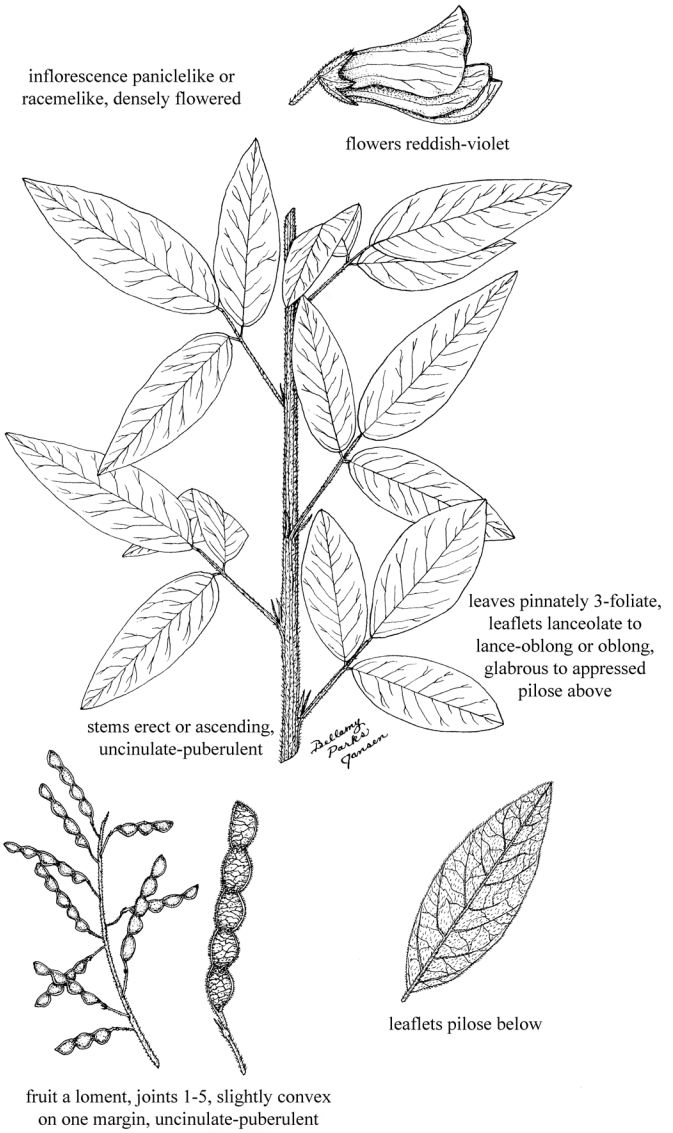
COMMON NAME:	Canada tickclover
Species:	*Desmodium canadense* (L.) DC.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to September
Height:	0.4–1.5 m (1.3–4.9 ft)

Vegetative Characteristics

stems:	erect or ascending, branched above, uncinulate-puberulent
leaves:	alternate (6–15 cm long with petiole), pinnately 3-foliate; leafelets lanceolate to lance-oblong or oblong (5–10 cm long, 2–4 cm wide); margins entire to slightly undulate; glabrous to appressed pilose above, pilose below
underground:	taproot

Inflorescence Characteristics

type:	paniclelike or racemelike, terminal, densely flowered
flowers:	reddish-violet (fading to purple or blue) corolla; petals 5, papilionaceous; calyx bell-shaped (1.5–2 mm long), bilabiate; upper lobe 4.5–5 mm long; lower lobe 5–7 mm long
fruits:	loments, joints 1–5; each joint 5–7 mm long and 4–5 mm wide; slightly convex on one margin; obtuse on the second margin; uncinulate-pubescent; seeds few to several
seeds:	ovoid to broadly ellipsoid, brown, smooth



Canada tickclover

Habitat

Canada tickclover is grows in prairies, pastures, rangelands, river banks, and roadsides and is most common in sandy soils.

Uses and Values

Forage. Cattle graze immature Canada tickclover plants. It is not an important forage producer and decreases with heavy continuous grazing.

Poisoning. None

Grassland Seeding. Canada tickclover is not used in grassland seedings.

Prairie Restoration. It is rarely used in prairie restorations because seeds are not commercially available. Hand-harvested seeds could be planted to increase diversity.

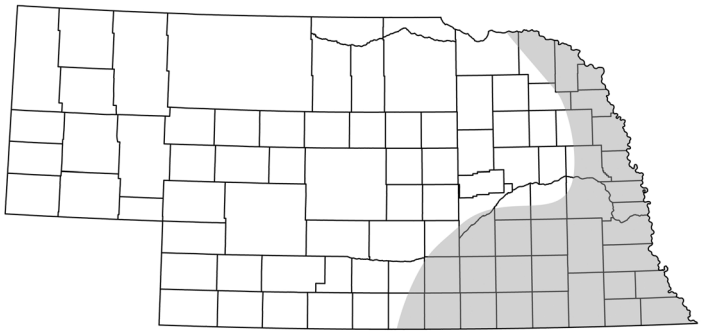
Wildlife. Plants are grazed by deer and rabbits. The seeds are eaten by songbirds, upland gamebirds, and small mammals.

Ornamental. Canada tickclover has little value as an ornamental.

Other

Tickclovers get their name from the fact that the hooked (uncinate) hairs cause the loments and loment sections to readily stick to clothes and animals.

Illinois tickclover



COMMON NAME:	**Illinois tickclover (tick trefoil)**
Species:	*Desmodium illinoense* A. Gray
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.5–1.5 m (1.6–4.9 ft)

Vegetative Characteristics

stems:	erect to ascending, stout, not branching, uncinated puberulent at the middle
leaves:	alternate (scattered), pinnately 3-foliate; leaflets ovate-lanceolate (3–10 cm long, 1.5–6 cm wide); margins entire to undulating; coriaceous, uncinate-puberulent on both surfaces, strongly reticulate beneath; petiole nearly as long as the terminal leaflet
underground:	taproot

Inflorescence Characteristics

type:	racemelike or paniclelike, terminal, densely flowered
flowers:	pink to white (fading to purple) corolla; petals 5, papilionaceous; calyx bilabiate, upper lobe 2–4.5 mm long; lower lobe 3–6 mm long
fruits:	loments, joints 3–7, each joint 2.5–8 mm long, rounded on both margins; margins uncinulate-puberulent
seeds:	ovoid to kidney-shaped (3–3.5 mm long), dark brown, smooth

Habitat

Illinois tickclover grows in rich prairie soils of valleys, hillsides, and ravines.

Uses and Values

Forage. Cattle graze immature Illinois tickclover plants. It is not an important forage producer and decreases with heavy continuous grazing.

Poisoning. None

Grassland Seeding. Illinois tickclover is not used in grassland seedings.

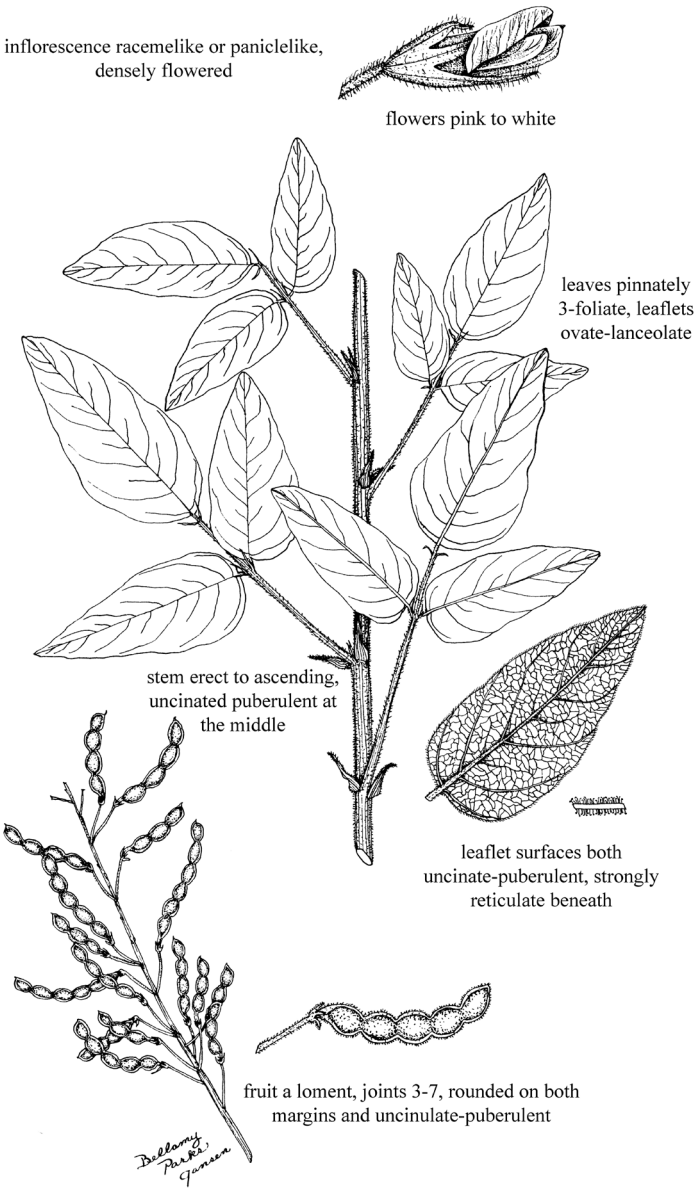
Prairie Restoration. It is rarely used in prairie restorations because seeds are not commercially available. Hand-harvested seeds could be planted to increase diversity.

Wildlife. Plants are grazed by deer and rabbits. The seeds are eaten by birds and small mammals.

Ornamental. Illinois tickclover has little value as an ornamental.

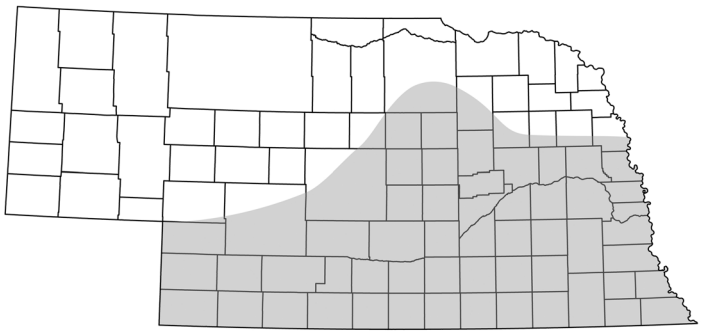
Other

Tickclovers get their name from the fact that the hooked (uncinate) hairs cause the loments and loment sections to readily stick to clothes and animals.



Illinois tickclover

Western ironweed



COMMON NAME:	Western ironweed (Baldwin ironweed)
Species:	*Vernonia baldwinii* Torr.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to September
Height:	0.7–1.5 m (2.3-4.9 ft)

Vegetative Characteristics

stems:	erect, usually single, unbranched, gray to brownish pubescence above
leaves:	alternate, simple; blades of middle leaves lanceolate to narrowly ovate (3–18 cm long, 2–6 cm wide); margins serrate; surfaces usually glabrous, pubescent on the veins beneath; short-petiolate to sessile
underground:	fibrous roots, short rhizomes

Inflorescence Characteristics

type:	corymblike, loose, open, irregular; heads numerous (4–6 mm across), discoid; florets 16–35; involucral bracts green with purple margins, acuminate (5–6 mm long, 1–3 mm wide), dotted with glands
flowers:	purple disk florets
fruits:	achenes; minutely pubescent or glabrous; pappus brown to brownish-purple (5–6 mm long); seeds 1
seeds:	small

Habitat

Western ironweed grows on dry to damp prairies, disturbed or heavily grazed pastures, and rangelands. It is rare in the Sandhills and the Panhandle.

Uses and Values

Forage. Western ironweed is worthless for cattle because of its bitter taste, but sheep will eat it. It increases rapidly on abused rangeland and is an indicator of depleted rangelands.

Poisoning. None.

Grassland Seeding. Western ironweed is considered to be an undesirable species, and it is not used for grassland seedings.

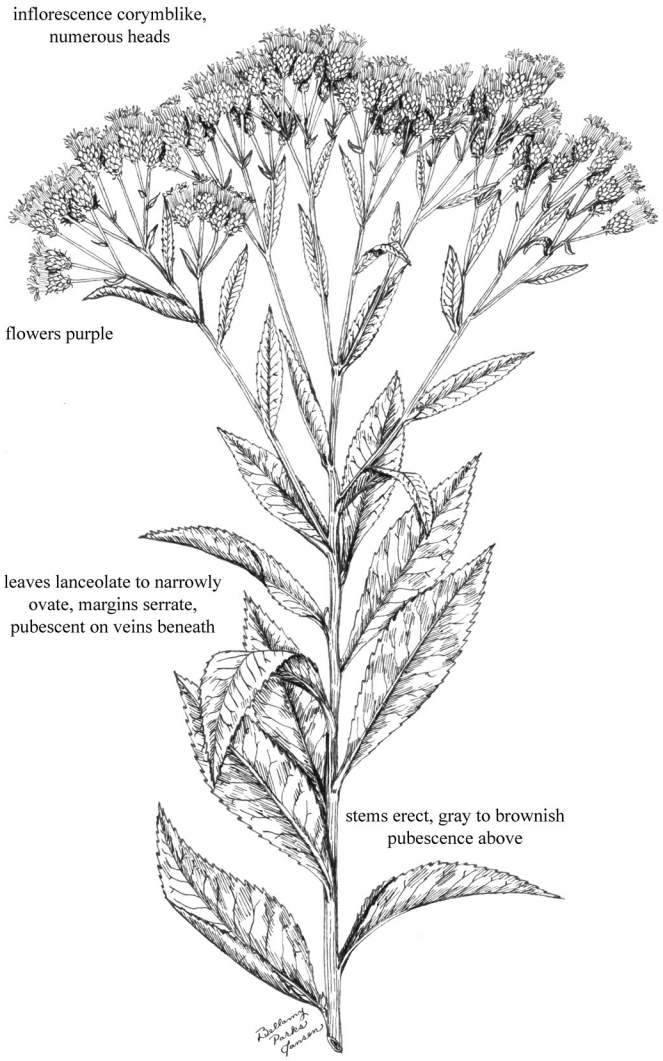
Prairie Restoration. It can be added to prairie restorations to increase diversity.

Wildlife. It is sometimes lightly grazed by deer, but it is considered to be nearly worthless as forage for wildlife. Quail and other ground-foraging birds eat the seeds. Many insects visit the flowers.

Ornamental. Both seeds and potted plants are available from some nurseries, but it is rarely grown in cultivation. It grows best in full or partial sun and in well-drained soils. It is sometimes used in cut flower arrangements. Prairie goldenrod (*Solidago missouriensis*) is a good companion plant. Western ironweed aggressively spreads by rhizomes.

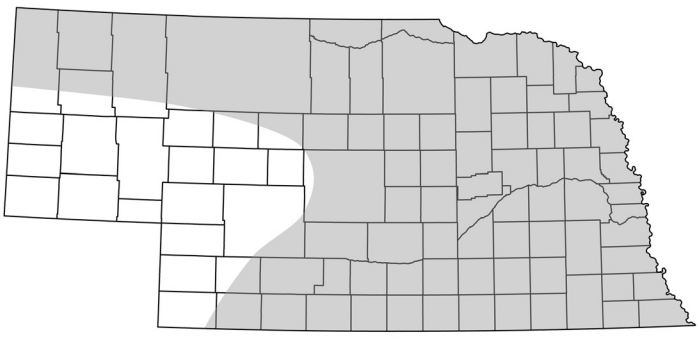
Other

Western ironweed can be a serious weed. It is commonly the tallest plant on abused rangeland and pastures because it is one of the few species not grazed by cattle. Ironweed (*Vernonia fasciculata* Michx.) is a similar species. It has reddish to purple stems, especially the lower stems. Ironweed leaves are pitted beneath (appearing as minute dark spots). It is scattered across Nebraska, but it is infrequent in the Panhandle and Sandhills.



Western ironweed

Western marbleseed



COMMON NAME:	Western marbleseed (false gromwell)
Species:	*Onosmodium molle* Michx.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	0.2–0.7 m (0.6–2.3 ft)

Vegetative Characteristics

stems:	erect, stout, 1 to few, simple below, branched above, pubescent
leaves:	alternate (3.5–8 cm long, 8–15 mm wide), those below lanceolate and deciduous, those above elliptic; surfaces pubescent; midvein and 2–3 pairs of lateral veins; veins prominent
underground:	taproot

Inflorescence Characteristics

type:	cyme (spikelike), simple or branched, terminal on stems or their branches; flowers drooping
flowers:	greenish-white to yellowish-white corolla (7–16 mm long); corolla tubular, lobes 5; lobes erect, acute; calyx 5-lobed (about one-half as long as the corolla)
fruits:	nutlets 1–4, ovoid (3–4 mm long), base flat, light gray, smooth, shiny
seeds:	small

Habitat

Western marbleseed grows on upland prairies, rangelands, and pastures, often in rocky and gravelly soils. It is not common in the Sandhills.

Uses and Values

Forage. The coarse pubescence on the stems and foliage causes grazing animals to avoid western marbleseed.

Poisoning. None.

Grassland Seeding. Western marbleseed is not used in grassland seedings.

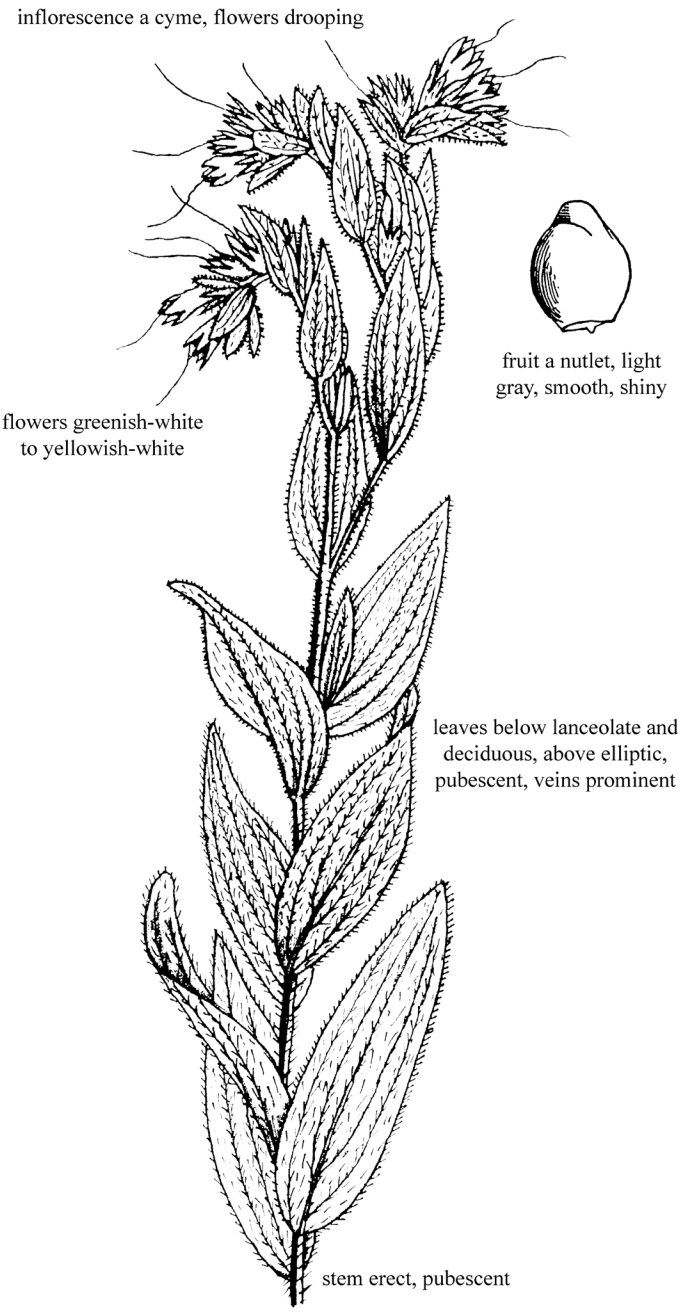
Prairie Restoration. Seed is not commercially available, and it is not used in prairie restorations. Hand-harvested seed could be planted to increase diversity.

Wildlife. Western marbleseed is rarely grazed by wildlife. Small mammals and birds relish the nutlets.

Ornamental. It has little potential as an ornamental.

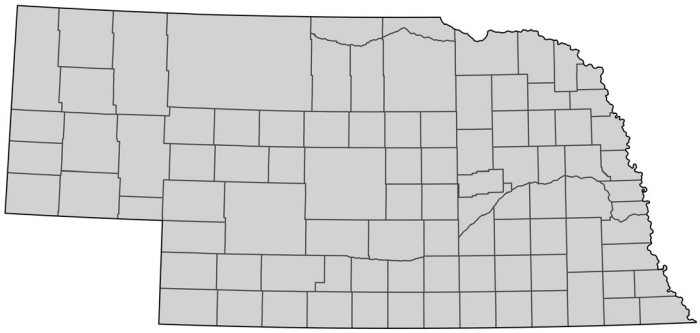
Other

Some Lakota Native Americans made a tea from the roots and nutlets and used it to treat swelling on injured horses.



Western marbleseed

Western ragweed



COMMON NAME:	Western ragweed (perennial ragweed, Cuman ragweed)
Species:	*Ambrosia psilostachya* DC.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to October
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect to decumbent, simple below, much-branched above, variably pubescent; hairs ascending
leaves:	alternate above and opposite below, simple; blades lanceolate to ovate (2–13 cm long, 1–7 cm wide), once-pinnatifid; these divisions linear and toothed; both surfaces with a sticky resin and highly variable pubescence, grayish-green; sessile or very short with a winged petiole
underground:	rhizomes, slender, creeping;forming colonies

Inflorescence Characteristics

type:	male heads in terminal racemes; female heads in axillary clusters, below male flowers; male involucre with 1 series of 5–12 bracts; disk florets several; female involucre with 1 series of 4 to 6 bracts
flowers:	greenish-yellow male florets (2.5 mm wide), oblique; greenish-yellow female florets (2.5 mm long), obovoid
fruits:	achenes (3 mm long); burlike, formed by the involucre; pappus absent; 1-seeded
seeds:	small

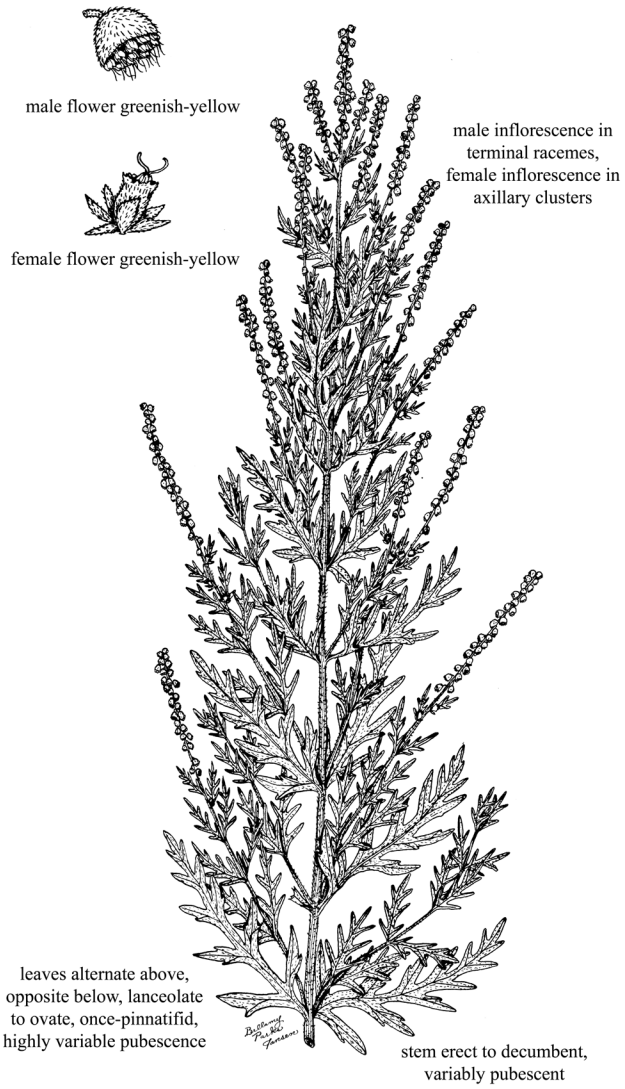
Habitat

Western ragweed is common on rangelands, prairies, and disturbed sites in all types of soil.

Uses and Values

Forage. Western ragweed increases with improper grazing on rangeland and has little forage value for livestock. When other forage is limited, it may be grazed in early spring or late summer.

Poisoning. It accumulates nitrates under drought conditions, but is rarely eaten by livestock because it is relatively unpalatable. Treatment with the herbicide 2,4-D may increase the palatability of the plants and enhance their capability to accumulate nitrates. Western ragweed contains volatile oils and may cause skin irritation in animals and humans. It is a major contributor to the autumn hay fever season.



Western ragweed

Grassland Seeding. It is considered to be a weed and is not used in grassland seedings.

Prairie Restoration. Western ragweed is not used in prairie restorations.

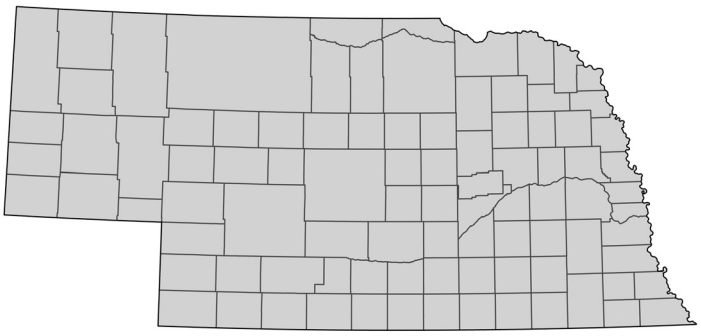
Wildlife. Fruits are an important winter food source for upland gamebirds, turkeys, and songbirds.

Ornamental. It is not used as an ornamental as it spreads rapidly and causes hay fever

Other

Some Native Americans were reported to have made and consumed a tea made from whole western ragweed plants for difficult childbirth, cramps, and colds. A decoction was rubbed on sores of both humans and horses.

Wild bergamot



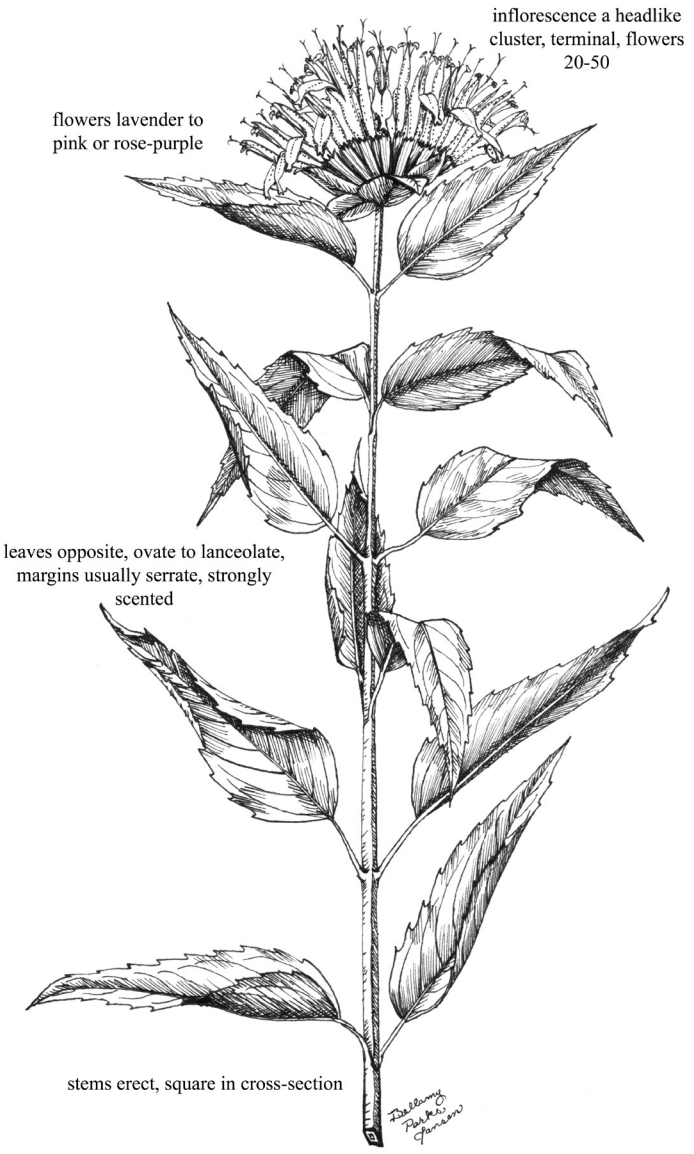
COMMON NAME:	**Wild bergamot (horse mint, beebalm)**
Species:	*Monarda fistulosa* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	July to September
Height:	0.3–1.2 m (1–3.9 ft)

Vegetative Characteristics

stems:	erect, simple or branched above, pubescent above, glabrous below; square in cross-section
leaves:	opposite, simple; blades ovate to lanceolate (3–12 cm long, 1–3.5 cm wide); margins usually serrate; surfaces glandular, sparsely pubescent; petiole 2–20 mm long; strongly scented
underground:	rhizomes, slender, creeping

Inflorescence Characteristics

type:	cluster, headlike, solitary, terminal, compact (1.5–3 cm wide, excluding corollas); flowers 20–50
flowers:	lavender to pink or rose-purple (rarely white) corolla (2–3.5 cm long); outer surface puberulent; upper lip erect; lower lip reflexed; calyx tubular (5–11 mm long), toothed; 3 stamens exerted
fruits:	nutlets (1.5–2 mm long), oblong, brown to black; seeds 1
seeds:	small



Wild bergamot

Habitat

Two varieties are recognized in Nebraska, and these varieties are geographically distinct. Variety *mollis* (L.) Benth. (longest petioles more than 8 mm long) is common on dry prairies, rangelands, pastures, woodlands and roadsides throughout Nebraska. Variety *menthifolia* (Graham) Fernald (longest petioles < 8 mm long) is found on moist sites in northwestern Nebraska. Combined, the two varieties grow throughout Nebraska

Uses and Values

Forage. Wild bergamot has fair forage value for cattle and sheep. Horses make only incidental use of this plant. It increases with abusive grazing.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. It may be used sparingly in prairie restorations. Care must be taken because it may spread rapidly by rhizomes.

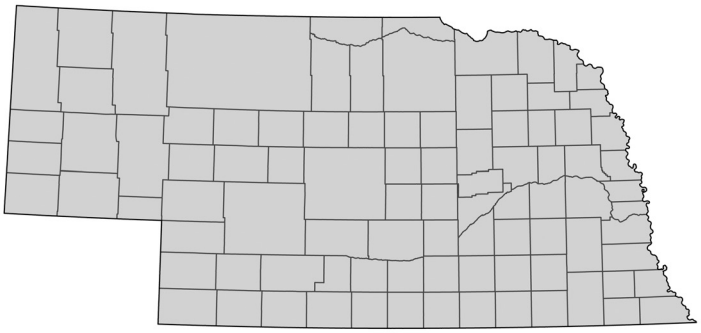
Wildlife. It has fair forage value for deer, pronghorn, elk, and bighorn sheep. Butterflies, bees, and hummingbirds are attracted to its flowers.

Ornamental. Wild bergamot is easy to grow from seed. It should be planted in full sun to light shade. It can provide cut flowers and stalks for dried arrangements. Wild bergamot reseeds easily and should be planted in an area where its prolific nature can be kept in check. This might include areas between hardscaping or where there is competition from other plants, such as in prairie plantings.

Other

Historically, this species had a number of medical uses. Some Native Americans boiled the plants and inhaled the steam to treat colds, fevers, sore throats, bronchitis, and flatulence. The tea was used as a heart stimulant. Boiled leaves were used by some tribes and early settlers to treat acne. Currently, thymol is produced from wild bergamot. Thymol is an oil used to treat bacterial and fungal infections and infestations of worms, especially hook-worms. This oil is combined with mercury and iodine for surgical dressings. The dried leaves of this species, when boiled and combined with lemon and sugar, yield a good tea.

Wild four-o'clock



COMMON NAME:	Wild four-o'clock (heartleaf four-o'clock)
Species:	*Mirabilis nyctaginea* (Michx.) MacMill.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to October
Height:	0.3–1.3 m (1–4.3 ft)

Vegetative Characteristics

stems:	erect or ascending, branching above (or below), glabrous to sparsely pubescent; nodes thickened
leaves:	opposite, simple; blades ovate to ovate-lanceolate or heart-shaped (3–14 cm long); tips pointed or occasionally blunt; margins entire; surfaces smooth, glabrous; lower and midstem blades petiolate; petioles 1–6 cm long; upper leaves commonly sessile
underground:	taproot, large, thick, fleshy; branching caudex above

Inflorescence Characteristics

type:	clusters, often appearing as a small panicle, flowers 3–5 in each cluster
flowers:	pink or reddish-purple (rarely white); calyx bell-shaped (about 2 mm long at flowering); sepals 5, united, petallike; involucral bracts 5–6 mm long at flowering, enlarging to 8–16 mm in fruit
fruits:	anthocarps, cylindrical-obovoid to narrowly elliptic (4–6 mm long), hard, ribs 5, warty or wrinkled, dark olive to grayish-brown to black; seeds 1
seeds:	obovoid (3–4 mm long), brown to yellow

Habitat

Wild four-o'clock grows in prairies, pastures, rangelands, waste areas, and disturbed sites. It commonly grows in poor soil.

Uses and Values

Forage. It produces poor to fair forage for livestock, and it increases with improper grazing.

Poisoning. None.

Grassland Seeding. Wild four-o'clock is not used in grassland seedings.

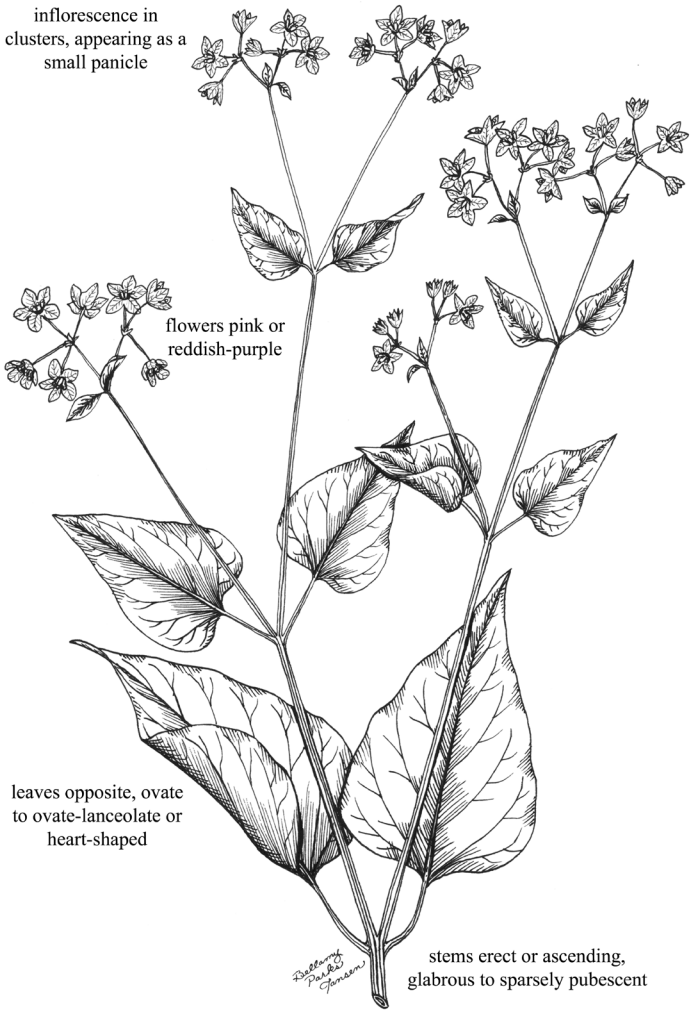
Prairie Restoration. It is used rarely in prairie restorations.

Wildlife. Deer, pronghorn, and elk occasionally lightly graze wild four-o'clock. Its seeds are eaten by small mammals and ground-foraging birds.

Ornamental. It is infrequently grown as an ornamental because the flowers are not showy. Wild four-o'clock is an easy plant to start from seed, but it does not compete well with other plants.

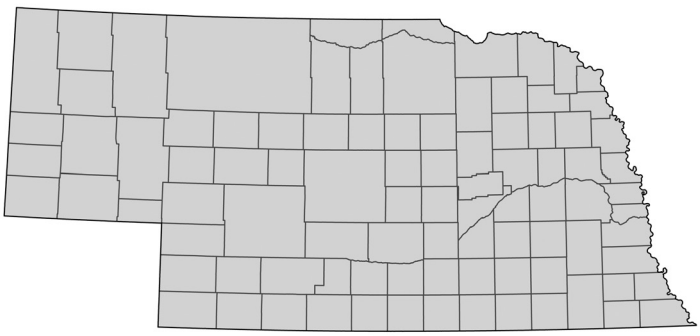
Other

Some Native Americans made a tea from the roots to treat fevers and expel internal parasites. The flowers open in late afternoon and close the following morning. Narrowleaf four-o'clock [*Mirabilis linearis* (Pursh) Heimerl] also grows on rangeland and pastures throughout Nebraska. It can be distinguished from wild four-o'clock by the length of the petioles on the lower and midstem leaves. Petioles of narrowleaf four-o'clock are shorter (less than 1 cm long) than petioles of wild four-o'clock (1–8 cm long), and its leaves are less than 1 cm wide.



Wild four-o'clock

Wild licorice



COMMON NAME:	Wild licorice (American licorice)
Species:	*Glycyrrhiza lepidota* Pursh
Growth Form:	Forb
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	0.3–1.2 m (1–3.9 ft)

Vegetative Characteristics

stems:	erect to ascending, 1 to several, little branched, lined or ridged when dry, glabrous to minutely pubescent
leaves:	alternate, odd-pinnately compound; leaflets 7–21; leaflets oblong to lanceolate (2–7 cm long, 4–20 mm wide), dotted with minute glands; margins entire; midrib often pubescent on lower side; aromatic
underground:	rhizomes, creeping, forming large colonies; aromatic

Inflorescence Characteristics

type:	raceme (2.5–5 cm long), shorter than the subtending leaves, spikelike, erect, dense, flowers many; axillary; peduncle stout
flowers:	yellowish-white (8–15 mm long); petals 5, papilionaceous; calyx tubular to bell-shaped (4.5–6.5 mm long); teeth 5
fruits:	pods (1–3 cm long), oblong to ellipsoid, reddish-brown at maturity, covered with hooked prickles; seeds 3–5
seeds:	kidney-shaped (2.5–4 mm long), olive green to grayish-brown, plump, smooth

Habitat

Wild licorice grows on moist rangelands, prairies, meadows, and waste places. It grows best in rich soils, but it can tolerate clay and saline soils. It is commonly found growing in sandy soils.

Uses and Values

Forage. Wild licorice has low palatability to livestock, although it may be eaten in dry hay. Forage quality is rated as poor. It increases with improper grazing.

Poisoning. None. However, the legumes are burlike and become entangled in wool of sheep causing dockage when sold.

Grassland Seeding. Wild licorice adds nitrogen to the soil through its association with *Rhizobium* bacteria, but it is not used in grassland seedings because of its low palatability.

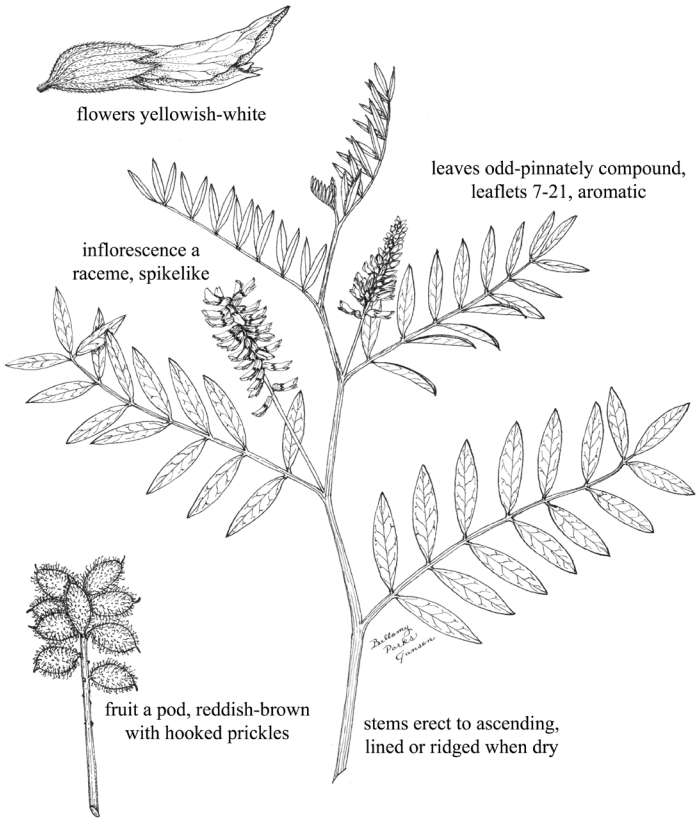
Prairie Restoration. It can be propagated from root divisions or seeds. Seeds should be scarified and pre-soaked in water for 24 hours before planting.

Wildlife. Deer and pronghorn lightly graze the foliage. Upland gamebirds and small mammals eat the seeds.

Ornamental. Wild licorice is available from many native seed retailers. It is used in prairie gardens and for relatively tall perennial borders.

Other

Wild licorice is closely related to the European species (*Glycyrrhiza glabra* L.) producing licorice flavoring. The roots contain 2–6% glycyrrhizin, which is a substance 50 times sweeter than sugar. It has a market potential as a natural sugar substitute and flavoring. It was widely used as medicine by Native Americans. A poultice was applied to open wounds to stop bleeding and to horses' backs to relieve soreness. The Lakota used a concentrated tea as a fever remedy for children. Liquid from steeped leaves was applied to ears to relieve earache. Roots were chewed and held in the mouth to relieve toothache and sore throats. Also, the roots have a sweet, licorice flavor and were eaten either raw or baked for nourishment.



Wild licorice

Native Biennial Forbs

Curlycup gumweed

Common eveningprimrose

Fourpoint eveningprimrose

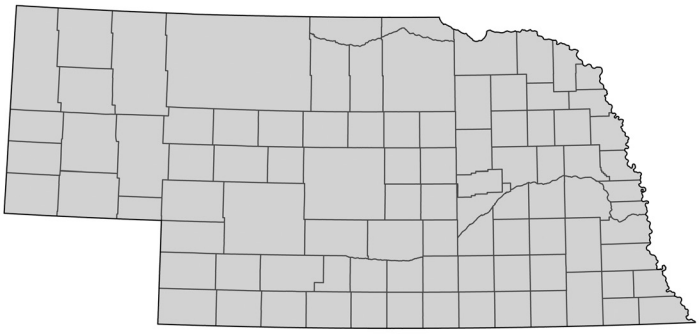
Tall thistle

Tenpetal stickleaf

Western wallflower

Woollywhite hymenopappus

Curlycup gumweed



COMMON NAME:	**Curlycup gumweed (rosinweed, tarweed, curlytop gumweed)**
Species:	*Grindelia squarrosa* (Pursh) Dunal
Growth Form:	Forb
Life Span:	Biennial (sometimes a short-lived perennial)
Origin:	Native
Flowering:	July to October
Height:	0.1–1 m (0.3–3.3 ft)

Vegetative Characteristics

stems:	erect, 1 to several
leaves:	alternate, simple; blades ovate to oblong to oblanceolate (1.5–7 cm long, 4–15 mm wide), thick; tips pointed to obtuse to acute; margins crenate, serrate, or entire; both surfaces with dark sessile glands, sticky-resinous; sessile to clasping
underground:	taproot

Inflorescence Characteristics

type:	heads (5–25 mm tall, 25–37 cm wide), solitary or several to numerous in loose corymbs; involucre (7–9 mm tall) with 5–6 series of bracts; bracts imbricate, tips squarrose and sticky-resinous; ray florets 12–37 (7–15 mm long), pistillate; disk flowers numerous, perfect or staminate; inflorescence darkens with drying
flowers:	yellow ray and disk florets
fruits:	achenes (2–3 mm long), oblong, those of the ray florets 4-angled or ribbed, glabrous; those of the disk florets flattened; ray floret pappus of 2–9 bristles, shorter than the disk florets; achenes 1
seeds:	small, gray

Habitat

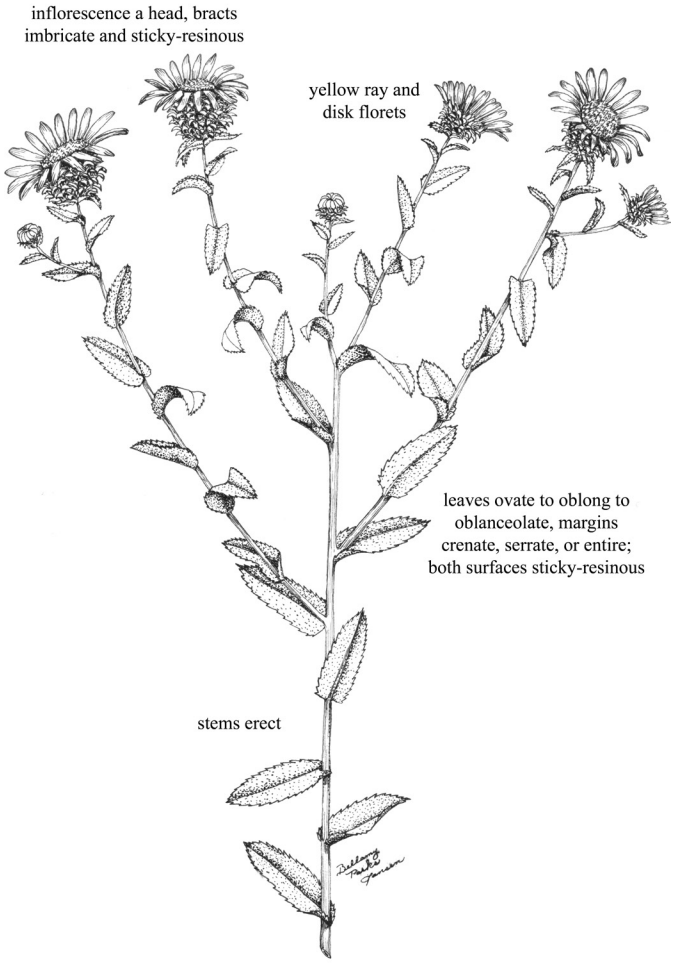
Curlycup gumweed grows on rangelands, pastures, disturbed sites, and along roadsides in all types of soils. It grows along roadsides in the Sandhills but is not common on the dunes.

Uses and Values

Forage. Curlycup gumweed is unpalatable because tannins, volatile oils, resins, alkaloids and glucosides give it an unpleasant taste. Therefore, it has little forage value for livestock. Sheep occasionally will eat the heads in the absence of other forage.

Poisoning. It may accumulate selenium and become toxic to livestock. However, problems seldom develop because its resinous coating makes it unpalatable.

Grassland Seeding. It is not used in grassland seedings.



Curlycup gumweed

Prairie Restoration. Curlycup gumweed is considered to be a weed and is not used in prairie restorations. It tends to establish on its own and may become too abundant if seeded in restorations.

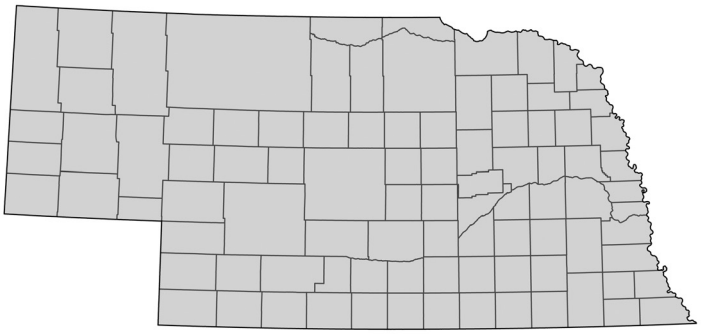
Wildlife. It has little forage value for wildlife. Upland gamebirds will eat the fruits.

Ornamental. Curlycup gumweed is rarely used as an ornamental

Other

Based on leaf shape and serration, two varieties have been identified in Nebraska. The Pawnee boiled curlycup gumweed to obtain a wash for saddle galls. Other Native Americans used the leafless stems for brooms. Some consumed a tea for tuberculosis and coughing and prepared a poultice of crushed flowers for relief from poison ivy. The sticky sap was chewed as gum. An extract of leaves and buds is available today and is said to be useful for asthmatic and bronchial conditions and as an expectorant and antispasmodic.

Common eveningprimrose



COMMON NAME:	Common eveningprimrose (hoary eveningprimrose)
Species:	*Oenothera biennis* L.
Growth Form:	Forb
Life Span:	Biennial
Origin:	Native
Flowering:	July to October
Height:	0.5–2 m (1.6–6.6 ft)

Vegetative Characteristics

stems:	erect, unbranched or branched from the base or above, hairy (often giving the stem a reddish appearance).
leaves:	alternate, simple; rosette blades lanceolate (6–30 cm long, 1–7 cm wide), margins lobed to entire, occasionally with red spots, long-petioled; stem leaves lanceolate (5–15 cm long, 1.5–4 cm wide), reduced upwards; margins dentate and wavy; surfaces grayish-pubescent
underground:	taproot

Inflorescence Characteristics

type:	spike, terminal, leafy bracteate, lengthening with maturity
flowers:	yellow to reddish-yellow (to 4 cm in diameter); petals 4, obovate (1–2.5 cm long), notched; greenish-yellow floral tube (2–5 cm long), with glandular hairs; sepals linear (1–2.5 cm long), reflexed, yellowish to reddish or red-striped; stamens and stigmas protruding; fragrant
fruits:	capsules (1.4–4.5 cm long, 3.5–6 mm wide), cylindric, tapering upwards, strigose; seeds many
seeds:	prismatic (1.3–1.6 mm long), reddish-brown, ridged, occasionally winged

Habitat

Common evening primrose grows on disturbed sites, meadows, hillsides, open woodlands, and along streams. It does not grow on Sandhills dunes but may be found between the dunes and on roadsides.

Uses and Values

Forage. Common eveningprimrose has little or no forage value for livestock.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

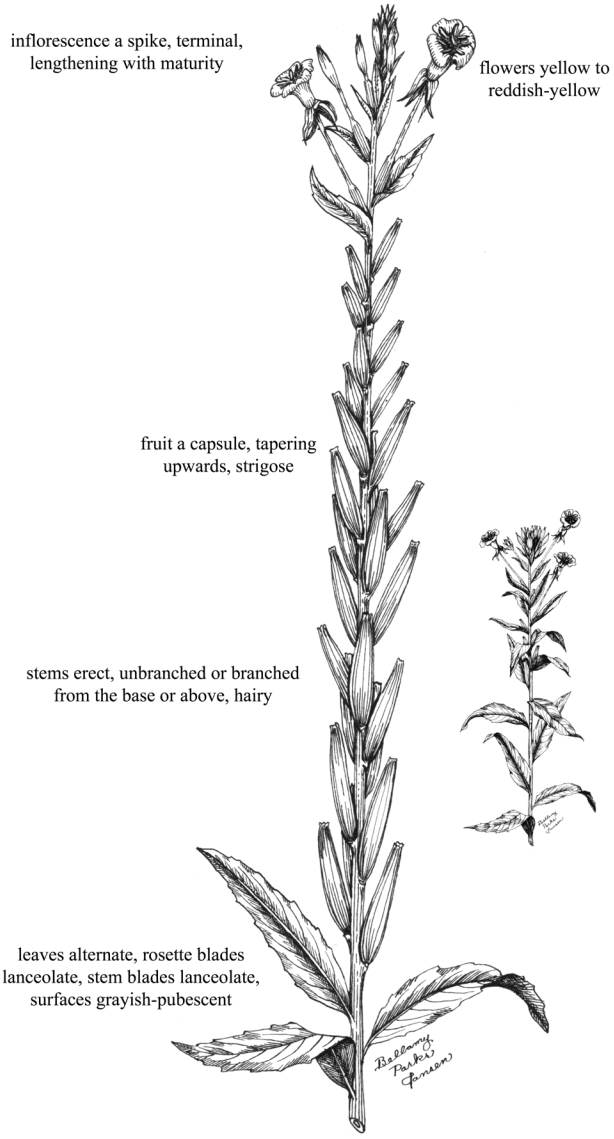
Prairie Restoration. Common eveningprimrose will add color to a prairie restoration during the first few years after seeding. It will decline gradually with time.

Wildlife. The foliage is of little apparent value to wildlife. Songbirds and small mammals eat the seeds. The flowers are visited by bees and butterflies.

Ornamental. Seeds of common eveningprimrose are sold for herb gardens.

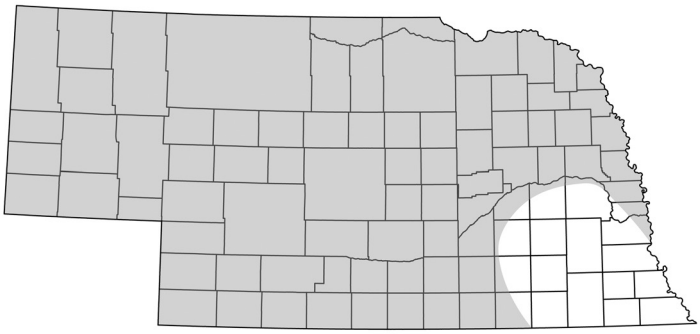
Other

Flowers of this species open in late afternoon and remain open until they wither the next day. Native Americans gathered, dried, and ate the first year roots for food. Second-year roots were too woody. Common eveningprimrose plants were first dried, and then a poultice was prepared for treatment of hiccups, asthma, and whooping cough. It contains an astringent that modern herbalists use in cough remedies. Eveningprimrose oil is made from the seeds and contains an omega-6 essential fatty acid and is sold to treat a wide variety of disorders.



Common eveningprimrose

Fourpoint eveningprimrose



COMMON NAME:	**Fourpoint eveningprimrose (sand eveningprimrose, rhombic eveningprimrose)**
Species:	*Oenothera rhombipetala* Nutt. *ex* Torr. & A. Gray
Growth Form:	Forb
Life Span:	Biennial (occasionally a winter annual)
Origin:	Native
Flowering:	June to October
Height:	0.3–1.2 m (1–3.9 ft)

Vegetative Characteristics

stems:	erect, simple or often branching near base, pubescent
leaves:	alternate, simple; rosette blades oblanceolate (3–8 cm long, 3–18 mm wide), margins dentate to nearly pinnatifid, petioles often as long as the blades; stem blades lance-ovate to oblong lanceolate (2–9 cm long, 3–22 mm wide), crowded, margins denticulate to nearly entire, surfaces pubescent, petioles becoming shorter or absent near the top
underground:	taproot

Inflorescence Characteristics

type:	spike (10–30 cm long, to 4 cm wide), dense, bracteate, terminating stems, lengthening with maturity
flowers:	yellow, petals 4; petals rhombic-ovate (1–2.5 cm long); corolla tube slender (2–4 cm long); sepals 4; sepals lanceolate (1–2 cm long), sparsely pubescent; fragrant
fruits:	capsules, cylindric (1.4–3.5 cm long, 3.5–6 mm wide near the base), tapering upwards, strigose; seeds many
seeds:	ellipsoid (1–1.5 mm long), reddish-brown

Habitat

Fourpoint eveningprimrose grows in sandy soils of dunes, valleys, and disturbed sites. It is common on roadsides in the Sandhills.

Uses and Values

Forage. It is nearly worthless to livestock and is not commonly grazed.

Poisoning. None.

Grassland Seeding. Fourpoint eveningprimrose is not added to seeding mixtures. Plants frequently appear in seedings in the Sandhills.

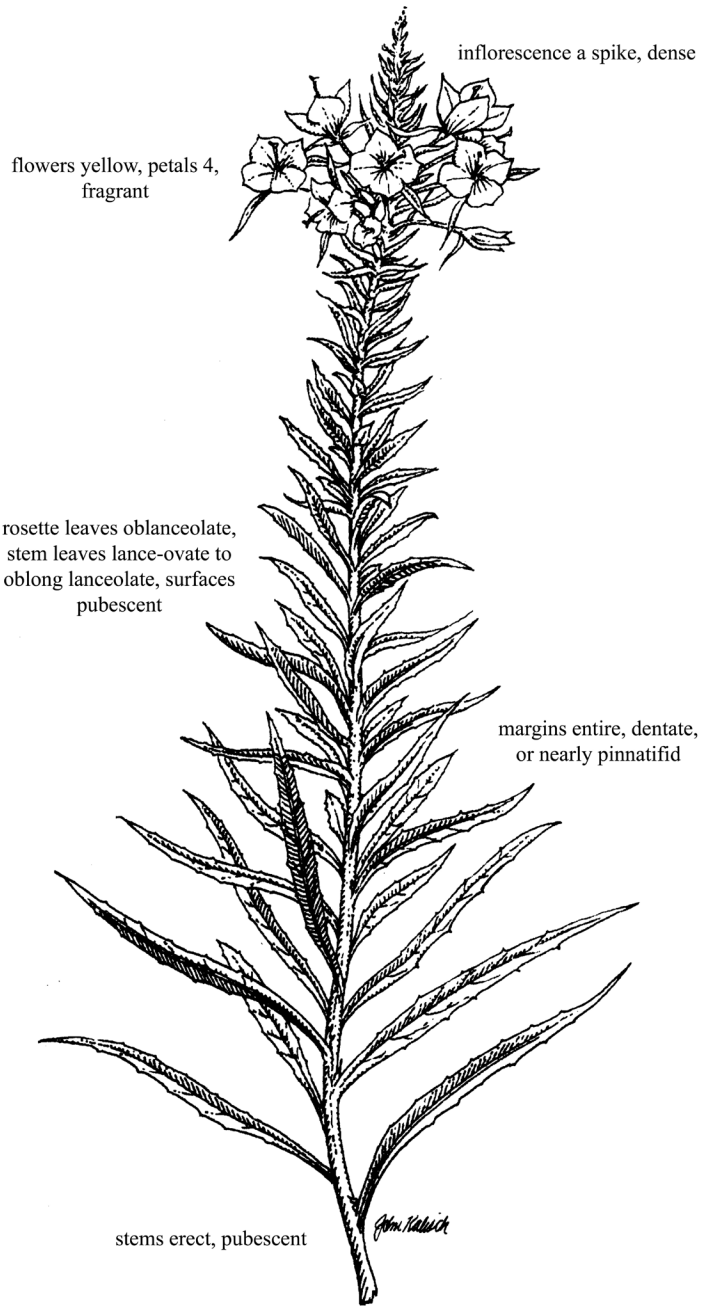
Prairie Restoration. It is not included in restorations.

Wildlife. It provides fair to poor forage for pronghorn and deer. Small mammals eat the roots and leaves of young plants. Songbirds and upland gamebirds eat the seeds. Hummingbirds extract nectar from the flowers.

Ornamental. Its showy, bright yellow flowers make it a welcome addition to xeriscapes, native plant gardens, and borders. It should be seeded in the fall in areas receiving full sun. It does not transplant well but readily self-seeds.

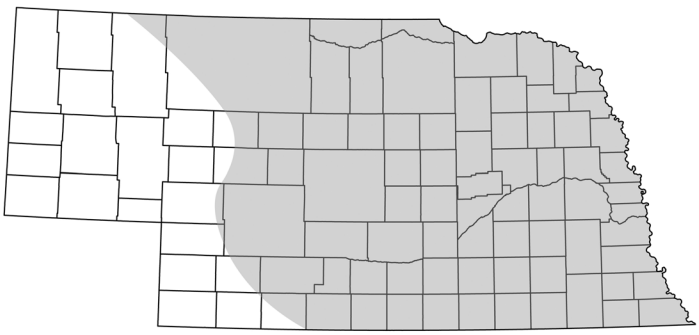
Other

The fragrant flowers open around sunset and close during the morning.



Fourpoint eveningprimrose

Tall thistle



COMMON NAME:	Tall thistle
Species:	*Cirsium altissimum* (L.) Spreng.
Growth Form:	Forb
Life Span:	Biennial (perennial)
Origin:	Native
Flowering:	July to October
Height:	1–2.5 m (3.3–8.2 ft)

Vegetative Characteristics

stems:	erect, freely branching above, greenish-brown, surfaces lightly woolly, often mixed with multicellular hairs
leaves:	alternate, simple; blades of the rosette oblanceolate to elliptic (10–30 cm long, 4–11 cm wide), not lobed to variably lobed; margins spinose-serrulate; bases gradually tapering; petiole winged; stem leaves similar to rosette leaves; decreasing in size upwards; upper surfaces glabrous or nearly so; lower surface densely woolly; margins irregularly spinose-serrate to serrulate
underground:	taproot, fleshy

Inflorescence Characteristics

type:	heads, solitary, terminal on branches; involucre (2–3.5 cm tall, 2–3.8 cm wide), with several series of bracts; outer bracts lance-ovate (3–7 mm long, 1.8–3 mm wide), tipped with a small spine; inner bracts lanceolate, not spiny
flowers:	dark to light purple (infrequently white) disk florets (2.2–3.2 cm long); corolla lobes 6–9 mm long
fruits:	achenes (4.5–6 mm long, 1.5–2 mm wide) pale to dark brown with a yellow apical ring; pappus a ring of numerous bristles (1.7–2.7 cm long) falling as a unit; seeds 1
seeds:	small

Habitat

Tall thistle grows on prairies, rangelands, open lowlands, roadsides, ditch banks, and waste areas.

Uses and Values

Forage. Tall thistle has no forage value for livestock. Occasionally, cattle and horses will eat the heads.

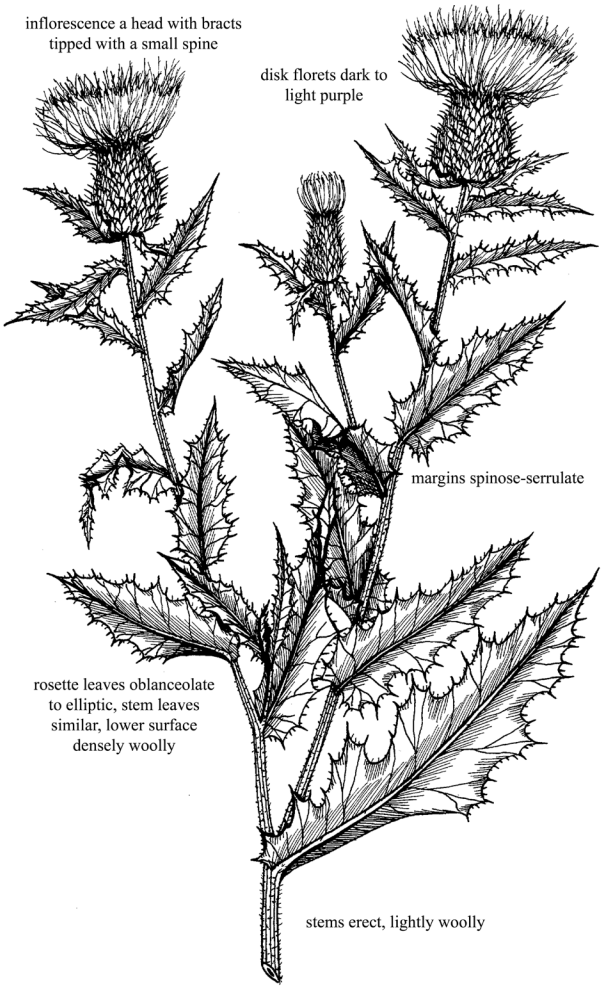
Poisoning. None

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Seeds are not commercially available, and it is rarely used in prairie restorations.

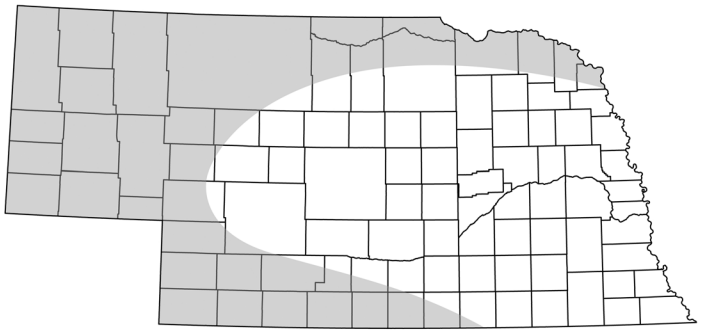
Wildlife. Tall thistle is an important butterfly plant. The seeds are eaten by birds, and the heads are eaten by deer and pronghorn.

Ornamental. It is tall and rank and has no value as an ornamental.



Tall thistle

Tenpetal stickleaf



COMMON NAME:	**Tenpetal stickleaf (evening starflower, sand lily, chalk rose, tenpetal mentzelia)**
Species:	*Mentzelia decapetala* (Pursh *ex* Sims) Urban & Gilg *ex* Gilg
Growth Form:	Forb
Life Span:	Biennial (occasionally perennial)
Origin:	Native
Flowering:	July to September
Height:	0.3–1.0 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect to ascending, 1 to few, coarse, branched above; grayish-white, peeling
leaves:	alternate, simple; blades lanceolate to oblanceolate (5–15 cm long, 1.5–4 cm wide), pinnatifid; margins entire or irregular to serrate; surfaces covered with retrorsely barbed hairs; lower blades short-petiolate, sessile above
underground:	taproot, thick

Inflorescence Characteristics

type:	flowers solitary or cymose groups of flowers, terminating branches
flowers:	white to cream, showy (7–11 cm in diameter); petals usually 10; petals oblanceolate to spatulate (5–7 cm long, 1–2 cm wide), pointed, overlapping at flowering; sepals pointed (2–4 cm long); stamens numerous, long; fragrant
fruits:	capsules, cylindrical (1.5–5 cm long, 1–2 cm wide); seeds many
seeds:	ovate to elliptic, (3–4 mm long), flattened, light tan; wing small

Habitat

Tenpetal stickleaf grows on dry hillsides, sparsely vegetated banks, roadsides, and disturbed sites. Generally, it does not grow on sand dunes.

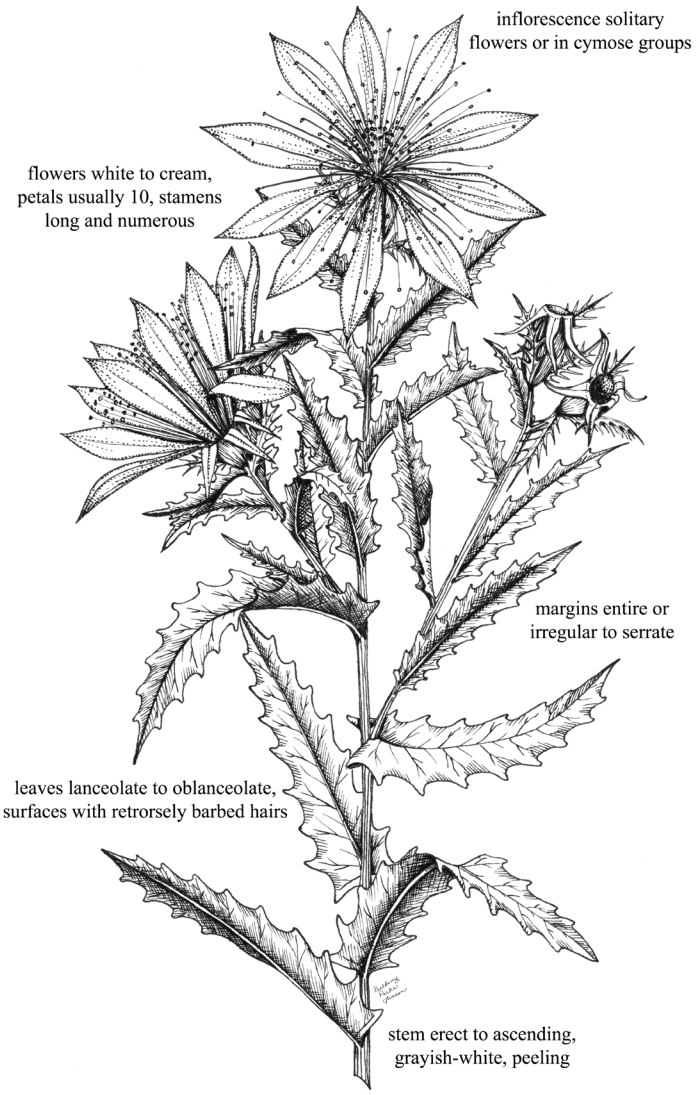
Uses and Values

Forage. Tenpetal stickleaf is seldom eaten by livestock or wildlife and, therefore, has little or no forage value.

Poisoning. None. However, the retrorsely barbed hairs on the surfaces of the leaves causes them to stick to clothing and hair. Broken leaves may stick to wool reducing its value.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. A very small amount of tenpetal stickleaf seed can be added to restoration mixtures on appropriate sites.



Tenpetal stickleaf

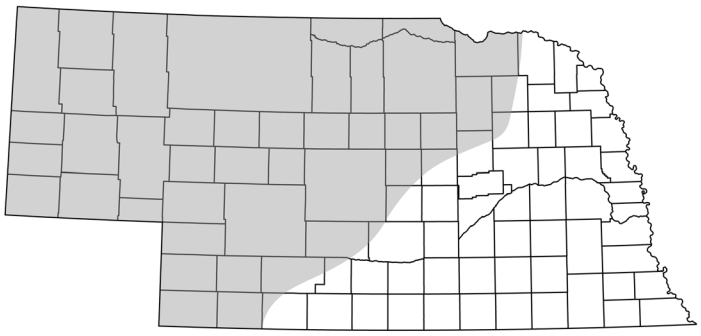
Wildlife. Song birds, upland game birds, and small mammals eat the seeds.

Ornamental. Tenpetal stickleaf is heat and drought tolerant and can be planted in native plant gardens. Commercial seed is available. It should be stratified before planting or planted in the fall.

Other

The flower is unpleasantly sweet-scented. It does not open until late afternoon and remains open much of the night. Flowers may open on cloudy days. It may grow in nearly solid stands and protect disturbed soil from erosion. It was first collected by Lewis and Clark in present-day Cedar County in late August of 1804. Bractless mentzelia, *Mentzelia nuda* (Pursh) Torr. & A. Gray, resembles tenpetal mentzelia, but it is less coarse and the flowers are smaller. The petals do not overlap at flowering. It grows primarily in sandy soil and is common in rangelands, roadsides, and wastelands in the Sandhills, as well as in central and western Nebraska.

Western wallflower



COMMON NAME:	Western wallflower
Species:	*Erysimum asperum* (Nutt.) DC. [= *Cheirina aspera* (Nutt.) Rydb.]
Growth Form:	Forb
Life Span:	Biennial
Origin:	Native
Flowering:	April to June
Height:	5–45 cm (2–18 inches)

Vegetative Characteristics

stems:	erect, 1 to several, simple to strongly branched above, pubescent
leaves:	alternate, simple (to 10 cm long, less than 1.2 cm wide), oblanceolate to lanceolate or linear; upper leaves reduced; margins remotely toothed to entire; those of the rosette and lower stems often petiolate; stem leaves usually sessile; pubescent
underground:	taproot

Inflorescence Characteristics

type:	raceme, terminal on stems and branches, rounded, elongating with maturity
flowers:	bright yellow, petals 4 (1.3–3.2 cm long), clawed; sepals 4 (8–13 mm long)
fruits:	pods (siliques), elongated (5–12 cm long, 1.2–2.8 mm long), 4-angled, bivalved, straight or slightly arcuate, pubescent; borne on stiffly spreading pedicels (5–15 mm long)
seeds:	ovoid to oblong (1.4–2.4 mm long), slightly flattened, orangish-brown to brown

Habitat

Western wallflower grows on open prairies, rangelands, roadsides, along streams, and in open woodlands. It is most common in dry, sandy soils.

Uses and Values

Forage. It is avoided by grazing animals because of a bitter taste.

Poisoning. None has been reported, but seeds of another member of this genus have been reported to be toxic. It should not be a problem because the plants are not eaten by grazing animals.

Grassland Seeding. It is not used in grassland seedings.

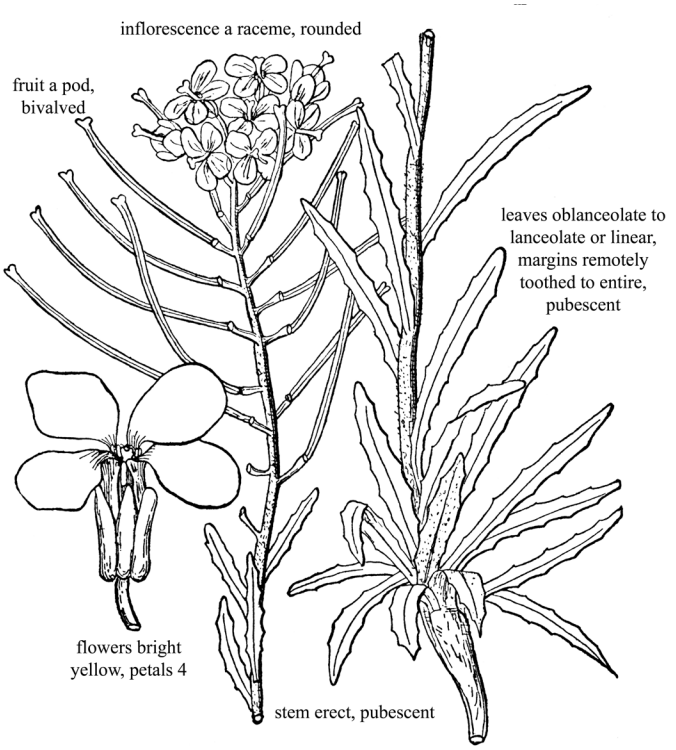
Prairie Restoration. Small quantities of seeds are available commercially, but it is rarely used in prairie restorations. Seeds could be hand-harvested and added to restorations to increase diversity and add color.

Wildlife. Pronghorn and deer may lightly graze the flowers.

Ornamental. The bright yellow flowers and early flowering make this a desirable species for rock gardens and border plantings.

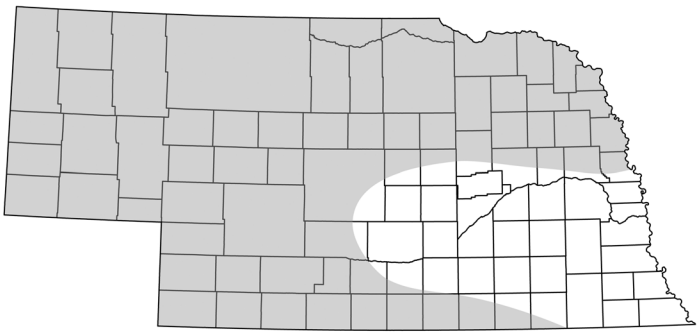
Other

Members of some tribes of Native Americans chewed the foliage or drank a tea made from crushed seeds to treat stomach and intestinal cramps.



Western wallflower

Woollywhite hymenopappus



COMMON NAME:	**Woollywhite hymenopappus (slimleaf hymenopappus, chalkhill hymenopappus)**
Species:	*Hymenopappus tenuifolius* Pursh
Growth Form:	Forb
Life Span:	Biennial
Origin:	Native
Flowering:	May to July
Height:	0.4–1 m (1.3–3.3 ft)

Vegetative Characteristics

stems:	erect, single, branched above, tomentose to glabrous
leaves:	alternate, simple; forming a rosette below, blades (7–11 cm long, 3–4 cm wide in outline) bipinnately dissected into linear segments (3.5–4.5 mm long and 0.5–1 mm wide); stem leaves reduced upwards; surfaces minutely glandular
underground:	taproot, thick

Inflorescence Characteristics

type:	paniculate cyme of discoid heads, heads 20 to many (1.1–1.5 cm in diameter)
flowers:	white disk florets (2.5–3 mm long), florets 20–50, bell-shaped; bracts yellow (5–8 mm long, 2–4 mm wide), glandular with matted hairs; ray florets absent
fruits:	achenes (3.5–4.5 mm long), black to brown, 4–5-angled, pubescent on the angles; pappus of 16–18 scales (1–1.5 mm long); seeds 1
seeds:	small

Habitat

Woollywhite hymenopappus grows on sandy, rocky, and upland sites of prairies and plains. It is rarely abundant, but it tends to increase on heavily grazed rangeland.

Uses and Values

Forage. Woollywhite hymenopappus provides poor forage quality for livestock.

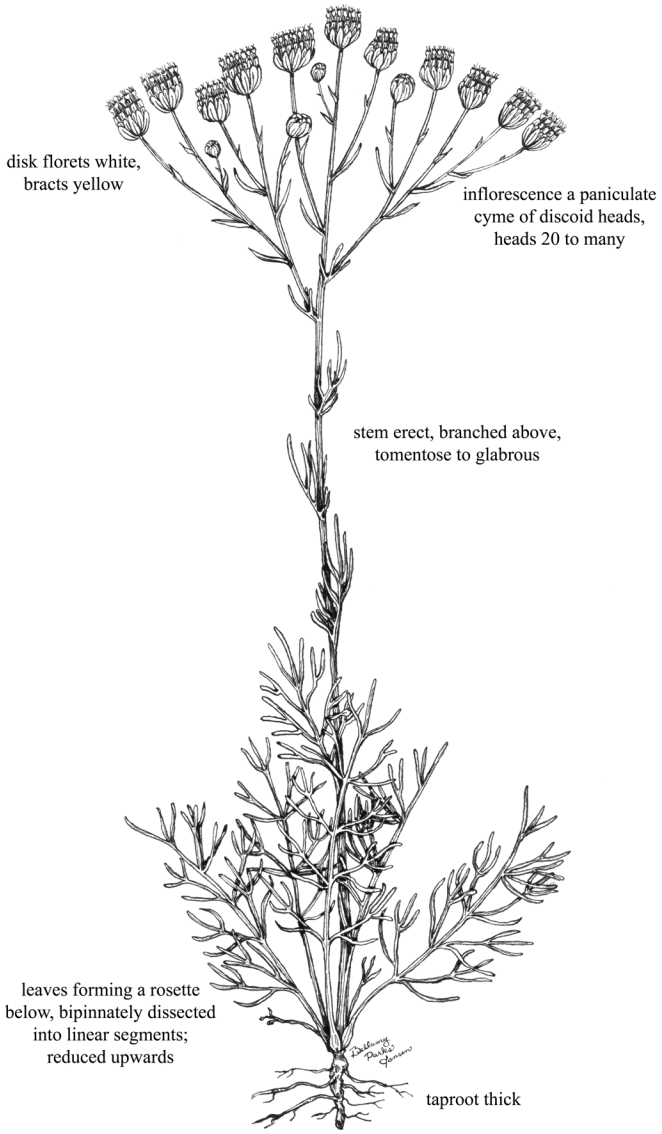
Poisoning. None.

Grassland Seeding. It is not used in grassland seedings. Seeds are not available commercially.

Prairie Restoration. Woollywhite hymenopappus is not included in prairie restorations.

Wildlife. It provides poor to fair forage for pronghorn, deer, and bighorn sheep. Bees are attracted to the flowers.

Ornamental. Woollywhite hymenopappus is not showy and has limited application in horticulture.

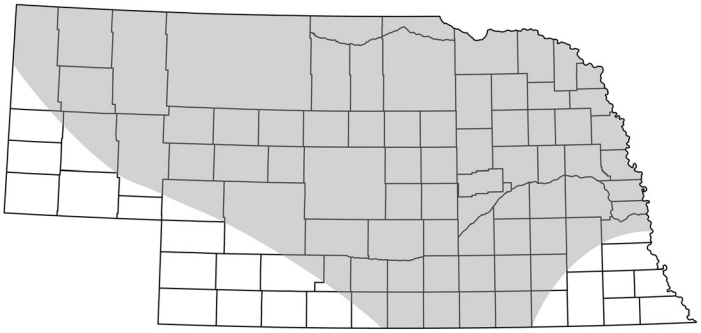


Woollywhite hymenopappus

Native Annual Forbs

American deervetch
Annual buckwheat
Buffalobur
Daisy fleabane
Horseweed
Low lupine
Mapleleaf goosefoot
Marshelder
Partridgepea
Tumble pigweed
Winged pigweed
Plains snakecotton
Pricklypoppy
Prostrate vervain
Common ragweed
Giant ragweed
Rocky Mountain beeplant
Sandhill amaranth
Smoothseed wildbean
Snow-on-the-mountain
Spotted beepalm
Common sunflower
Prairie sunflower
Tansy mustard
Texas croton
Western sticktight
Woolly plantain

American deervetch



COMMON NAME:	**American deervetch (prairie trefoil)**
Species:	*Lotus purshianus* Clem. & E.G. Clem. [= *Lotus unifoliolatus* (Hook.) Benth.; *Lotus americanus* Vell.]
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	May to October
Height:	0.2–0.8 m (0.6–2.6 ft)

Vegetative Characteristics

stems:	erect, branching on the upper one-third, densely pubescent to nearly glabrous (especially at maturity)
leaves:	alternate, 3-foliate; leaflets ovate to lanceolate (1–2 cm long, 2–9 mm wide), margins entire, both surfaces pubescent
underground:	taproot

Inflorescence Characteristics

type:	solitary flowers (rarely paired), axillary, on a peduncle, closely subtended by a simple bract
flowers:	white (rarely yellowish-white) with pink veins, 1 petal sometimes streaked with red; petals 5, papilionaceous; banner mostly 5–7 mm long
fruits:	pods, linear (1.5–3.5 cm long), glabrous; seeds 4–9
seeds:	mottled (2.5–3 mm long), plump

Habitat

American deervetch often occurs as scattered patches in prairies, rangelands and abandoned cultivated fields. It is most common in moist soils.

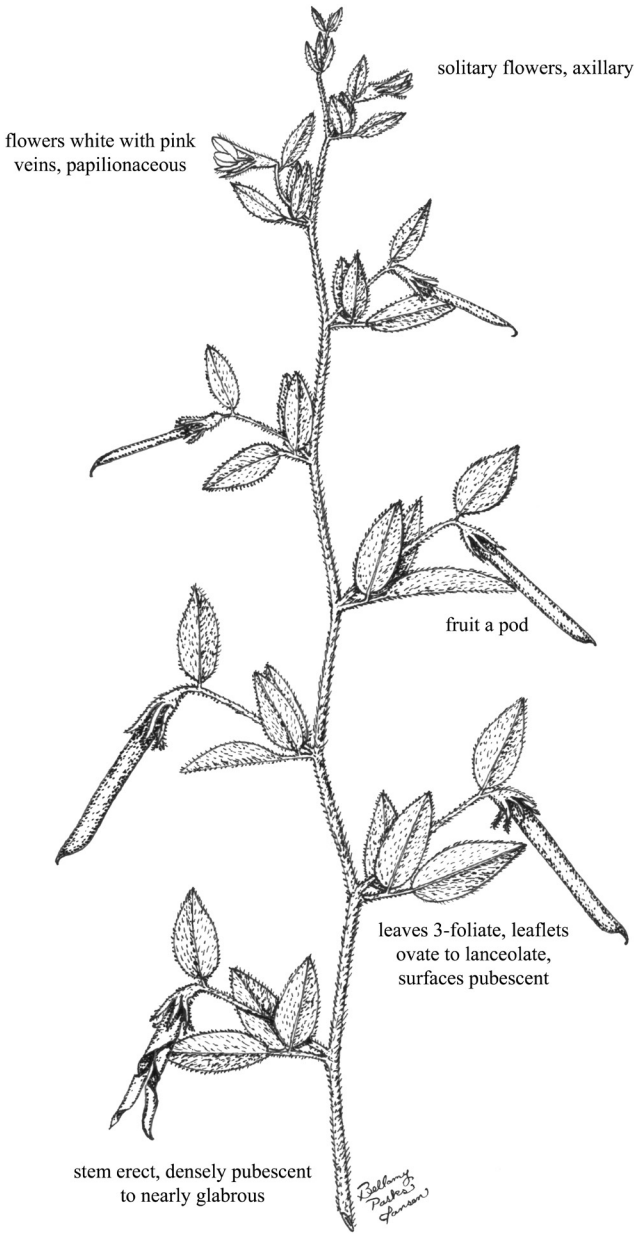
Uses and Values

Forage. American deervetch is not ranked high as a forage plant because it is an annual, relatively small, and usually scattered. It is palatable to livestock and can be an important forage source where it is locally abundant.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. American deervetch is infrequently used in prairie restorations because it is an annual.



American deervetch

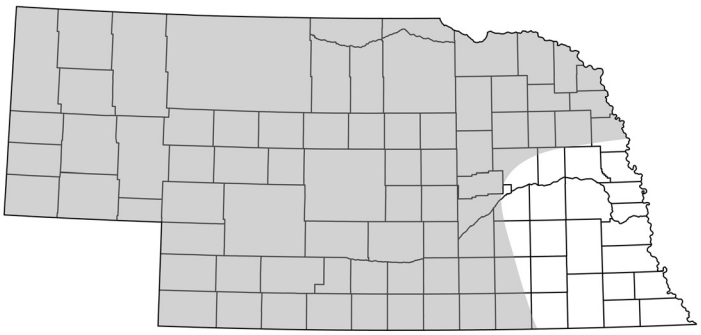
Wildlife. It provides fair to good forage for deer and pronghorn, but it is seldom abundant. It is a larval food plant for butterflies.

Ornamental. American deervetch is rarely grown as an ornamental.

Other

American deervetch is a legume that adds nitrogen to the soil and can play an important role in improving soil fertility, especially on poor sites.

Annual buckwheat



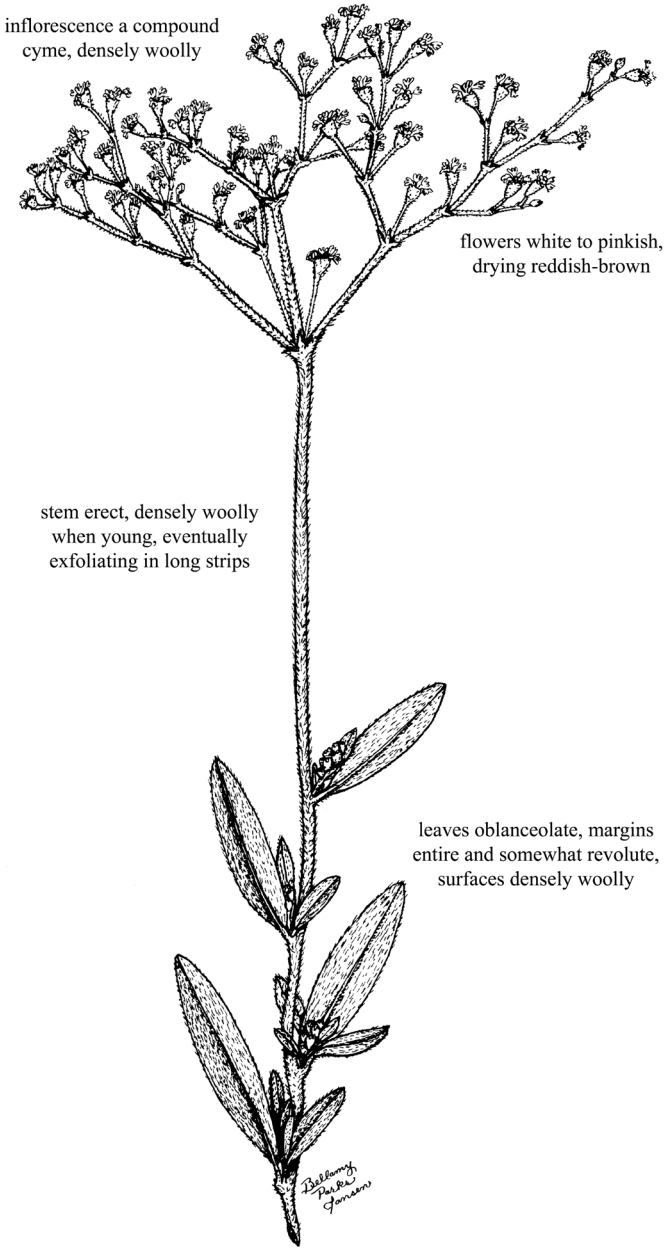
COMMON NAME:	**Annual buckwheat (annual eriogonum, wild buckwheat, umbrella plant)**
Species:	*Eriogonum annuum* Nutt.
Growth Form:	Forb
Life Span:	Annual (biennial)
Origin:	Native
Flowering:	July to September
Height:	0.1–1.0 m (0.3–3.3 ft)

Vegetative Characteristics

stems:	erect, 1 to few; usually unbranched, but sometimes with many ascending branches; surfaces densely woolly when young, eventually exfoliating in long strips revealing a rusty brown subsurface layer
leaves:	alternate, simple; basal blades oblanceolate (2–5 cm long), deciduous by flowering; stem leaves similar in shape (3–9 cm long, 3–10 mm wide), tips pointed, margins entire and somewhat revolute; surfaces densely woolly; veins 1, prominent; sessile to short-petiolate
underground:	taproot

Inflorescence Characteristics

type:	compound cyme, top flattened, terminal or terminating branches; involucres erect (2.5–3 mm tall), turbinate, densely woolly
flowers:	white to pinkish (drying reddish-brown); monoecious; perianth parts 6, in 2 series (1–1.5 mm long), united at base, outer 3 obovate, inner 3 narrower; pubescent inside, glabrous outside
fruits:	achenes, pear-shaped (1.5–2 mm long), tip sharply pointed, glabrous; seeds 1
seeds:	small



Annual buckwheat

Habitat

Annual buckwheat grows on rangelands, prairies, roadsides, and waste places. It is especially abundant in dry, sandy soils. It is common in the Sandhills.

Uses and Values

Forage. Annual buckwheat increases on poorly managed rangelands and has little or no forage value for cattle. Forage value for sheep is fair to poor.

Poisoning. None.

Grassland Seeding. It is not included in grassland seedings.

Prairie Restoration. Annual buckwheat is not used in prairie restorations.

Wildlife. It provides fair to poor forage for deer, pronghorn, and bighorn sheep.

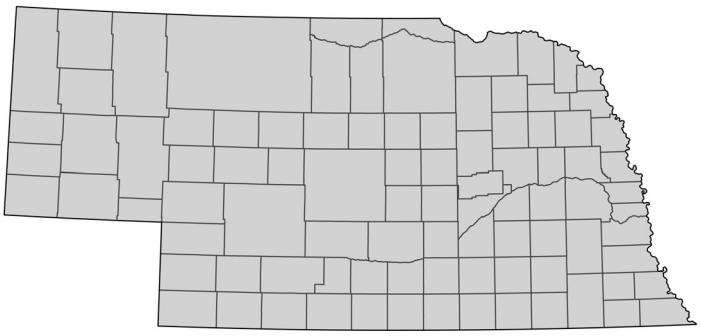
Ornamental. Annual buckwheat is used in dried floral arrangements. It is drought tolerant and can be used in xeriscaping. Its silvery-gray foliage is attractive. Seeds are commercially available.

Historical. Lakota Native Americans mixed the flowers with brains, liver or gall, and spleen and applied it to animal hides to bleach them. They also made a tea from the whole plant to treat sore mouths of children in association with teething.

Other

Abundance of annual buckwheat is a common indicator of abused rangeland. When it is a biennial, leaves of the first-year rosettes wither before the plants bolt during the second year.

Buffalobur



COMMON NAME:	**Buffalobur (Kansas thistle, Texas thistle, Mexican thistle)**
Species:	*Solanum rostratum* Dunal
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	May to October
Height:	0.2–0.6 m (0.6–2 ft)

Vegetative Characteristics

stems:	erect, single, branches ascending, armed with yellow spines, surfaces stellate-pubescent
leaves:	alternate, simple, ovate to broadly elliptic (2–15 cm long, 1–6 cm wide), deeply pinnatifid to bipinnatifid; lobes rounded; surfaces stellate-pubescent; veins with spines; petiolate (2–6 cm long)
underground:	taproot

Inflorescence Characteristics

type:	racemes, axillary, flowers 2–9
flowers:	yellow corolla, lobes 5; calyx tube prickly (5–11 mm long); lobes 5; lobes lance-linear to lance-attenuate
fruits:	berries, globose (7–10 mm in diameter), enclosed in an enlarged and spiny calyx; seeds many
seeds:	ovate to kidney-shaped (2–2.5 mm long), flattened, brown to black, wrinkled

Habitat

Buffalobur is found in abused pastures and rangelands. It is commonly found in corrals, feedlots, and waste areas.

Uses and Values

Forage. Buffalobur is worthless as forage. It is rarely eaten because of the abundant spines.

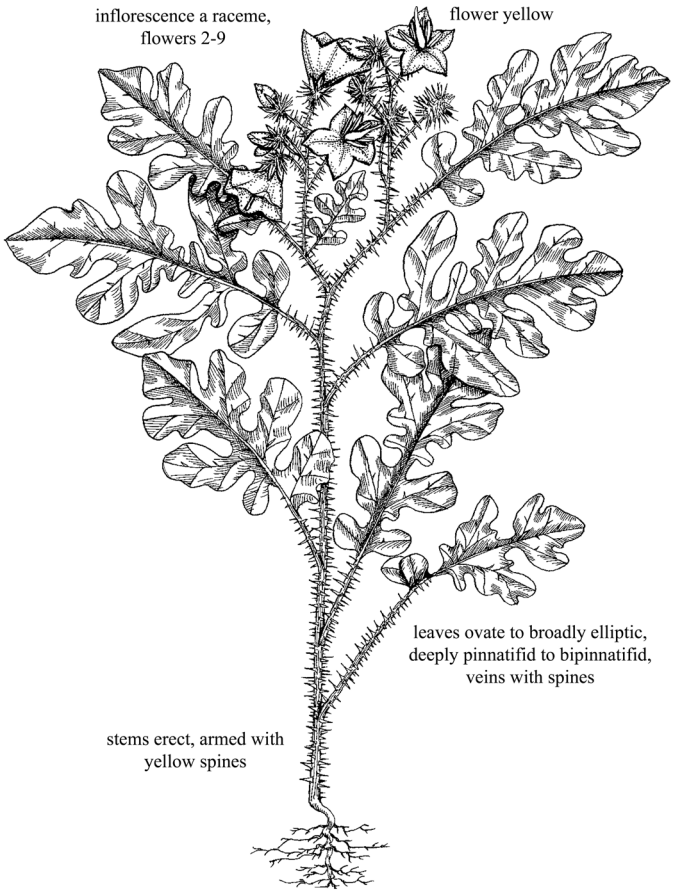
Poisoning. Buffalobur contains poisonous alkaloids. While cattle and horses do not eat it, swine have been reportedly poisoned following eating its berries, leaves, or roots.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. It is not used in prairie restorations

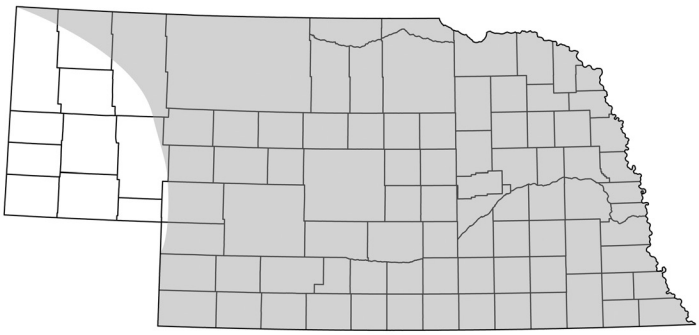
Wildlife. Birds and small mammals eat the seeds

Ornamental. It has been tried as an ornamental, but the spines limit its use.



Buffalobur

Daisy fleabane



COMMON NAME:	**Daisy fleabane (prairie fleabane, rough fleabane)**
Species:	*Erigeron strigosus* Muhl. *ex* Willd.
Growth Form:	Forb
Life Span:	Annual (rarely biennial)
Origin:	Native
Flowering:	May to August
Height:	0.4–0.7 m (1.3–2.3 ft)

Vegetative Characteristics

stems:	erect, 1-few, branched at inflorescence, surfaces with short-appressed hairs (strigose), rough to the touch
leaves:	alternate, simple; blades oblanceolate to linear (3–12 cm long, 2–15 mm wide); basal leaves petioled, deciduous; margins entire to toothed; stem leaves smaller, sessile, margins entire, surfaces with short-appressed hairs
underground:	taproot and fibrous roots

Inflorescence Characteristics

type:	heads several to many (5–11 mm in diameter), in clusters, terminating branches; involucres 2–5 mm tall, bracts nearly equal or outer ones shorter; ray florets 50–100; disk florets numerous
flowers:	white ray florets (to 7 mm long), occasionally bluish after drying: yellow disk florets (1.5–2.5 mm long)
fruits:	achene (1 mm long), hairy, ribs 2; pappus of ray florets setose only; pappus of disk florets double, inner series of 10–18 fragile bristles (1–2 mm long), outer series of setose scales; seeds 1
seeds:	small

Habitat

Daisy fleabane is found in dry areas of prairies, rangelands, dry meadows, roadsides, gardens, and disturbed sites. It grows in the Sandhills, but it is not common on the dunes.

Uses and Values

Forage. Daisy fleabane increases on rangeland under heavy use and has little or no forage value for cattle. Sheep occasionally graze it when it is immature. Although a native plant of the prairie, it is often considered to be a weed.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

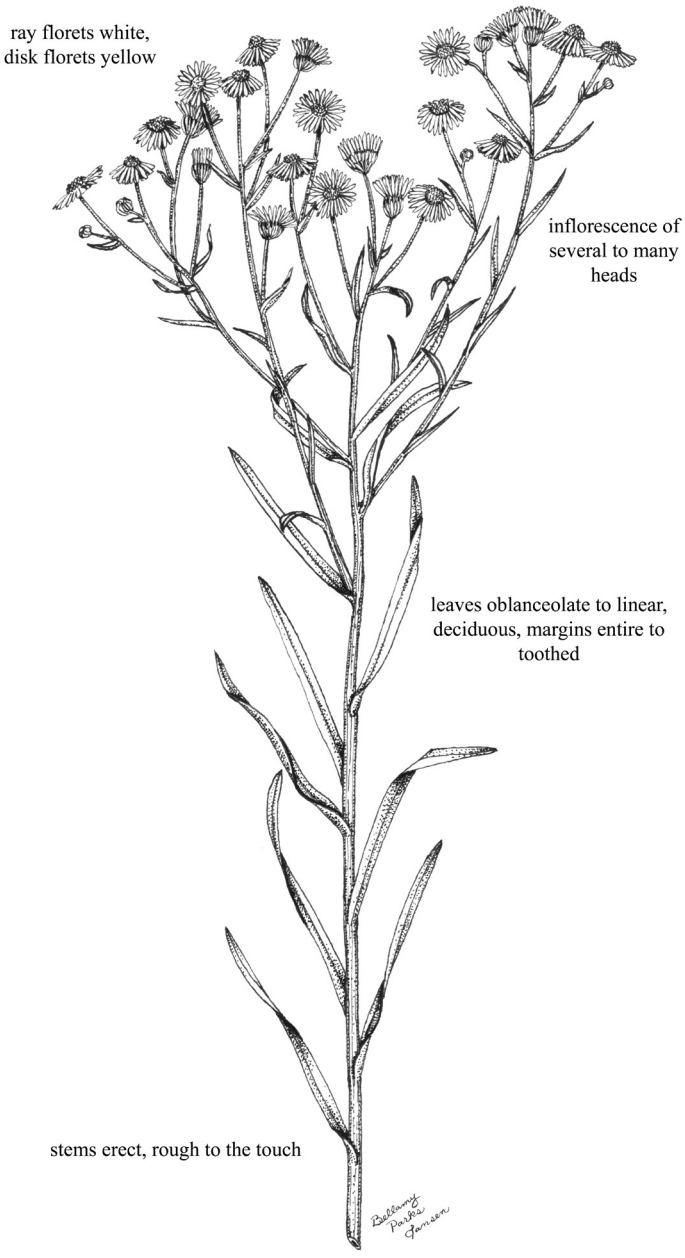
Prairie Restoration. Daisy fleabane is infrequently added to prairie restoration mixtures. It usually appears without being seeded.

Wildlife. Deer and pronghorn graze the young plants. It attracts many flying insects that use the flowers as a nectar source.

Ornamental. Daisy fleabane is drought tolerant and is used in wildflower mixtures and in borders. Seeds of several cultivars are available.

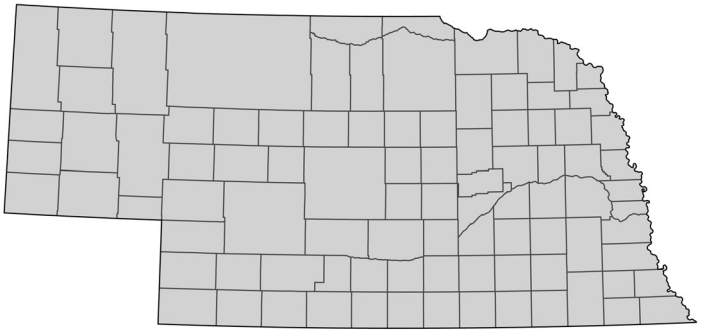
Other

Some Native Americans made a tea from plants in this genus to treat sore mouths. Its name comes from ancient Europe when people believed that members of this genus repelled fleas. There seems to be no basis for this idea. Daisy fleabane is often confused with annual fleabane [*Erigeron annuus* (L.) Pers.]. Annual fleabane grows only in the eastern one-third of the state and is taller, has more leaves, and serrated stem leaf blades.



Daisy fleabane

Horseweed



COMMON NAME:	**Horseweed (marestail, Canada horseweed, horseweed fleabane)**
Species:	*Conyza canadensis* (L.) Cronq. [= *Erigeron canadensis* L.]
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	July to September
Height:	0.3–2 m (1–6.6 ft)

Vegetative Characteristics

stems:	erect, simple, unbranched below and branching at inflorescence, coarsely hirsute to glabrate
leaves:	alternate, simple; blades linear to oblanceolate (3–10 cm long, 2–10 mm wide), numerous and crowded on the stem, reduced upwards; basal leaves deciduous; margins entire to few-toothed; surfaces coarsely hirsute to glabrous; sessile
underground:	taproot

Inflorescence Characteristics

type:	panicle of heads, terminal, occupying up to one-half of the stem, branches ascending; involucre with 1–2 series of bracts (3–4 mm tall), imbricate; ray florets 16–45; disk florets 10–20
flowers:	white to pinkish ray florets (2–3 mm long); yellow disk florets, equaling or exceeding the pappus
fruits:	achene, obovate to oblanceolate (1–1.5 mm long), straw-colored; with a pappus of tan to white bristles; seeds 1
seeds:	small

Habitat

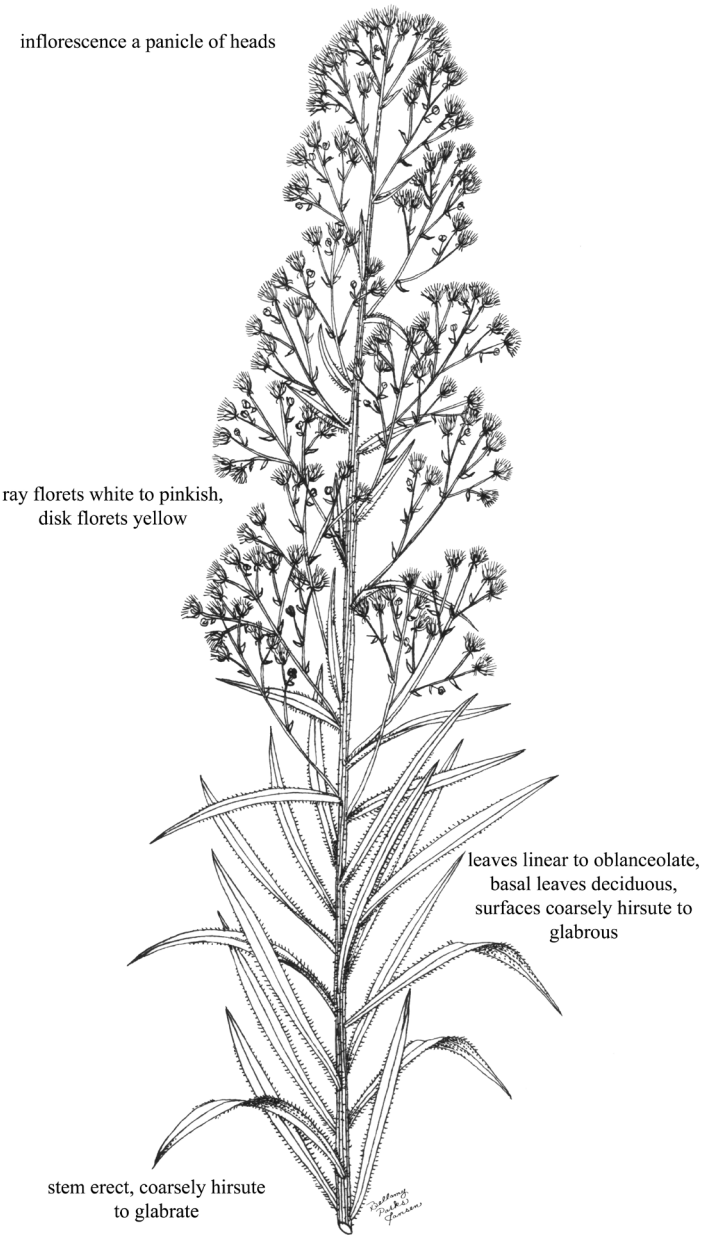
Horseweed grows on rangelands, prairies, open cultivated fields, new grassland seedings, gardens, waste ground, roadsides, and disturbed sites. It is common in the Sandhills between the dunes.

Uses and Values

Forage. Horseweed has no forage value for livestock.

Poisoning. Horseweed contains volatile oils, tannic acid, and gallic acid that may cause skin and mucosal irritation in humans and livestock, especially horses.

Grassland Seeding. It can become a serious weed in new seedings and is never added to grassland seeding mixtures.



Horseweed

Prairie Restoration. It is not included in prairie restorations.

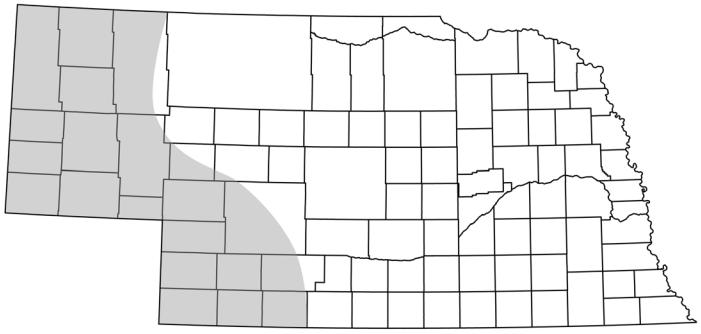
Wildlife. It has no forage value for wildlife.

Ornamental. Horseweed is considered to be a weed and is not used in horticultural plantings.

Other

Native Americans used this plant as an astringent. Early settlers used it to treat internal hemorrhage, diarrhea, and dysentery. The herbage and inflorescence has a strong, pungent odor caused by terpene oil which is secreted by numerous dotlike glands.

Low lupine



COMMON NAME:	**Low lupine (rusty lupine)**
Species:	*Lupinus pusillus* Pursh
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	May to August
Height:	5–20 cm (2–8 inches)

Vegetative Characteristics

stems:	erect to decumbent, simple or diffusely branched from a winter rosette, surfaces densely pilose to hirsute
leaves:	alternate, palmately compound; leaflets 5–9 (occasionally 3 on lowest leaves); leaflets elliptic to oblong or oblanceolate (1.5–3.5 cm long, 3–7 mm wide), often folding along the midvein; tips pointed to blunt; margins entire, upper surface glabrous or nearly so, lower surface pubescent; petioles 2–5 cm long, broadened and somewhat membranous at the base
underground:	taproot

Inflorescence Characteristics

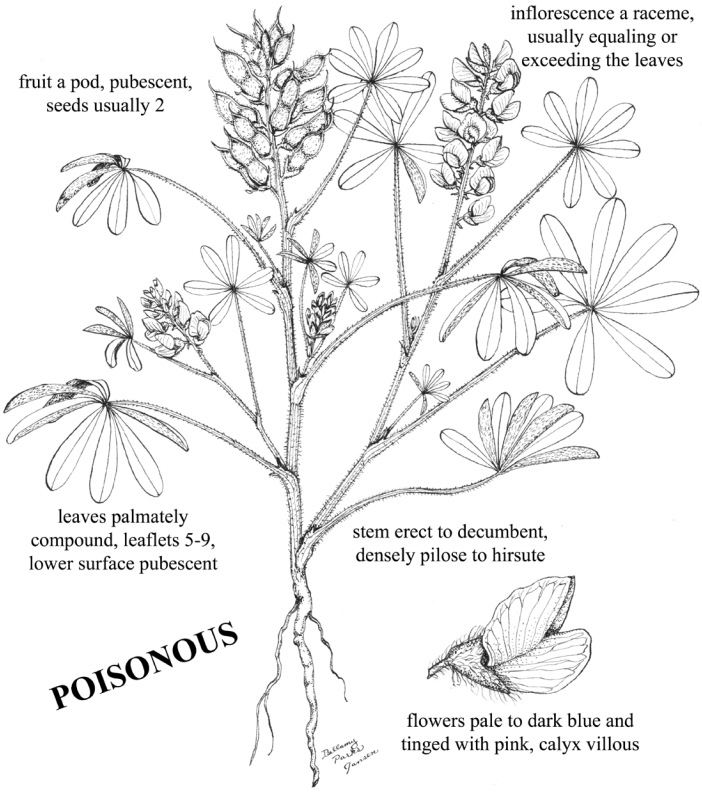
type:	racemes (3–7 cm long), usually equaling or exceeding the leaves, terminal; peduncles 1–3 cm long
flowers:	pale to dark blue (sometimes purple, pink, or white) and tinged with pink, keel petal sometimes purple-spotted at the tip, petals 5, papilionaceous (8–12 mm long); calyx villous, upper lobe 1.5–2 mm long, lower lobe 5.5–6 mm long
fruits:	pods (1–2.5 cm long, excluding the beak), pubescent, constricted between the seeds; seeds usually 2
seeds:	obliquely ovate to nearly discoid (4–5 mm in diameter), flattened (1.5 mm thick); light green to brown, mottled with darker brown, dull to lustrous

Habitat

Low lupine grows in sandy soils of rangelands, waste places, and roadsides.

Uses and Values

Forage. Low lupine produces poor quality forage for livestock. It increases with abusive grazing.



Low lupine

Poisoning. Low lupine legumes and seeds contain poisonous alkaloids. Sheep are more susceptible to poisoning than cattle. It may cause deformed calves if cows eat the plants when they are 40- to 70-days pregnant. Children have been poisoned by eating relatively large numbers of seeds.

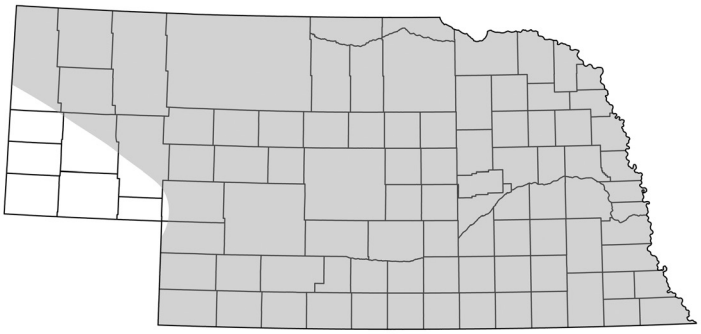
Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Low lupine is not commonly added to prairie restoration mixtures.

Wildlife. Deer and pronghorn occasionally graze the foliage without apparently being poisoned.

Ornamental. Low lupine is drought tolerant and is used as a rock garden plant and as a bedding plant. Scarification improves germination.

Mapleleaf goosefoot



COMMON NAME:	Mapleleaf goosefoot
Species:	*Chenopodium simplex* (Torr.) Raf.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	July to September
Height:	0.2–2 m (0.6–6.6 ft)

Vegetative Characteristics

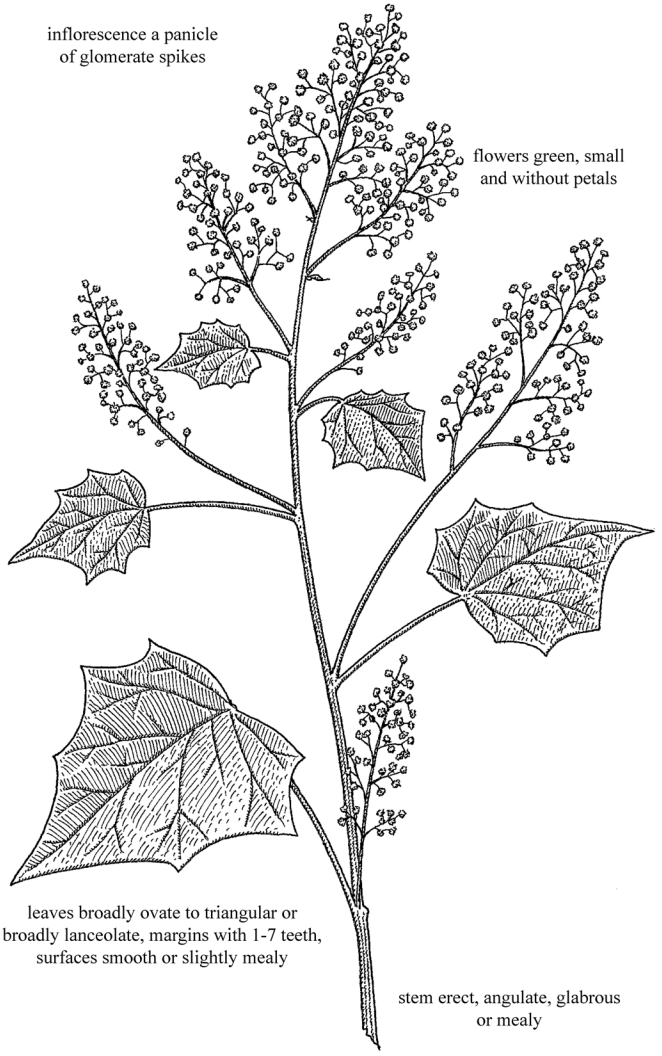
stems:	erect, solitary, branched or unbranched above, angulate, glabrous or mealy (farinose)
leaves:	alternate, blades simple, broadly ovate to triangular or broadly lanceolate (3–22 cm long, 1–18 cm wide), tips pointed; margins with teeth 1–7; teeth large widely spaced, sinuses broad (like webbed feet); surfaces smooth or slightly mealy; petiolate (1–7 cm long)
underground:	taproot

Inflorescence Characteristics

type:	panicles of glomerate spikes, terminal and axillary
flowers:	green calyx, small, sepals 5; without petals, pedicellate
fruits:	utricles (1.5–2.5 mm in diameter), horizontal, smooth, separating from the seed; seeds 1
seeds:	lens- to spindle-shaped (1.8–2.5 mm in diameter), black, shiny, prominent lateral wing

Habitat

Mapleleaf goosefoot grows in moist and shady sites in pastures, rangelands, farmsteads, old building sites, woodlands, and waste areas. It is uncommon on Sandhills dunes and in the southern Panhandle.



Mapleleaf

Uses and Values

Forage. Livestock may graze the young seedlings, but it furnishes little forage.

Poisoning. Mapleleaf goosefoot may accumulate nitrates.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. It is not used in prairie restorations.

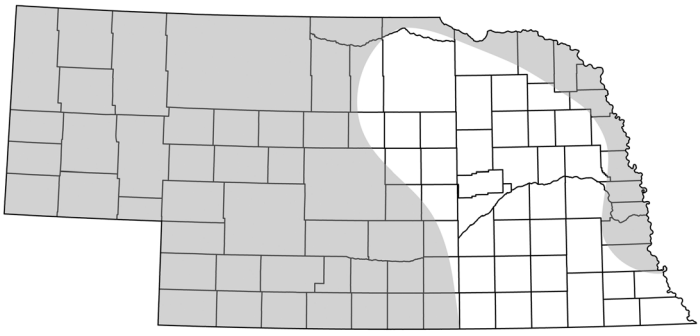
Wildlife. Deer and pronghorn occasionally graze the foliage. Small mammals and birds eat the seeds.

Ornamental. Mapleleaf goosefoot has no ornamental application.

Other

Some Native Americans ground the seeds into flour. A green dye was made from the leaves.

Marshelder



COMMON NAME:	**Marshelder (big marshelder, giant sumpweed, false ragweed)**
Species:	*Iva xanthifolia* Nutt.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	July to September
Height:	0.5–2.5 m (1.6–8.2 ft)

Vegetative Characteristics

stems:	erect, robust, mostly single, coarsely branching, branching upward; surfaces usually glabrous below; becoming somewhat pubescent above
leaves:	mostly opposite below and alternate above, simple; blades ovate to broadly ovate (5–20 cm long, 3–15 mm wide); margins coarsely serrate to lobed, often doubly serrate; upper surface rough; lower surface with soft and silky hairs; petiolate
underground:	taproot

Inflorescence Characteristics

type:	paniculate clusters, large, dense, often drooping, terminal and axillary from upper leaves, not exceeding the leaves; heads (3–6 mm in diameter), numerous; involucre (1.5–3 mm tall) bracts 5; bracts flat; outer florets 5, pistillate; inner florets 5–20, staminate
flowers:	yellow to white disk florets, very small
fruits:	achenes, ovate to obovoid (2–3.5 mm long), somewhat flattened, surface ridged, dark brown; seeds 1
seeds:	small

Habitat

Marshelder is most common in the western two-thirds of Nebraska in damp or drying sandy soils in stream beds, flood plains, and waste areas. It is also found on severely abused rangelands, roadsides, winter feed grounds, and corrals.

Uses and Values

Forage. Marshelder is classified as a weed and has no forage value.

Poisoning. It causes hay fever and may cause skin rash in susceptible people.

Grassland Seeding. This aggressive weed is not used in grassland seedings.

Prairie Restoration. Marshelder should be selectively removed from prairie restoration sites.

Wildlife. Other than providing escape cover, marshelder has little value for wildlife.

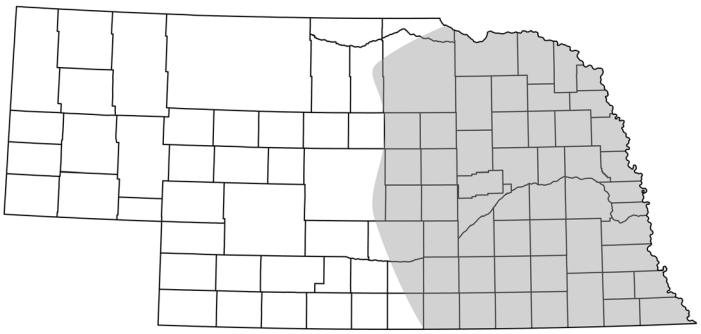
Ornamental. This robust weed has few applications in horticulture.

Other

Marshelder seeds contain oil and were used by some Native Americans for food for more than 7,000 years. Seeds uncovered by archaeologists at village sites are as much as 4-times the size of those produced today, indicating that it may have been an ancient domesticated crop.

Marshelder

Partridgepea



COMMON NAME:	**Partridgepea (showy partridgepea)**
Species:	*Chamaecrista fasciculata* (Michx.) Greene [= *Cassia chamaecrista* L.]
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	June to October
Height:	0.2–1.2 m (0.6–3.9 ft)

Vegetative Characteristics

stems:	erect or ascending, branching freely from the base; surfaces glabrous or minutely pubescent
leaves:	alternate, even-pinnately compound (3–11 cm long); leaflets 12–36, oblong (5–20 mm long, 2–4.5 mm wide), asymmetrical; tips blunt or abruptly pointed; sparsely hairy on the margins; petiole bearing a saucer-shaped gland below the first pair of leaves, reddish-brown
underground:	taproot

Inflorescence Characteristics

type:	raceme (sometimes solitary flowers), axillary; flowers 2–6
flowers:	bright yellow; petals 5 (1–2 cm long), lowest petal the largest; upper 4 petals with a reddish-purple spot at the base; sepals lanceolate or gradually tapering to a point (6–14 mm long)
fruits:	pods, linear (2.5–7.5 cm long, 5–6 mm wide), straight or slightly curved, flattened; valves spirally coiling after opening; seeds mostly 9–15
seeds:	rectangular to rhomboidal (3.5–4.5 mm long), flattened, brownish-black, with longitudinal rows of minute black dots or pits

Habitat

Partridgepea grows on rangeland, disturbed sites, and roadsides. It is most common in sandy soils.

Uses and Values

Forage. Partridgepea produces fair to good forage for cattle.

Poisoning. Leaves of partridgepea contain a cathartic substance that is poisonous either in fresh forage or in cured hay. Consumption of large quantities may cause stress in cattle, but death is rare.

Grassland Seeding. This annual plant is not used in grassland seedings.

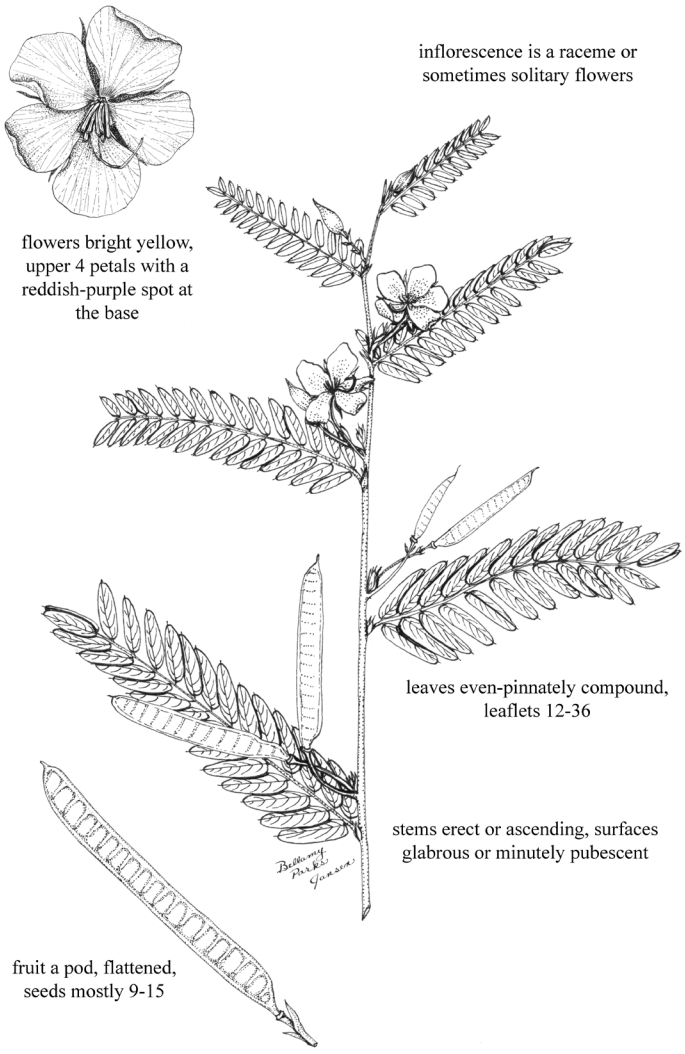
Prairie Restoration. Partridgepea can add color to prairie restorations, but care should be taken to limit the amount of seed in the restoration mixture.

Wildlife. Partridgepea is grazed by deer. Upland gamebirds, especially quail, eat the seeds. It attracts bees and is an excellent honey plant.

Ornamental. Its bright yellow flowers make it an attractive ornamental plant. It grows best in well-drained soils in full sun.

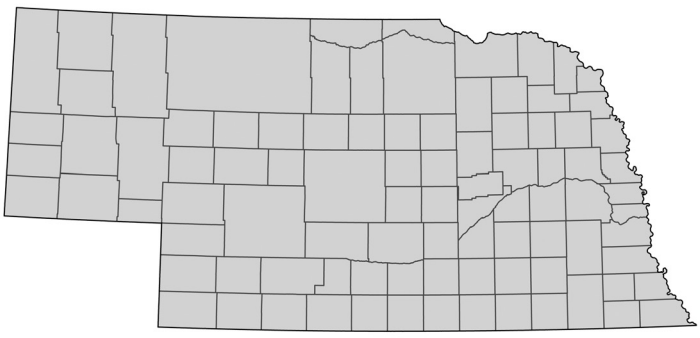
Other

The leaves of partridgepea may be sensitive to touch and quickly fold when handled.



Partridgepea

Tumble pigweed



COMMON NAME:	**Tumble pigweed (pale amaranth, tumbleweed, white pigweed)**
Species:	*Amaranthus albus* L.
Growth Form:	Forb
Life Span:	Annual (rarely biennial)
Origin:	Native
Flowering:	June-October
Height:	0.2–0.7 m (0.6–2.3 ft)

Vegetative Characteristics

stems:	erect, sometimes prostrate to ascending, branches ascending and spreading widely forming a more or less globose plant, glabrous to sparsely pubescent, whitish to pale green
leaves:	alternate, simple, highly variable; stem blades spatulate (1.5–6 cm long), margins entire to undulate, green or purplish underneath, petioles as long as the blades, early deciduous; branch blades simple, elliptic to obovate (5–30 mm long), pale green, petioles one-fourth to about as long as the blades.
underground:	taproot

Inflorescence Characteristics

type:	axillary clusters, small, globose, often with flowers to the base of the branches
flowers:	green calyx, unisexual, without petals; staminate (male) flowers few, sepals 3 (1–2 mm long), bracts oblong-lanceolate (2–4 mm long), bristle-tipped; pistillate sepals oblong to linear, often reddish
fruits:	utricles, lens-shaped (1.2–1.8 mm long) wrinkled at maturity, opening around the middle; seeds 1
seeds:	lens-shaped (0.6–1.2 mm in diameter), convex on both sides, margins ridged, black, glossy

Habitat

Tumble pigweed grows on dry prairies, rangelands, cultivated fields, roadsides, and waste places. It is not common in the Sandhills.

Uses and Values

Forage. Immature plants may be eaten by livestock, but it produces little forage. Although a native prairie plant, it is usually considered to be a weed.

Poisoning. It accumulates nitrates and has the potential to poison livestock.

Grassland Seeding. It is not used in grassland seedings.

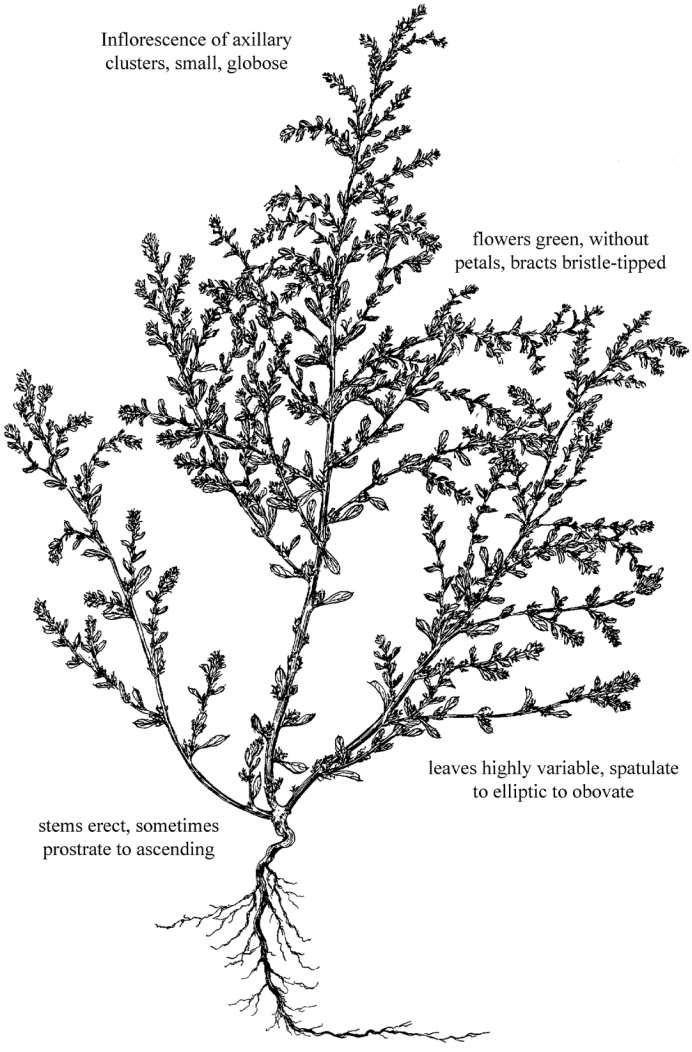
Prairie Restoration. It is not used in prairie restorations.

Wildlife. Deer and pronghorn graze the young plants. Small mammals and birds eat the fruits.

Ornamental. Tumble pigweed has no value as an ornamental.

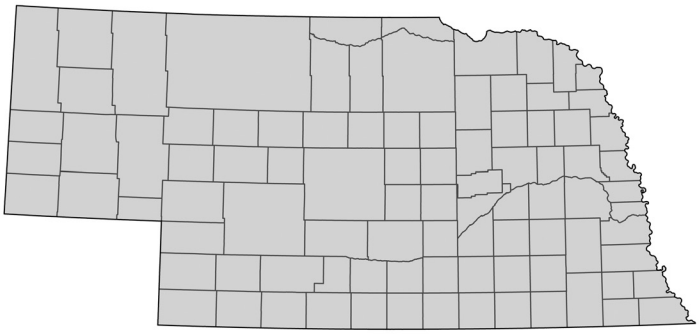
Other

Some Native Americans harvested seeds from tumble pigweed and ground them into flour for baking. It breaks off at the ground when mature, and seeds are spread as it is tumbled along the ground by the wind.



Tumble pigweed

Winged pigweed



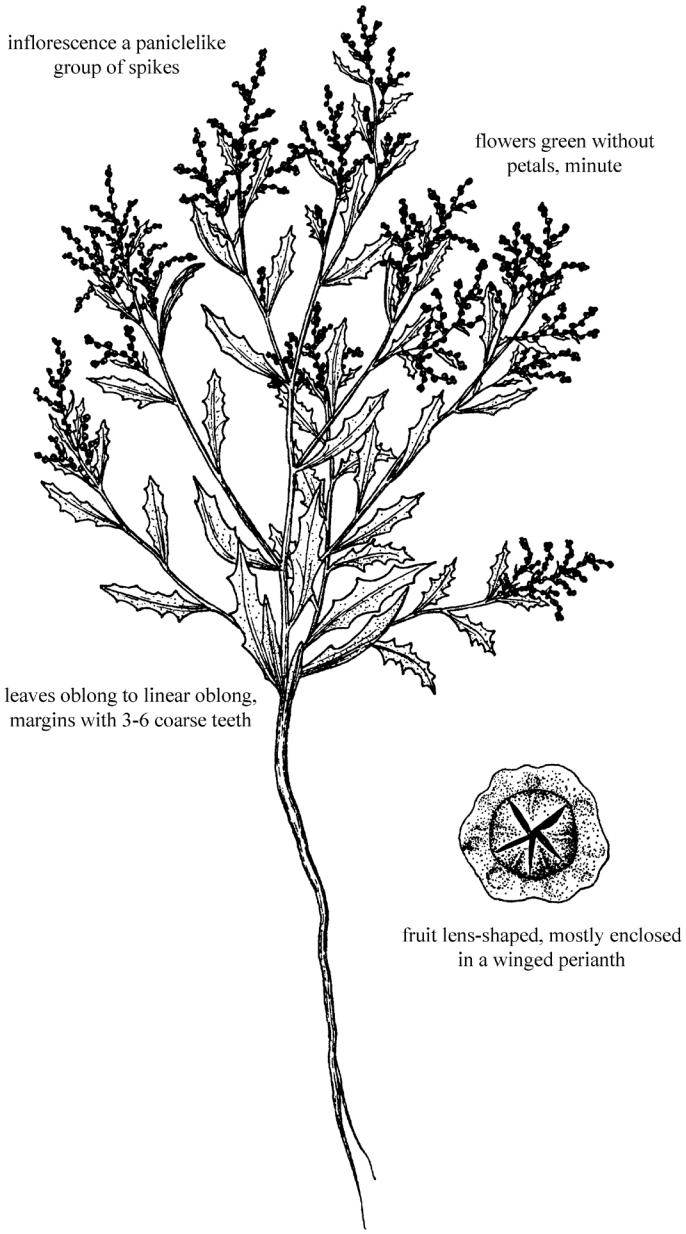
COMMON NAME:	**Winged pigweed (purple tumbleweed)**
Species:	*Cycloloma atriplicifolium* (Spreng.) J.M. Coult.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	July to September
Height:	0.1–1 m (0.3–3.3 ft)

Vegetative Characteristics

stems:	erect, widely branched (plant nearly globose); branches slender, angular, glabrate, lanate when immature; becoming yellow to purplish in autumn
leaves:	alternate, oblong to linear oblong (3–6 cm long, 5–15 mm wide), reduced upwards, tapering to the base, margins with 3–6 coarse teeth; stem leaves early-deciduous; others persistent; sessile or short-petiolate
underground:	taproot

Inflorescence Characteristics

type:	paniclelike group of spikes; spikes interrupted
flowers:	green, perfect or pistillate, solitary in axils of bracts, without petals, minute; tepals 5, curved over the ovary forming a wing when mature; tepals (1–2 mm wide), keeled, irregularly toothed, becoming reddish-purple in autumn
fruits:	lens-shaped, mostly enclosed in the winged perianth; pericarp not attached to the seed; seeds 1
seeds:	lens-shaped, black; embryo conspicuous, angular



Winged pigweed

Habitat

Winged pigweed grows on relatively bare, dry or moist soils of blowouts, sand sheets, roadsides, river bottoms, and waste areas. It is most common in the Sandhills.

Uses and Values

Forage. Winged pigweed has no forage value for livestock.

Poisoning. None.

Grassland Seeding. It is not used in grassland seeding mixtures.

Prairie Restoration. It is not included in prairie restorations.

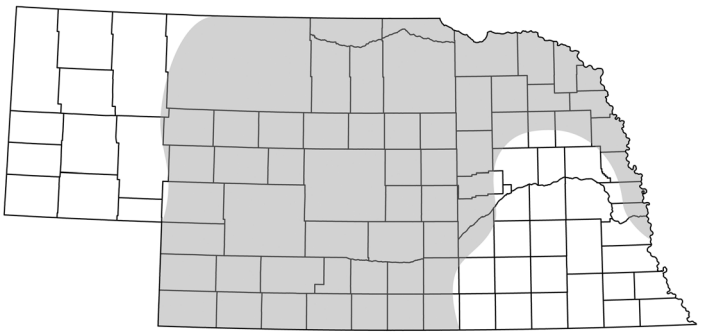
Wildlife. Birds and small mammals eat the seeds

Ornamental. Bright fall colors and the plant shape make winged pigweed an attractive specimen plant.

Other

Winged pigweed stems break near ground level in autumn, and the plants tumble with the wind scattering the seeds. It appears to be spreading in Nebraska and North America. Some Native Americans ground the seeds into flour for baking. A pink dye was made from the seeds.

Plains snakecotton



COMMON NAME:	**Plains snakecotton (field snakecotton, prairie froelichia, cottonweed)**
Species:	*Froelichia floridana* (Nutt.) Moq.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	June to September
Height:	0.3–1.3 m (1–4.3 ft)

Vegetative Characteristics

stems:	erect, stout, often arching, simple at the base, unbranched or with a few branches above; surfaces densely pubescent or with short woolly hair; slightly sticky above
leaves:	opposite, mostly on the lower one-half of the stem; blades simple, narrowly elliptic to oblong or linear (2–12 cm long, 4–25 mm wide), tips pointed or blunt, margins entire; surfaces with silky gray or white downy hairs above, densely woolly beneath; sessile or with petioles (up to 3 cm long)
underground:	taproot

Inflorescence Characteristics

type:	spike (1.5–10 cm long, 1.2–2 cm wide), terminal (occasionally axillary on peduncles), with lateral branches; flowers in 5 spiral ranks; pubescent with white-woolly hairs
flowers:	green; mature calyx 5–5.5 mm long, lobes 5 (1–2 mm long), forming a tube covered with woolly hairs; subtended by a thin and membranous bract and 2 bractlets; without petals; sessile
fruits:	utricles (5–7 mm long), included inthe calyx tube, mature tube flask-shaped, wings 2, indehiscent, densely woolly; seeds 1
seeds:	lens-shaped (1–2 mm long) reddish-brown, often shiny

Habitat

Plains snakecotton is most common in disturbed sandy prairies, rangelands, roadsides, waste places, and stream

valleys. It is rare in the Panhandle and southeastern Nebraska. It is most common in the Sandhills.

Uses and Values

Forage. Plains snakecotton produces poor forage for livestock.

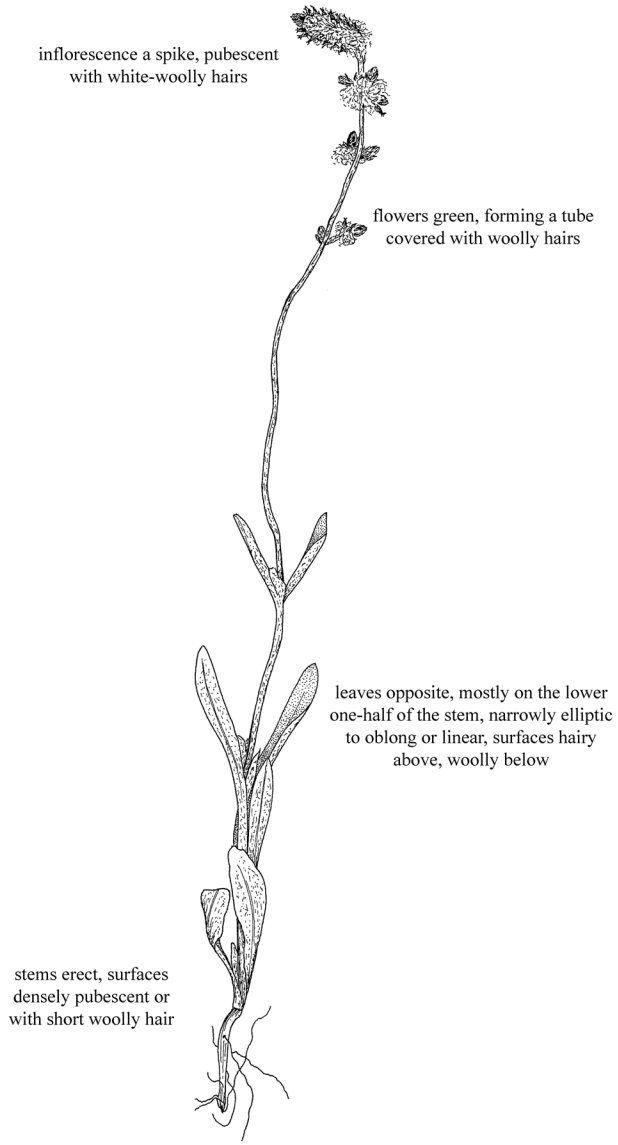
Poisoning. None.

Grassland Seeding. It is not used in grassland seeding mixtures.

Prairie Restoration. It is rarely included in prairie restorations, but it could add diversity to the vegetation.

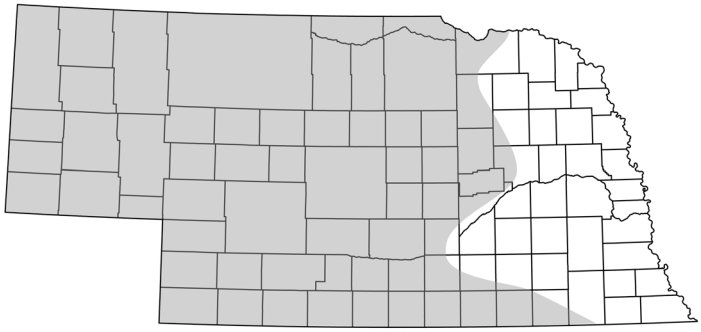
Wildlife. Plains snakecotton provides fair to good forage for deer, pronghorn, and bighorn sheep. Birds and small mammals eat the seeds

Ornamental. Its light gray color makes it an attractive specimen planting. Dried inflorescences are sometimes used in floral arrangements.



Plains snakecotton

Pricklypoppy



COMMON NAME:	**Pricklypoppy (annual pricklypoppy, bluestem pricklypoppy)**
Species:	*Argemone polyanthemos* (Fedde) G.B. Ownbey
Growth Form:	Forb
Life Span:	Annual (occasionally biennial)
Origin:	Native
Flowering:	June to August
Height:	0.4–1.2 m (1.3–3.9 ft)

Vegetative Characteristics

stems:	erect, 1 to few, usually unbranched, waxy, prickly, contains a bright yellow latex
leaves:	alternate, simple; lower blades oblanceolate (7–20 cm long, 3–10 cm wide), deeply lobed, undulate, petioles winged; stem blades elliptic, oblong or ovate, shallowly lobed, sessile and clasping; margins toothed and covered with prickles; lower surface prickly on the veins; contain a bright yellow latex
underground:	taproot, deep

Inflorescence Characteristics

type:	solitary or few-flowered, terminal
flowers:	white (rarely lavender), showy (5–10 cm in diameter); petals 6, ovate (2.5–5 cm long, 1–1.5 cm wide); sepals elliptic, prickly, waxy, recurved; stamens yellow
fruits:	capsules, elliptic (2.5–5 cm long, 1–1.5 cm wide), spines stout (to 1 cm long); seeds many
seeds:	globose (2 mm long), dark brown, shiny, with a 2-horned crest on one side

Habitat

Pricklypoppy is found primarily in sandy soils of prairies, rangelands, flood plains, and roadsides. It is common in the Sandhills.

Uses and Values

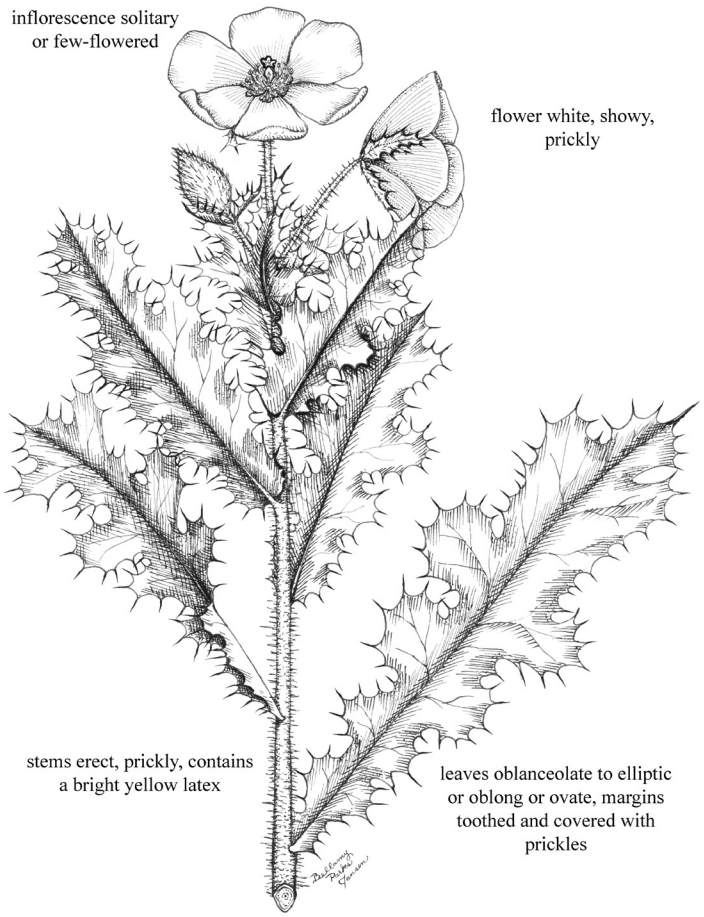
Forage. Pricklypoppy is unpalatable and has no forage value for livestock.

Poisoning. Pricklypoppy contains alkaloids, but rarely causes poisoning because of its distasteful nature. It may only pose a problem when all other forage has been depleted. Some reports indicate that the seeds are toxic to birds, while others say there is no toxicity to birds. Humans have been poisoned after consuming the seeds.

Grassland Seeding. It is not added to grassland seeding mixtures.

Prairie Restoration. The showy flowers of pricklypoppy could add color to prairie restorations in central and western Nebraska.

Wildlife. Deer and pronghorn occasionally eat the capsules and seeds.



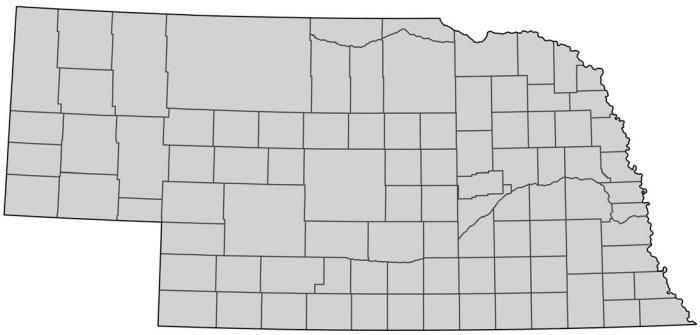
Pricklypoppy

Ornamental. Pricklypoppy with its showy white flowers with yellow centers are sometimes used in borders and mixed wildflowers. It should be planted in full sun and in well-drained soils.

Other

Native Americans applied the yellow latex to remove warts. The Lakota used the latex to dye arrows yellow. Whole plants were boiled, and the liquid was applied to soothe sunburn and poison ivy.

Prostrate vervain



COMMON NAME:	**Prostrate vervain (bracted vervain)**
Species:	*Verbena bracteata* Lag. & Rodr.
Growth Form:	Forb
Life Span:	Annual (rarely short-lived perennial)
Origin:	Native
Flowering:	May to September
Height:	0.1–0.7 m long (0.3–2.3 ft)

Vegetative Characteristics

stems:	prostrate to ascending, several from the base, diffusely branched, rooting at the nodes; pubescent
leaves:	opposite, simple; blades lanceolate to ovate-lanceolate (1–8 cm long, 6–30 mm wide), pinnately toothed or 3-lobed, center lobe the largest; pubescent on both surfaces; subsessile to short-petiolate; petiole winged
underground:	taproot

Inflorescence Characteristics

type:	spike (2–22 cm long), dense, terminal, often ascending; floral bracts surpassing the flowers; flowers many
flowers:	blue to lavender or purple, corolla lobes 5 (4–6 mm long); calyx (2–4 mm long) hirsute
fruits:	schizocarps, readily separating into 4 nutlets
seeds:	nutlets linear to oblong (2–2.5 mm long), yellow to reddish-brown

Habitat

Prostrate vervain grows on improperly grazed rangelands, pastures, and waste places in all soil types. It often grows in compacted soils of roadsides and trails. It is sometimes found as a lawn weed along driveways, sidewalks, and other dry areas.

Uses and Values

Forage. Prostrate vervain is only rarely eaten by livestock because of a bitter taste. Therefore, forage quality is poor. It spreads in disturbed areas and with heavy grazing. It is seldom of significance on rangelands in high condition.

Poisoning. None.

Grassland Seeding. Prostrate vervain is considered to be a weedy species and is not used in grassland seedings.

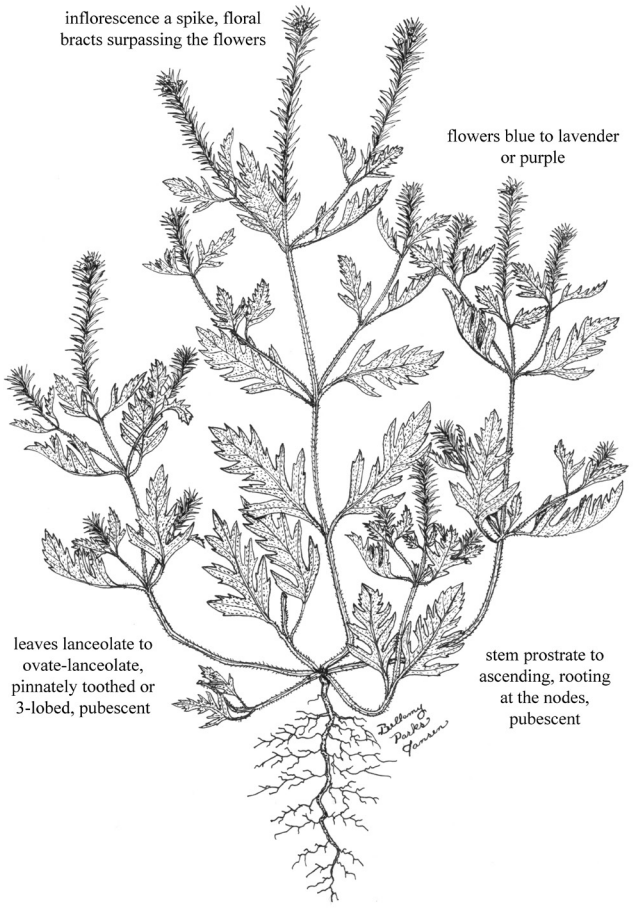
Prairie Restoration. It is not included in prairie restorations.

Wildlife. Prostrate vervain attracts bees and butterflies. Its seeds are eaten by mourning doves and other ground foraging birds, as well as by small mammals.

Ornamental. This drought tolerant plant requires full sun and well-drained soils. It withstands some foot traffic.

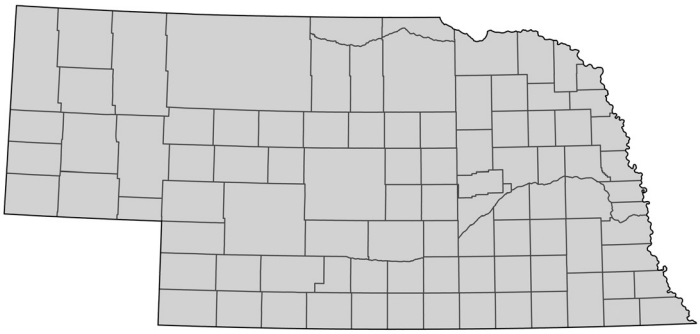
Other

Some Native Americans applied a poultice made from prostrate vervain to insect bites. A substance was made from the roots to treat sore eyes.



Prostrate vervain

Common ragweed



COMMON NAME:	Common ragweed (annual ragweed, short ragweed)
Species:	*Ambrosia artemisiifolia* L.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	July to September
Height:	0.3–1 m (0.9–3.3 ft)

Vegetative Characteristics

stems:	erect, branching above or not branched, glabrous to coarsely pubescent
leaves:	alternate upper leaves, simple; blades ovate (4–10 cm long, to 7 cm wide), 1- to 3-times pinnatifid, sessile; opposite lower leaves, blades simple; more pinnafications than in upper leaves, petiolate; petiole winged (1–3 cm long); both surfaces green; grayish beneath; upper surface sometimes sparsely pubescent
underground:	taproot, shallow

Inflorescence Characteristics

type:	monoecious; heads of staminate florets in terminal racemes, short-stalked; heads of pistillate florets in axillary clusters, below male florets
flowers:	greenish-yellow staminate florets (3 mm wide), oblique; greenish-yellow pistillate florets (3 mm wide), obovoid
fruits:	burlike (3–5 mm long), formed by floral bracts fused into a short-beaked structure (beak 1–2 mm long), longitudinal ridges ending in short spines; seeds 1
seeds:	small (1.5–2 mm long)

Habitat

Common ragweed grows on disturbed sites, waste places, pastures, rangelands, and prairies in all types of soil. However, it is less common in the western one-half of the state.

Uses and Values

Forage. Common ragweed is usually unpalatable to livestock and has little value as forage.

Poisoning. Common ragweed contains volatile oils and may cause skin irritation. When ingested, it is reported to cause nausea in cattle. It will accumulate nitrates during a drought, but it will be rarely eaten due to its unpalatability. Treatment with the herbicide 2,4-D may make the plants palatable and increase their ability to accumulate nitrates.

Grassland Seeding. Common ragweed is classified as a weed and is not used in grassland seedings.

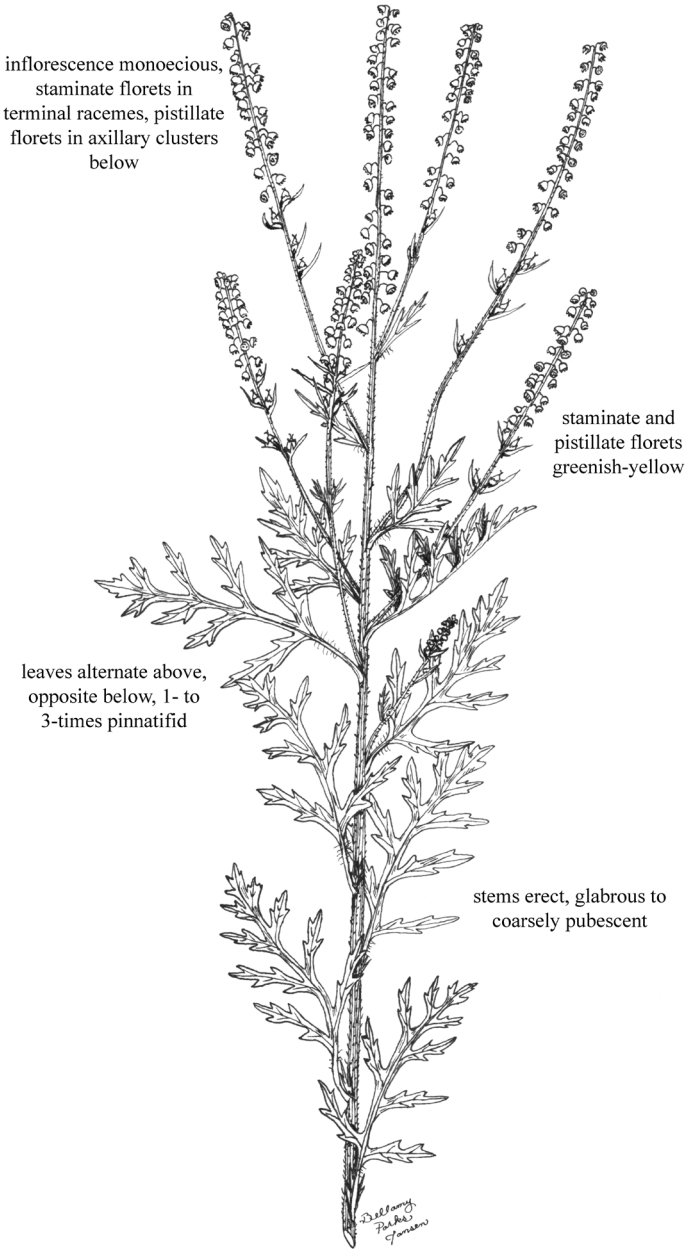
Prairie Restoration. It is not used in prairie restorations.

Wildlife. The fruits of common ragweed are eaten by wild turkeys, pheasants, quail, several species of song birds, and small mammals.

Ornamental. It is not used in ornamental plantings because of its weedy nature and because it is a major cause of hay fever in Nebraska.

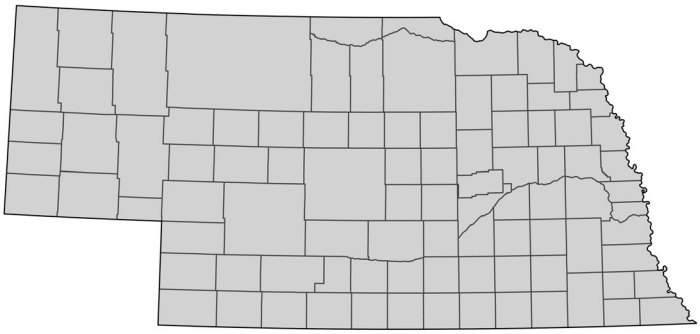
Other

Some Lakota applied a tea prepared from the leaves to reduce swelling. Members of the Otoe Tribe used the leaves to treat nausea.



Common ragweed

Giant ragweed



COMMON NAME:	Giant ragweed (horseweed)
Species:	*Ambrosia trifida* L.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	August to September
Height:	1–4 m (3.3–13.1 ft)

Vegetative Characteristics

stems:	erect, robust, simple or branching above; surfaces coarse and sometimes pubescent or reddish
leaves:	mostly opposite, simple; blades ovate to orbiculate (15–30 cm long), acute to acuminate; lobes 3–5 (usually 3); upper leaves often unlobed; margins serrate, surfaces scabrous; petiolate
underground:	taproot

Inflorescence Characteristics

type:	monoecious; staminate heads in terminal racemes; heads of pistillate florets in axillary clusters below the staminate heads
flowers:	greenish-yellow staminate florets (3 mm wide); greenish-yellow pistillate florets (4 mm long)
fruits:	burlike (5–9 mm long), obovoid, formed by the floral bracts, enclosing the achene, single short beak (1 mm long); 5–8 blunt tubercles below the beak; seeds 1
seeds:	small

Habitat

Giant ragweed grows in abused areas in pastures, rangelands, fencerows, winter feeding grounds, waste places, and roadsides. It is most abundant in moist soils. It is not common in the Sandhills.

Uses and Values

Forage. Giant ragweed is unpalatable to livestock, except horses, and is considered to be a weed.

Poisoning. It may accumulate nitrates, especially after being sprayed with 2,4-D.

Grassland Seeding. This annual, weedy plant is not used in grassland seedings.

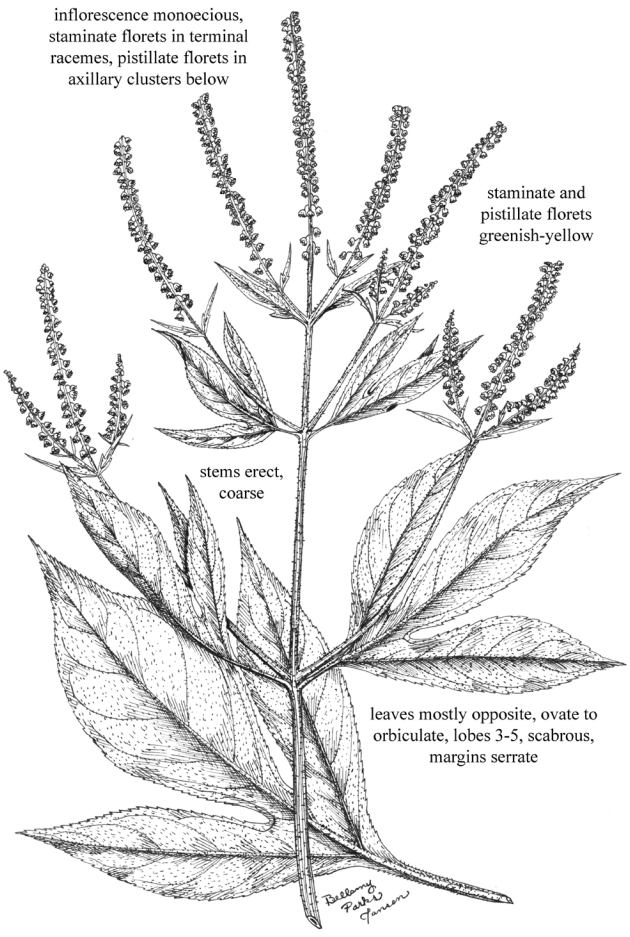
Prairie Restoration. It is not used in restorations.

Wildlife. Deer graze the leaves. The fruits are a highly nutritional food source for prairie chickens, sharp-tailed grouse, pheasants, quail, and songbirds.

Ornamental. Giant ragweed is not grown as an ornamental.

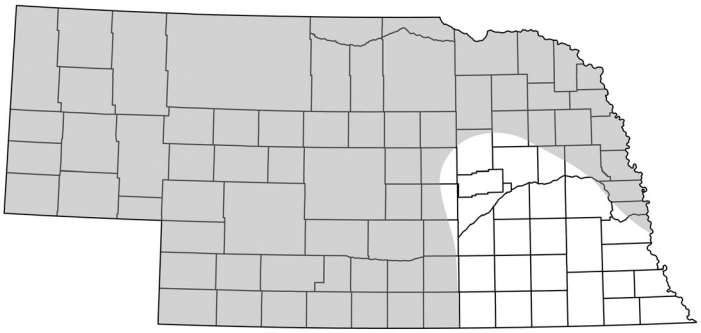
Other

It is a common cause of hay fever in August and September.



Giant ragweed

Rocky Mountain beeplant



COMMON NAME:	Rocky Mountain beeplant (bee spiderflower)
Species:	*Cleome serrulata* Pursh
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	June to August
Height:	0.2–1.5 m (0.6–4.9 ft)

Vegetative Characteristics

stems:	erect, branched, surfaces glabrous to waxy
leaves:	alternate, 3-foliate; leaflets lanceolate (2–6 cm long, 5–15 mm wide), tips gradually tapering; margins entire; surfaces glabrous or with sparse kinky hair; petioles 1–5 cm long
underground:	taproot

Inflorescence Characteristics

type:	raceme, elongate, terminal; flowers many, pedicellate; pedicels 7–15 mm long
flowers:	pink to reddish-purple (rarely white), showy, petals 4, lanceolate to elliptic (8–15 mm long); calyx (2.5–4 mm long) with 4 triangular lobes; lobes fused for one-half to two-thirds of their length; stigmas and anthers long-exserted
fruits:	capsules, linear-cylindrical (2–8 cm long, 3–10 mm wide), pointed on each end, valves 2; seeds several
seeds:	ovate (3–3.5 mm long), flattened, winged, tan to brownish-black, mottled, grooved on each side

Habitat

Rocky Mountain beeplant grows in sandy to rocky soils on floodplains, roadsides, and disturbed sites, especially around livestock watering locations. It is most common in the western part of the state.

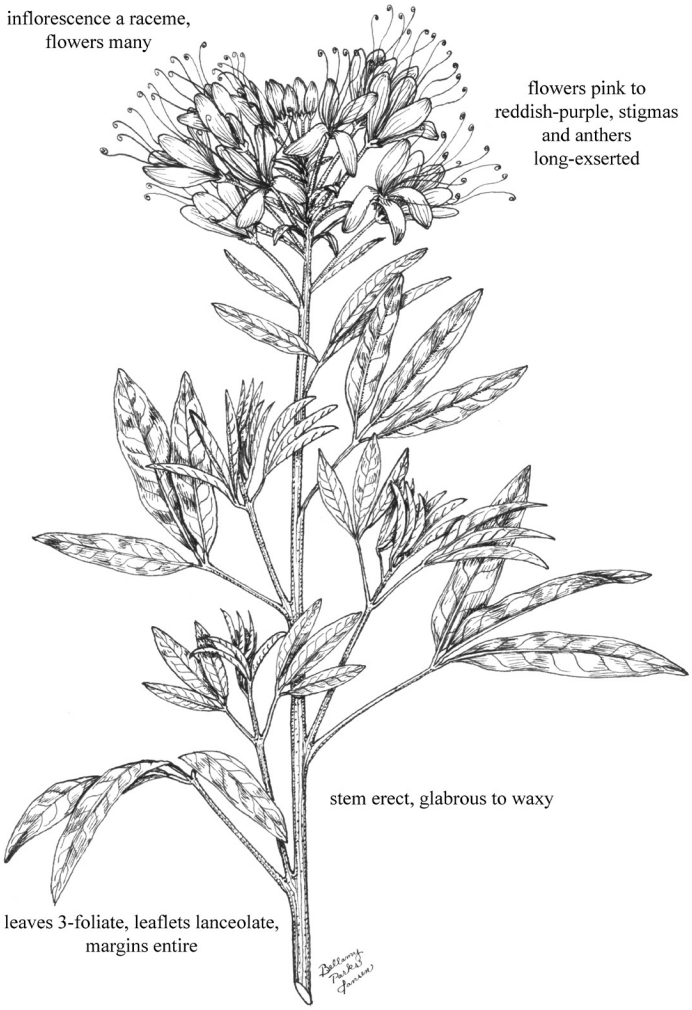
Uses and Values

Forage. Rocky Mountain beeplant has no forage value for livestock. Plants have a strong odor that makes them unpalatable.

Poisoning. Rocky Mountain beeplant has been reported to accumulate toxic levels of nitrates, which is seldom a problem because the plants are unpalatable.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Rocky Mountain beeplant is sometimes used in prairie restorations because it blooms the first year and attracts birds and insects.



Rocky Mountain beeplant

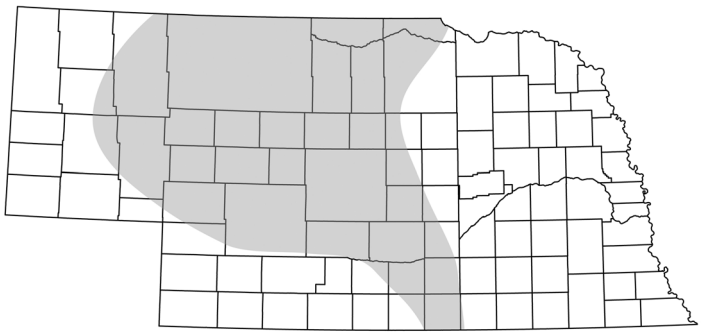
Wildlife. The foliage is not eaten by wildlife. The nectar attracts bees, butterflies, and night-flying moths. The seeds are an important food for mourning doves and song birds.

Ornamental. Rocky Mountain beeplant is rank-smelling but can be used as a tall screen. It is suitable for xeriscaping and should be planted in well-drained soils in full sunlight. Seeds of the cultivar "Pink Cloud" Rocky Mountain beeplant are available commercially.

Other

Rocky Mountain beeplant was an important food plant and was cultivated by some Native Americans in the Great Plains. Young shoots and leaves were cooked and eaten. Seeds were ground into a meal for bread and cereal. The residue from the boiled plants was used as dye or paint or dried for an emergency food source. An infusion was drunk to treat fevers and stomach disorders. A poultice was made from soaked and pounded leaves and applied to sore eyes. Lewis and Clark first collected this species in 1804 in present-day South Dakota. Many different kinds of bees are attracted to the flowers, hence the name "beeplant."

Sandhill amaranth



COMMON NAME:	**Sandhill amaranth**
Species:	*Amaranthus arenicola* I.M. Johnst.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	July to September
Height:	0.5–2 m (1.6–6.6 ft)

Vegetative Characteristics

stems:	erect, simple or branched at the base, branched above; branches usually ascending; glabrous to sparsely pubescent below the inflorescence
leaves:	alternate, simple, ovate to ovate-oblong or oblong linear (1.4–8.5 cm long, 5–30 mm wide), rounded to acute at the tips; glabrous; margins entire; yellowish-green; petiole shorter than or equaling the blade; often falling by fruiting
underground:	taproot

Inflorescence Characteristics

type:	spikes (10–50 cm long), terminal and at the tips of axillary branches, erect to nodding, not conspicuously spiny
flowers:	green calyx, unisexual, without petals; male flowers with 5 nearly equal sepals (3–5 mm long); female flowers with 3–5 conspicuous sepals, recurved; bracts (1.5–2.5 mm long) shorter than or equaling sepals, lanceolate; midvein excurrent
fruits:	utricles, subglobose (1.3–2 mm long), dehiscing around the circumference, light brown to brown; seeds 1
seeds:	round to slightly obovoid (0.8–1.3 mm in diameter), black to dark reddish-brown, smooth, lustrous

Habitat

Sandhill amaranth grows on dunes and dry sandy soils of prairies, rangelands, river valleys, roadsides, and waste areas. It is most common in the Sandhills.

Uses and Values

Forage. Immature plants may be eaten by livestock, but it produces little forage. Although a native prairie plant, it is often considered to be a weed.

Poisoning. It accumulates nitrates and has the potential to poison livestock. However, it is rarely a problem.

Grassland Seeding. It is not used in grassland seedings.

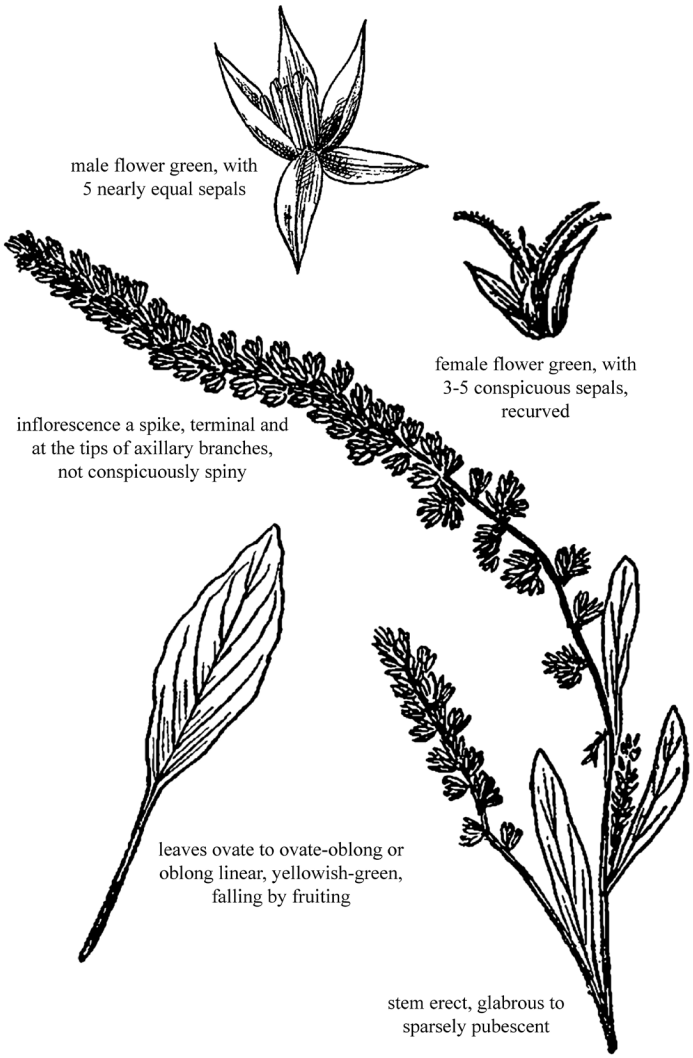
Prairie Restoration. It is not used in prairie restorations.

Wildlife. Deer and pronghorn graze the young plants. Small mammals and birds eat the fruits.

Ornamental. Sandhill amaranth is of little value as an ornamental.

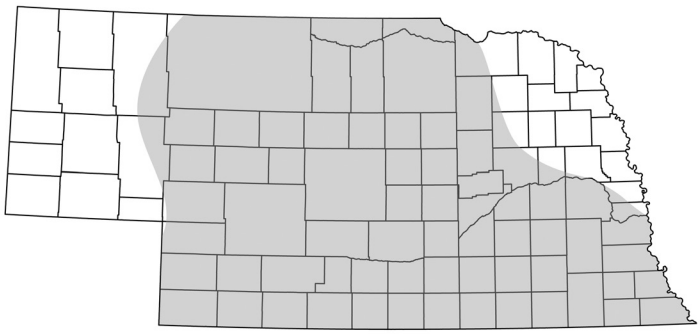
Other

Some Native Americans harvested seeds from Sandhill amaranth and ground them into flour for baking.



Sandhill amaranth

Smoothseed wildbean



COMMON NAME:	**Smoothseed wildbean (slickseed wildbean, small wildbean, stickseed fuzzybean)**
Species:	*Strophostyles leiosperma* (Torr. & A. Gray) Piper
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	May to September
Height:	twining vine 0.2–2 m (0.6–6.6 ft) long

Vegetative Characteristics

stems:	twining, 1 to several branches at the base, pubescent
leaves:	leaves on lower 1–4 nodes opposite and simple, others alternate and simple; principal blades pinnately 3-foliate; leaflets narrowly oblong to narrowly elliptic (2–6 cm long, 2–18 mm wide); tips obtuse to acute, sometimes mucronate; margins entire; both surfaces pubescent, more densely pubescent on lower surface
underground:	taproot

Inflorescence Characteristics

type:	few-flowered (or solitary), axillary; peduncles slender (2–10 cm long)
flowers:	light rose to purple or rarely green (5–8 mm long); papilionaceous; calyx tube 1.5–2 mm long; banner 5–8 mm long
fruits:	pods (2–5 cm long), subterete, elongate, pubescent; seeds several

seeds:	gray to brown (2.5–5 mm long), sometimes mottled with purple or black, easily detached scurfy pubescence

Habitat

Smoothseed wildbean grows in dry or moist sandy soils of prairies, rangelands, woodlands, and roadsides.

Uses and Values

Forage. Smoothseed wildbean produces fair forage. It is palatable to livestock but it is not highly valued because it is generally not abundant.

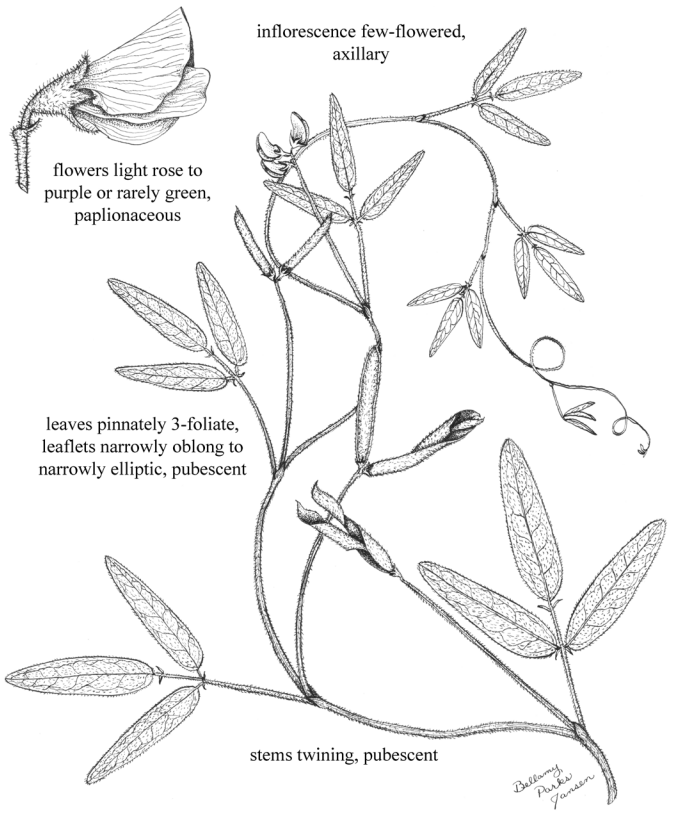
Poisoning. None.

Grassland Seeding. It is not included in grassland seedings.

Prairie Restoration. Smoothseed wildbean is occasionally used in prairie restorations. It is valuable because it adds nitrogen to the soil.

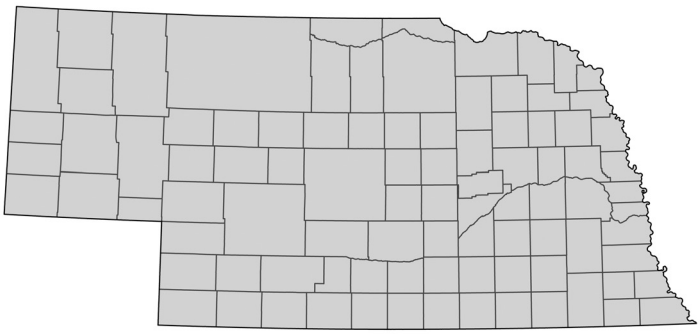
Wildlife. Deer eat the foliage. Smoothseed wildbean attracts many kinds of bees and other insects. Mourning doves, quail, and small mammals eat the seeds.

Ornamental. Since it is a vine, it is infrequently used as a bedding plant. It requires full sun and well drained soils, and is relatively intolerant of competition from other plants.



Smoothseed wildbean

Snow-on-the-mountain



COMMON NAME:	Snow-on-the-mountain
Species:	*Euphorbia marginata* Pursh
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	June to October
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect, usually single and unbranched below the inflorescence, villous above, glabrous to pubescent below; contain a milky juice
leaves:	alternate, simple; blades oblong to ovate or elliptical (3–10 cm long, 2–5 cm wide); margins entire; glabrous or the midvein pubescent; sessile; those below the inflorescences with narrow white or green margins, contain a milky juice
underground:	taproot, slender, shallow

Inflorescence Characteristics

type:	cyanthia, umbellike with 35–60 male flowers surrounding a single female flower; petaloid appendages 4 (about 2 mm long); floral bracts showy, margins white to pinkish (4 mm long), villous
flowers:	white to pale green (2–4 mm long), unisexual; male flowers 2–4 mm long; female flowers with forked styles
fruits:	capsules (4–6 mm long), villous; seeds 3
seeds:	ovate to globose (3–4 mm long), light to dark gray; surfaces reticulate, covered with small bumps

Habitat

Snow-on-the-mountain grows on roadsides, disturbed sites, floodplains, and abused prairies, rangelands, and pastures.

Uses and Values

Forage. Snow-on-the-mountain has no forage value for livestock.

Poisoning. Snow-on-the-mountain contains a milky juice that is caustic and can cause severe skin irritation. Honey made from the flowers is toxic to young bees and possibly to humans. Poisoning of livestock is rare because the bitter tastes makes it unpalatable. It will be eaten in hay and may produce scours and emaciation in cattle.

Grassland Seeding. It is not used in grassland seedings.

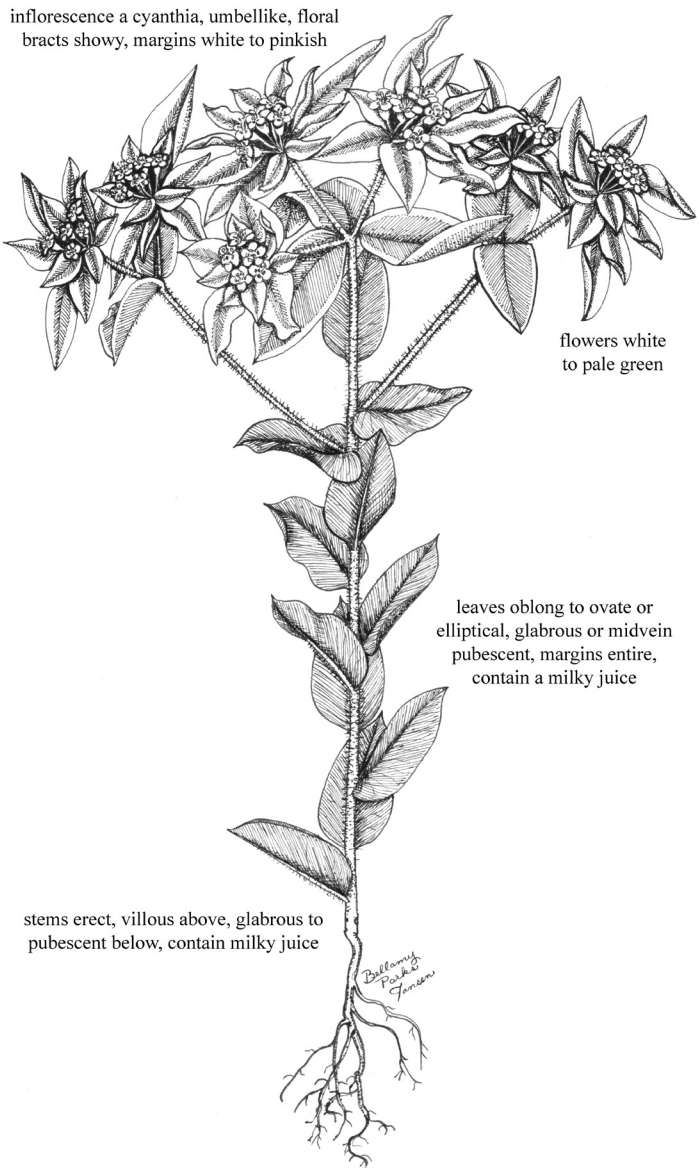
Prairie Restoration. A scattering of snow-on-the-mountain will add color to the vegetation in late summer and early fall.

Wildlife. It has no forage value for wildlife.

Ornamental. Snow-on-the-mountain is a close relative of poinsettia. It is drought tolerant and suitable for xeriscaping. The bracts are showy. It has long been used as an ornamental plant in Europe, and it is gaining in popularity in the United States. Seeds are commercially available. Caution should be taken because it is self seeding and can spread rapidly.

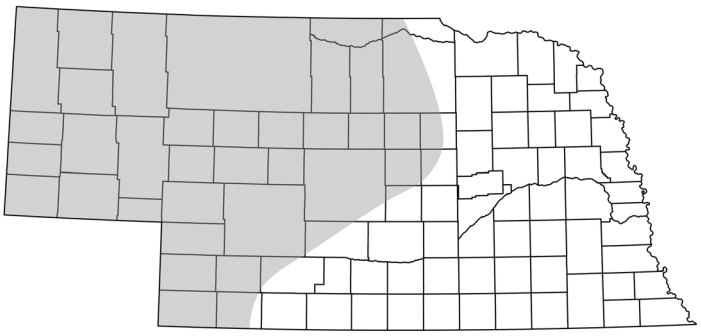
Other

Some Lakota crushed the leaves in warm water and applied the liquid to reduce swelling. The latex was reported to have been used for cattle and horse branding in the 1800s.



Snow-on-the-mountain

Spotted beebalm



COMMON NAME:	**Spotted beebalm (plains beebalm, horse mint, pony beebalm)**
Species:	*Monarda pectinata* Nutt.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	May to July
Height:	0.2–0.5 m (0.6–1.6 ft)

Vegetative Characteristics

stems:	erect, branching from the base and above, occasionally unbranched; branches spreading, 4-angled, surfaces with pubescence pointing downward
leaves:	opposite, blades simple lanceolate to elliptic (2–4 cm long, 5–15 mm wide), tips sharply pointed, base triangular or gradually coming to a point; margins serrate to subentire and ciliate; surfaces glabrous or sparingly pubescent, petiolate; petioles long-ciliate near the base
underground:	taproot

Inflorescence Characteristics

type:	spikes (1.2–4 cm wide), interrupted; flower clusters 2–6; bracts green, infrequently tinged with purple; outer bracts elliptic-lanceolate (8–20 mm long, 3–6 mm wide), tips gradually pointed, green or tinged with purple or brown, glabrous above
flowers:	white to purplish corolla (1.2–2 cm long), tube (8–14 mm long) slender at the base and abruptly funnel-shaped at the throat; hirsute at the base of the lower lip; upper lip shorter than the tube; calyx tube 6–8 mm long, hirsute-ciliate
fruits:	schizocarps of 4 nutlets; nutlets oblong or obovoid (1.2–1.5 mm long), rounded at the tip, brown, smooth, seeds 1
seeds:	small

Habitat

Spotted beebalm grows on rangelands, prairies, and pastures. It is most common in the Sandhills.

Uses and Values

Forage. Spotted beebalm produces poor forage for livestock. Occasionally, it is eaten by horses.

Poisoning. None.

Grassland Seeding. It is not used in grassland seeding mixtures.

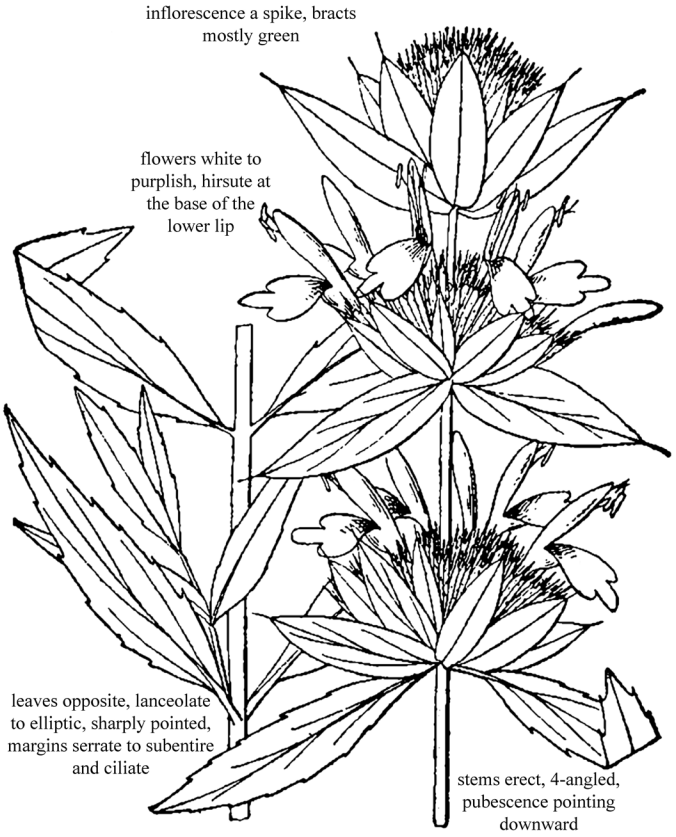
Prairie Restoration. It is rarely included in prairie restorations, but it could add diversity to the vegetation.

Wildlife. Spotted beebalm nutlets are eaten by small mammals and birds.

Ornamental. Its flowers make it an attractive specimen planting.

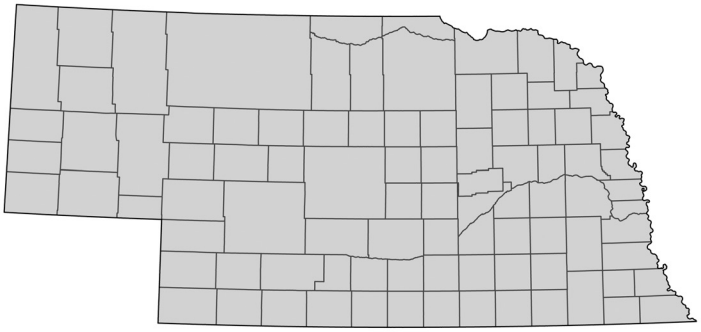
Other

Herbage of spotted beebalm has a strong, somewhat medicinal, fragrance.



Spotted beebalm

Common sunflower



COMMON NAME:	**Common sunflower (annual sunflower, wild sunflower)**
Species:	*Helianthus annuus* L.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	July to September
Height:	0.6–4 m (2–13.1 ft)

Vegetative Characteristics

stems:	erect, solitary, branched above, coarse
leaves:	alternate, simple; blades heart-shaped below, ovate to lanceolate above (4–40 cm long, 1.5–35 cm wide); margins toothed to nearly entire; surfaces scabrous, petiolate
underground:	taproot

Inflorescence Characteristics

type:	heads (2–15 cm wide), terminal, solitary at most branch tips; involucral bracts more than 4 mm wide, teeth 3, outer bracts hairy to nearly glabrous, margins ciliate; ray florets 15 or more; disk florets numerous
flowers:	yellow ray florets (2–4.5 cm long), acute to bifid; reddish-brown to purple disk florets (7–9 mm long)
fruits:	achenes (3–5 mm long), flattened, variously colored, glabrous or nearly so; pappus of 2 awns; seeds 1
seeds:	tan, flattened

Common sunflower

Habitat

Common sunflower grows in rangelands, pastures, fields, roadsides, waste ground, and disturbed sites. It is occasionally in the Sandhills.

Uses and Values

Forage. Common sunflower has little forage value for livestock when it is mature, although, its forage value is fair to good when young. Cattle, horses, and sheep graze the heads.

Poisoning. Common sunflower rarely accumulates levels of nitrates that are toxic to livestock.

Grassland Seeding. Common sunflower is not added to grassland seeding mixtures. It frequently appears naturally in seedings and can be a serious weed in grassland establishment.

Prairie Restoration. It is not added to restorations, but it can become a serious weed in new restorations. Generally, its abundance will decline as the density of the perennial prairie plants increases.

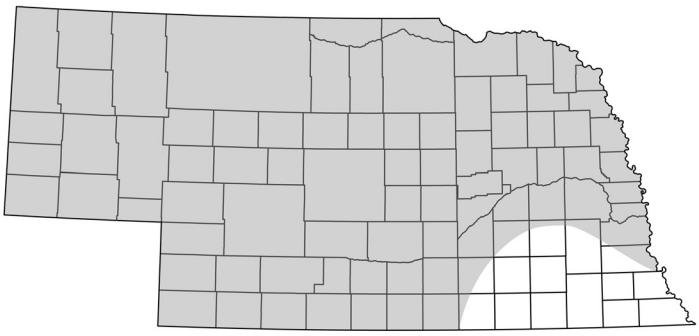
Wildlife. It provides fair to good forage for deer, pronghorn, elk, and bighorn sheep. Common sunflower intermixed with other annual plants provides good brood-rearing cover for upland gamebirds and excellent loafing and escape cover for many species of wildlife. Its seeds are eaten by many kinds of small mammals and birds.

Ornamental. Common sunflower can be grown as an ornamental. The heads consisting of yellow ray florets and contrasting reddish-brown to purple disk florets are attractive. They are easy to grow, but the plants can become rank and spread quickly.

Other

This species encompasses numerous wild, weedy, and cultivated sunflowers. Nearly all parts of the plant found some measure of use by early Americans. The sunflower was being cultivated by the Aztecs when they were conquered by the Spanish. Native Americans in North America may have cultivated this species for food and oil for over a thousand years. Research is currently being conducted with this plant's by-products to determine its potential as an insulin substitute. Both the flowers and the leaves have a tendency to "follow the sun" during active growth, hence the common name.

Prairie sunflower



COMMON NAME:	**Prairie sunflower (plains sunflower)**
Species:	*Helianthus petiolaris* Nutt.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	June to September
Height:	0.5–1.2 m (1.6–3.9 ft)

Vegetative Characteristics

stems:	erect, simple to branched above, hairy to glabrous
leaves:	alternate, simple; blades lanceolate to deltate (4–15 cm long, 1–8 cm wide); margins entire to serrate; tips pointed to acuminate; both leaf surfaces strigose, often lustrous; petioles long
underground:	taproot

Inflorescence Characteristics

type:	heads (5–9 cm wide), showy, solitary on long naked peduncles at branch tips; ray florets 15 or more; disk florets numerous
flowers:	yellow ray florets (1.8–3.5 cm long); reddish-brown to purple disk florets, center disk flowers densely white-hairy
fruits:	achene (3.5–4.5 mm long), pubescent, flattened, seeds 1
seeds:	tan, flattened

Habitat

Plains sunflower grows in sandy soils of rangelands, pastures, prairies, roadsides, fields, wasteland, and disturbed sites. It is common in the Sandhills.

Uses and Values

Forage. Plains sunflower has little forage value for livestock when it is mature. Its forage value is fair to good when the plants are young. Livestock frequently eat the heads. It increases on abused rangelands.

Poisoning. Plains sunflower rarely accumulates levels of nitrate that are toxic to domestic livestock.

Grassland Seedings. It is not included in grassland seeding mixtures. It may become a serious weed in establishing grass stands.

Restoration. Plains sunflower is not included in prairie restoration mixtures.

Wildlife. Plains sunflower provides fair to good forage for deer, elk, bighorn sheep, and pronghorn. Its seeds are eaten by many kinds of birds and small mammals.

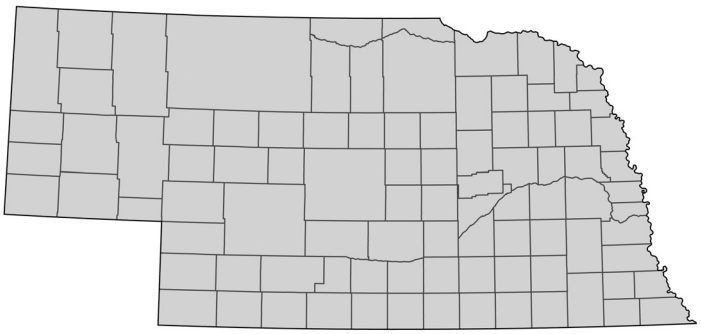
Ornamental. It can be grown as an ornamental, especially in sandy soils. The plants are self seeding and can spread quickly.

Other

Prairie sunflower resembles common sunflower (*Helianthus annuus*), but prairie sunflower is shorter and smaller in all respects, and usually has narrower leaves. The white hairs of the center disk bracts make a distinct white spot in the center of the flower heads. Prairie sunflower and common sunflower frequently hybridize.

Prairie sunflower

Tansymustard



COMMON NAME:	Tansymustard (western tansymustard)
Species:	*Descurainia pinnata* (Walter) Britton
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	April to June
Height:	0.1–0.9 m (0.3–3 ft)

Vegetative Characteristics

stems:	erect to ascending, usually single, simple or branched, often branched above; surfaces sometimes glandular
leaves:	alternate, variable, usually bipinnately compound (1–9 cm long); upper blades reduced and usually pinnate; segments narrow, linear to broadly ovate; surfaces with whitish or grayish pubescence; short-petiolate
underground:	taproot

Inflorescence Characteristics

type:	racemes, terminal, initially flat- topped, elongating with maturity
flowers:	bright yellow to whitish; petals 4, ovate to spatulate (1–3.5 mm long), clawed; sepals 4, oblong to ovate (1.5–2.5 mm long), margins membranous and sometimes rose-colored
fruits:	siliques, club-shaped (4–16 mm long, 1–2 mm wide), borne on divaricately ascending pedicels (3–17 mm long); cells 2; seeds several per cell

seeds:	oblong to ellipsoid (0.8–1.5 mm long), 3-angled, flattened, dull red to light brown; grooved on one side

Habitat

Tansymustard grows on rangelands, waste places, disturbed sites, fields, and roadsides. It is most common in dry, sandy soils, but it is uncommon in the Sandhills.

Uses and Values

Forage. Tansymustard produces poor forage for cattle and fair forage for sheep. Generally, it is considered to be a weed.

Poisoning. It is thought to be poisonous in the southern states, but poisoning is rare. Apparently, large amounts must be consumed before animals show symptoms of blind staggers or paralyzed tongue.

Grassland Seeding. This annual, weedy plant is not used in grassland seedings.

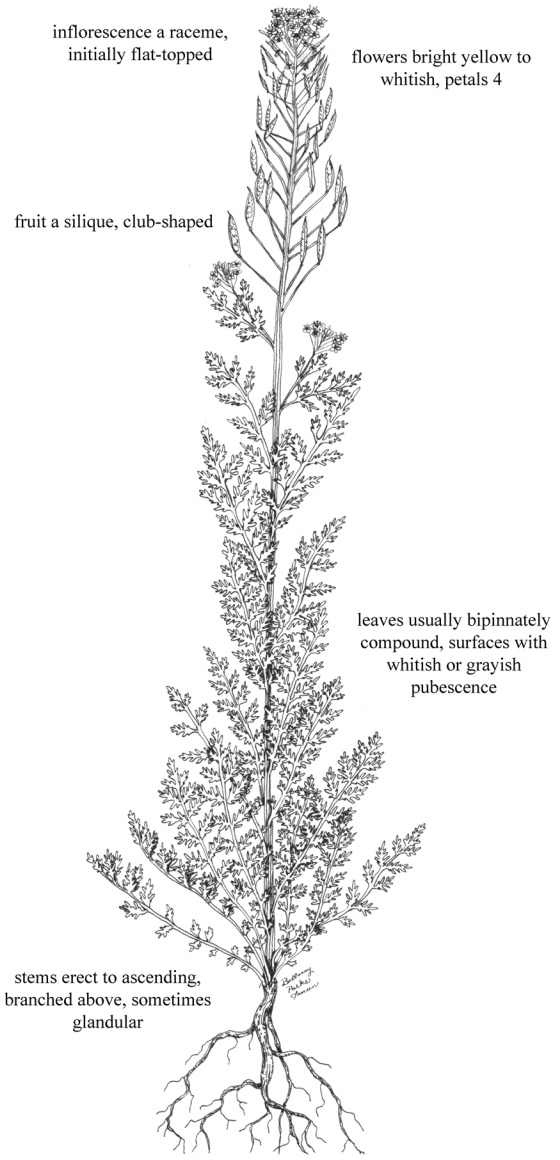
Prairie Restoration. It is not used in restorations.

Wildlife. Tansymustard is lightly grazed by pronghorn and bighorn sheep. Its seeds are eaten by ground-foraging birds. The flowers attract butterflies.

Ornamental. Tansymustard is rarely grown as an ornamental. It grows best well-drained soils in full sun.

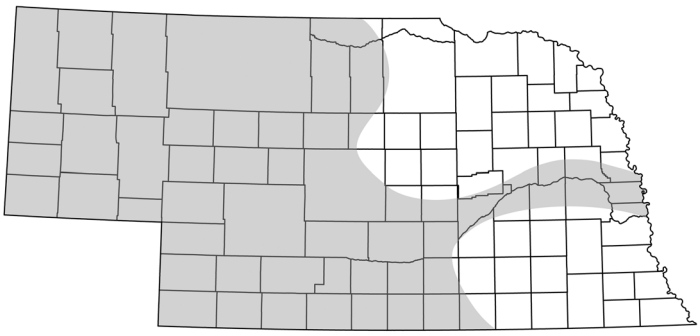
Other

The seeds were harvested and ground by some Native Americans to make flour. Young plants were used as potherbs.



Tansymustard

Texas croton



COMMON NAME:	**Texas croton (croton, skunkweed, doveweed, goatweed)**
Species:	*Croton texensis* (Klotzsch) Müll. Arg.
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	June to October
Height:	0.2–0.8 m (0.6–2.6 ft)

Vegetative Characteristics

stems:	erect, usually solitary and branched above, woolly
leaves:	alternate, simple; blades lanceolate to oblong (2–8 cm long, 4–15 mm wide); tips rounded to pointed; bases rounded to blunt; margins entire; surfaces densely woolly with yellowish-gray stellate hairs; petioles 5–25 mm long
underground:	taproot, shallow

Inflorescence Characteristics

type:	dioecious; male flowers in racemes (1–2 cm long) in axils of most leaves; female flowers in few-flowered clusters (1 cm long) in the axils of most leaves
flowers:	grayish-white; male flowers without petals; calyx 2–4 mm wide; sepals 5, deltoid and pointed, woolly; female flowers without petals; calyx 2.5–4 mm wide; sepals 5, woolly; styles branched
fruits:	capsule, globose to ovate (4–6 mm long), densely stellate-pubescent, warty; seeds 3
seeds:	brown (3.5–4 mm long), mottled, smooth, lustrous, with a caruncle (about 1 mm long)

Habitat

Texas croton is found in sandy soils of rangelands, pastures, roadsides, and disturbed sites, especially around livestock watering sites. It is common in the Sandhills.

Uses and Values

Forage. Texas croton has no forage value for livestock.

Poisoning. Texas croton has been listed as poisonous, probably due to the irritating oils it contains. Verified reports of livestock poisoning are rare. Honey made from Texas croton nectar has been reported to be toxic.

Grassland Seeding. It is not included in grassland seedings.

Prairie Restoration. Since Texas croton is an annual, it is rarely included in prairie restorations.

Wildlife. Its seeds are an important source of food for birds and a few small mammals. The fruits account for a significant portion of the diets of mourning doves during late summer and early autumn.

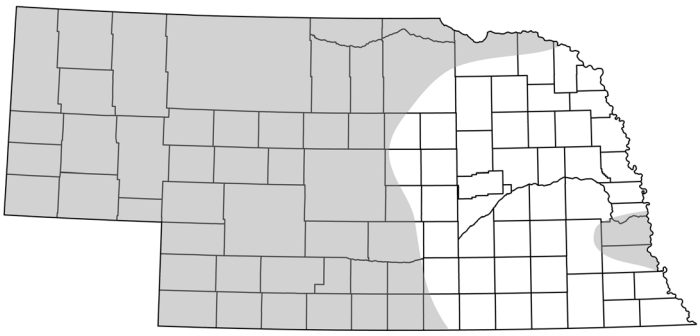
Ornamental. Texas croton has grayish-green foliage and can be grown in rock gardens. It requires full sun and well drained soils.

Other

Native Americans burned powdered Texas croton stems to repel insects. Some breathed the smoke of burning Texas croton to relieve headaches. It contains croton oil, and preparations of the plants have been used as a cathartic and to treat rheumatism, paralysis, and earache.

Texas croton

Western sticktight



COMMON NAME:	**Western sticktight (flatspine stickseed, Redowski stickseed)**
Species:	*Lappula occidentalis* (S. Watson) Greene [= *Lappula redowskii* (Hornem.) Greene]
Growth Form:	Forb
Life Span:	Annual
Origin:	Native
Flowering:	May to July
Height:	0.1–0.4 m (0.3–1.3 ft)

Vegetative Characteristics

stems: erect to ascending, usually single, sometimes with shorter stems below, branched from the base and above, hirsute

leaves: alternate, simple, reduced in size upwards; stem blades lanceolate to elliptic to spatulate (1–4 cm long), tips rounded, margins entire; basal leaves (to 5 cm long) in a rosette; pustular-strigose beneath

underground: taproot

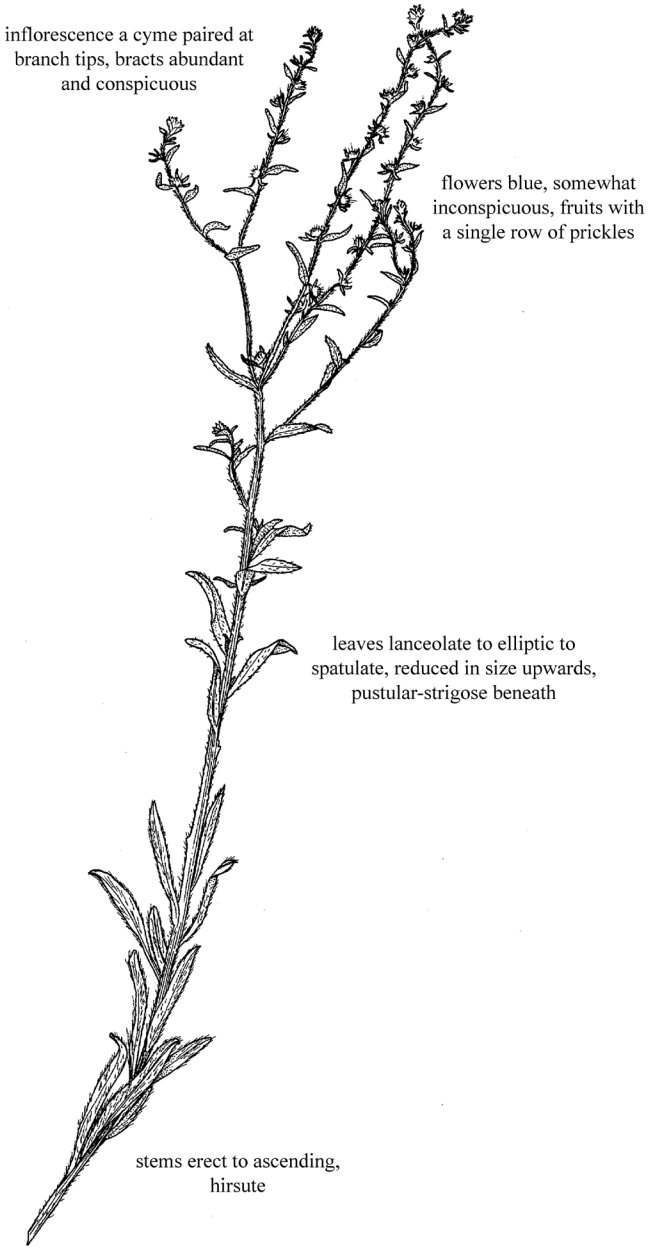
Inflorescence Characteristics

type: cymes paired at branch tips, solitary in upper axils, tightly coiled; cymes uncoiling and becoming racemelike; bracts abundant and conspicuous; pedicels (1–3 mm long) spreading to erect

flowers: blue (rarely white) corolla (1.4–2.5 mm in diameter), somewhat inconspicuous, tube longer than the calyx; calyx lobes lanceolate, 2–3 mm long at flowering, expanding to 3–5 mm long in fruit; sepals 5, unequal, linear to lanceolate, usually spreading, slightly united at the base

fruits: nutlets (2–4 mm long), divided into 4 segments, single marginal row of prickles; bases widening and often forming a marginal cup; grayish-brown to light brown, tubercled or warty

seeds: brown, small



Western sticktight

Habitat

Western sticktight grows in sandy soils of dunes, roadsides, waste areas, and abused rangelands.

Uses and Values

Forage. Western sticktight has no forage value for livestock.

Poisoning. Fruits of western sticktight may cause inflammation of the mouths of cattle, but it is rarely eaten by livestock. The fruits are commonly found as a contaminant of wool.

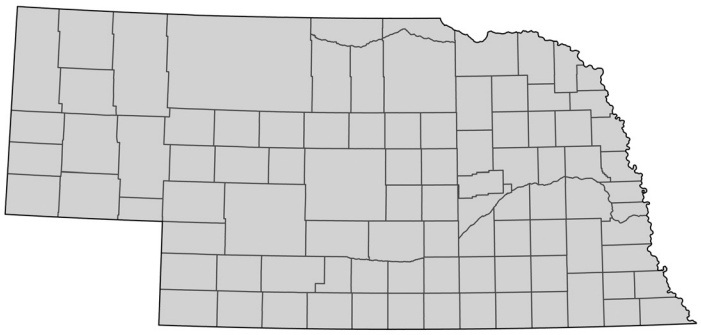
Grassland Seeding. It is not included in grassland seedings.

Prairie Restoration. Since western sticktight is an annual, it is rarely included in prairie restorations.

Wildlife. Its nutlets are a source of food for birds and small mammals.

Ornamental. Western sticktight is grown occasionally in rock gardens.

Woolly plantain



COMMON NAME:	**Woolly plantain (woolly indianwheat)**
Species:	*Plantago patagonica* Jacq. [= *Plantago purshii* Roemer & J.A. Schultes]
Growth Form:	Forb
Life Span:	Annual (rarely biennial)
Origin:	Native
Flowering:	May to August
Height:	5–30 cm (2–12 inches)

Vegetative Characteristics

stems:	nearly acaulescent from a branched caudex; woolly
leaves:	alternate, simple, ascending to erect; winter rosette blades oblanceolate (0.5–3 cm long); principal blades linear to oblanceolate (2–20 cm long, 0.5–15 mm wide), main veins mostly 3; margins entire; both surfaces covered with silvery-gray woolly pubescence
underground:	taproot slender, small

Inflorescence Characteristics

type:	spikes erect (1–15 cm long), dense, terminal; 1–20 borne on peduncles (2–25 cm long)
flowers:	white corolla; petals suborbiculate to ovate-lanceolate (1–2 mm long), spreading; bracts triangular to linear (1.5–2.5 mm long), woolly; sepals shorter than bracts
fruits:	capsules (3–4 mm long), breaking apart at the middle; seeds 2
seeds:	brownish-black to reddish-tan (2.5–3 mm long)

Habitat

Woolly plantain grows on rangelands, waste places, pastures, and roadsides in all types of soil. It is especially abundant in sandy soils on improperly grazed rangelands. It is common in the Sandhills.

Uses and Values

Forage. Woolly plantain furnishes little forage for livestock in Nebraska. Its quality is fair, but the plants are so small that few are eaten. Abundance is generally an indicator of deteriorated range condition. The plants become more important as a forage source in the drier western and southwestern states.

Poisoning. None.

Grassland Seeding. Woolly plantain is not used in grassland seedings. It will appear naturally on recently seeded land and may compete with desirable plants during years of low rainfall.

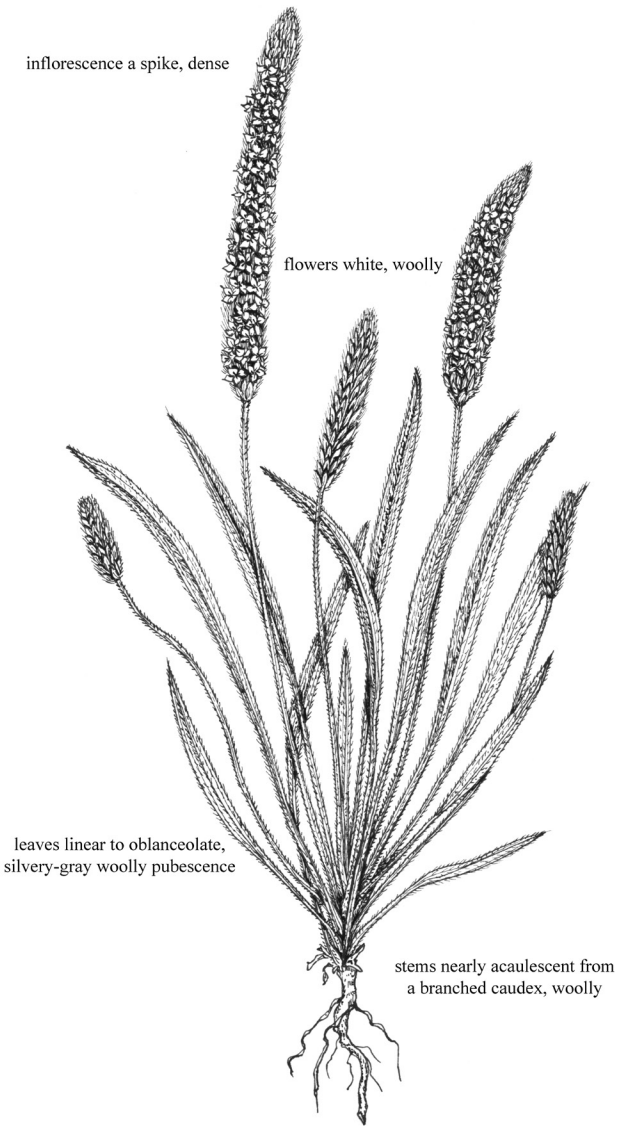
Prairie Restoration. It is not included in prairie restoration mixtures.

Wildlife. While it furnishes little forage, it is grazed by pronghorn, deer, and bighorn sheep. Its seeds are eaten by ground foraging birds and small mammals.

Ornamental. Woolly plantain is occasionally planted in rock gardens and borders.

Other

Some Native Americans consumed leaves of woolly plantain for internal hemorrhage. Leaves were chewed for toothache. It is most abundant following a wet fall, and its pollen can cause summer hay fever. Two varieties grow in Nebraska. The subtending bracts do not exceed the flowers in var. *patagonica*, and it is the most abundant variety. The subtending bracts of var. *spinulosa* (Dcne.) A. Gray may be more than twice as long as the flowers. It is most common in the Panhandle and south of the Platte River, especially in alkaline soils.



Woolly plantain

Introduced Perennial Forbs

Canada thistle

Chicory

Alsike clover

White clover

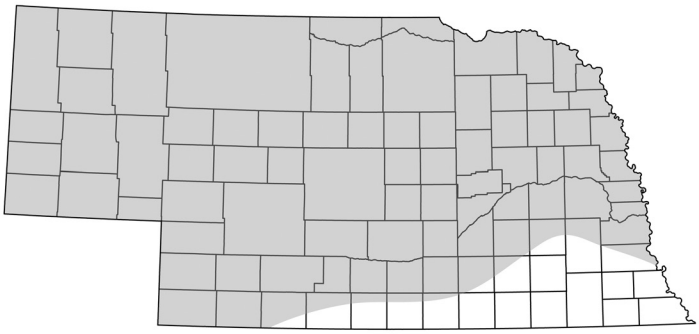
Dandelion

Leafy spurge

Russian knapweed

Sericea lespedeza

Canada thistle



COMMON NAME:	Canada thistle
Species:	*Cirsium arvense* (L.) Scop.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Introduced (from Eurasia and North Africa)
Flowering:	June to August
Height:	0.3–1.2 m (1–3.9 ft)

Vegetative Characteristics

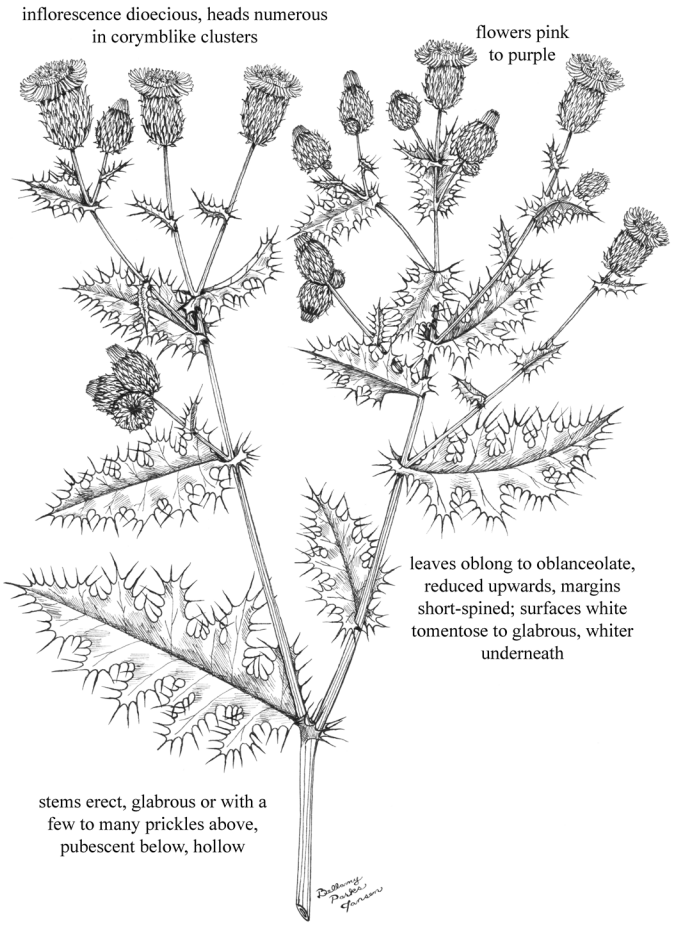
stems:	erect, branching above, glabrous or with few to many prickles above, pubescent below, hollow; forming dense colonies
leaves:	alternate, simple; lower stem blades oblong to oblanceolate (5–18 cm long, 1.5–6 cm wide), margins shallowly to pinnately lobed to entire, lobes and margins short-spined; surfaces white tomentose to glabrous, whiter beneath; sessile to petiolate, not clasping the base; upper stem blades similar except reduced upwards, less lobed, and sessile
underground:	rhizomes, fleshy, extensive, creeping

Inflorescence Characteristics

type:	dioecious; heads numerous in corymblike clusters, relatively small; male heads globose; female heads flask-shaped; involucre (1–2 cm tall, 1–1.5 cm wide) with 5 or 6 series of bracts; bracts ovate (2–6 mm long, 0.7–1.2 mm wide), gradually pointed and rarely short-spined
flowers:	pink to purple (rarely white); male florets (1.2–1.5 cm long), pappus longer than the corolla; female florets (1.8–2.2 cm long), pappus shorter than the corolla
fruits:	achenes, oblong (2.5–4 mm long, 1–1.5 mm wide), curved, flattened, dark brown to tan; pappus of white bristles (1.5–2.5 cm long); seeds 1
seeds:	small

Habitat

Canada thistle grows on rangelands, pastures, meadows, ditch banks, lake shores, roadsides, and disturbed sites. It can be especially abundant in deep and moist soil. It grows on the edges of Sandhills meadows but is uncommon on the dunes.



Canada thistle

Uses and Values

Forage. Canada thistle is classified as a noxious weed and has no forage value for livestock.

Poisoning. It has been reported to accumulate toxic levels of nitrates, but this is not a problem because it is rarely grazed by livestock.

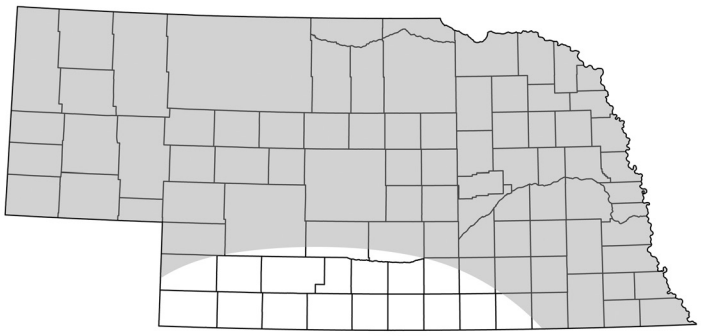
Wildlife. Canada thistle fruits are eaten by songbirds.

Ornamental. This aggressive weed should not be cultivated.

Other

Canada thistle is an aggressive weed. It is classified as noxious in Nebraska and is the target of an extensive control program. It was introduced from Eurasia and North Africa, not Canada. This species is dioecious (male and female 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, and they contribute to the problem by providing pollen for other populations.

Chicory



COMMON NAME:	Chicory
Species:	*Cichorium intybus* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Introduced (from Europe)
Flowering:	May to October
Height:	0.3–1.5 m (1–4.9 ft)

Vegetative Characteristics

stems:	erect to ascending, stiff branching above, branches rigid, becoming woody and reddish, hollow, contain a milky latex
leaves:	alternate, simple; blades mainly basal (8–35 cm long, 2–12 cm wide), withering early, irregularly toothed to deeply lobed; long-petioled; upper blades oblong to lanceolate (3–7 cm long), entire to dentate; surfaces hispid, especially beneath; sessile, bases clasping and extending into a pair of earlike projections
underground:	taproot, simple or much-branched, deep, heavy, thick; contain a milky latex

Inflorescence Characteristics

type:	spikelike; heads (2.5–3 cm in diameter) numerous; axillary clusters of 1–4 heads, sometimes terminating stiff branches; involucre (1–1.5 cm tall) with 2 series of bracts; outer 5 bracts half as long as the inner 8–10 bracts, margins minutely spiny; sessile to short-pedunculate
flowers:	sky blue (rarely white or pink) ray florets 12–20 (1–2 cm long); ligule 5-lobed at tip
fruits:	achene, ovate to obdeltoid (2–3 mm long); light brown with dark brown longitudinal lines; pappus a minute fringed crown of tiny bristlelike scales; seeds 1
seeds:	small

Habitat

Chicory grows in pastures, meadows, roadsides, lawns, and waste places. While it is not present on Sandhills dunes, it can become very common along Sandhills roads.

Uses and Values

Forage. Chicory has fair to good forage quality. It is grown as a hay crop in Europe. It is grown as a root crop in the Panhandle. It is sometimes used in mixtures for cover crops.

Poisoning. Dairy products from cows eating chicory may have a bitter taste. It may cause dermatitis in humans.

Wildlife. Chicory provides good quality forage for deer.

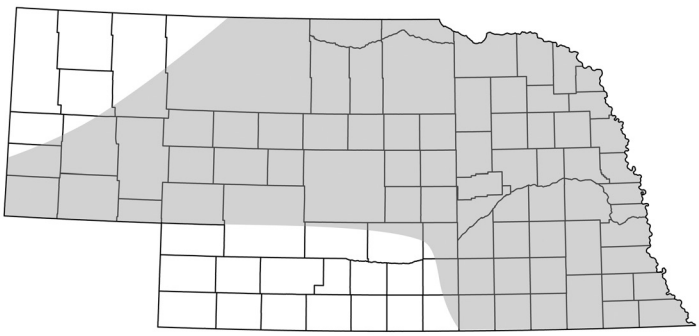
Ornamental. Chicory produces attractive flowers.

Other

It has numerous uses in folk medicine. Its leaves may be added to salads. Chicory roots contain pyrone which is used in bread and pastries to intensify the flavor of sugar. Roots can be dried, roasted, and used as a coffee substitute or added to coffee to create a different flavor.

Chicory

Alsike clover



COMMON NAME:	Alsike clover
Species:	*Trifolium hybridum* Savi
Growth Form:	Forb
Life Span:	Perennial
Origin:	Introduced (from Europe)
Flowering:	May to September
Height:	0.3–1.2 m (1–3.9 ft)

Vegetative Characteristics

stems:	erect to ascending, somewhat cespitose; glabrous to sparsely pubescent
leaves:	alternate, palmately 3-foliate; leaflets oval to elliptic (1.5–3.5 cm long, 8–25 mm wide); tips obtuse to retuse; margins above denticulate, serrulate below; surfaces glabrous; petiolules 1 mm long; petioles slender (5–15 cm long below, 1–3 cm long above); stipules ovate-lanceolate (1–5 cm long), tapering to an attenuate tip, veins 3, adnate to the petiole for up to one-half their length
underground:	taproot

Inflorescence Characteristics

type:	subumbellate racemes; heads, globose to ovoid (1.5–3 cm in diameter), flowers 30–50; axillary from upper axils; peduncles (2–12 cm long) equalling or exceeding the leaves

flowers:	white to pinkish-white corolla, papilionaceous; banner 5–11 mm long, 3 mm longer than the wings and keel; calyx tube campanulate (1.5–2.5 mm long), whitish, veins 5; teeth green, about as long as the tube; pedicels 1–2 mm long at flowering, 3–4 mm long in fruit
fruits:	pods linear-oblong to kidney-shaped (3–4 mm long), exserted from the calyx tube, indehiscent, seeds 2–4
seeds:	cordate (1.5 mm long), light green to greenish-black, smooth

Habitat

Alsike clover is most common where it was planted in hay meadows and pastures, but it has escaped to roadsides, rangelands, lawns, disturbed sites, and waste areas. It is most common in moist sandy soils, but it can grow in poorly drained acidic soils.

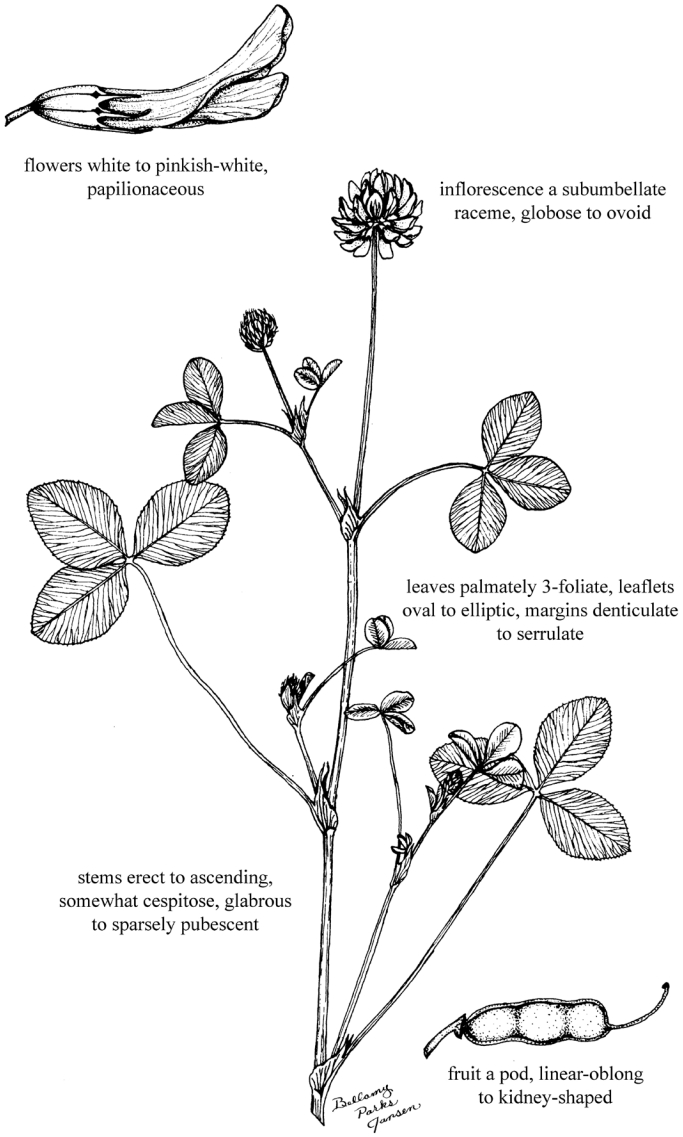
Uses and Values

Forage. It furnishes good forage for all classes of livestock.

Poisoning. Alsike clover can cause bloat. Ingestion of large quantities of alsike clover has been reported to cause photosensitivity in horses, cattle, and sheep. This condition is called trifoliosis.

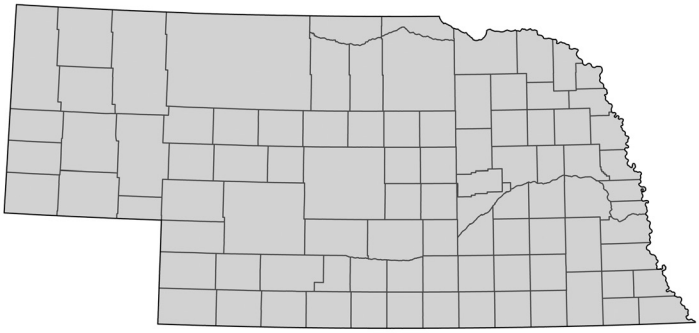
Wildlife. Deer, pronghorn, elk, and bighorn sheep eat the foliage. Birds and small mammals eat the seeds.

Ornamental. Alsike clover has little potential for an ornamental.



Alsike clover

White clover



COMMON NAME:	White clover (ladino clover, Dutch clover)
Species:	*Trifolium repens* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Introduced (from Europe)
Flowering:	May to October
Height:	2–40 cm (1–16 in)

Vegetative Characteristics

stems:	decumbent, creeping, rooting at the nodes, mat-forming; surfaces glabrous to slightly pubescent
leaves:	alternate, palmately 3-foliate; leaflets broadly elliptic to obovate (1–3 cm long, 5–20 mm wide); tips rounded to notched; margins serrulate to denticulate, both surfaces glabrous; stipules lanceolate
underground:	taproot and fibrous roots

Inflorescence Characteristics

type:	racemes, headlike (1–3 cm in diameter), axillary, globose; flowers 20–90; long-pedunculated
flowers:	white or tinged with pink corolla (7–12 mm long), papilionaceous; calyx tube cylindrical (2–3 mm long), whitish; veins 10; teeth 2–3 mm long, greenish, slightly unequal; pedicels (1–2 mm long) lengthening with age
fruits:	pods (3–6 mm long), oblong to linear; seeds 2–4
seeds:	heart- to kidney-shaped (1–1.4 mm long), yellow, smooth

Habitat

White clover grows in pastures, meadows, roadsides, lawns, and waste places. It is most common in silt and clay soils, but it can be found growing in all soil textures. It is the clover commonly found in lawns in Nebraska.

Uses and Values

Forage. White clover has excellent forage quality and palatability to all classes of livestock, but yields are generally low.

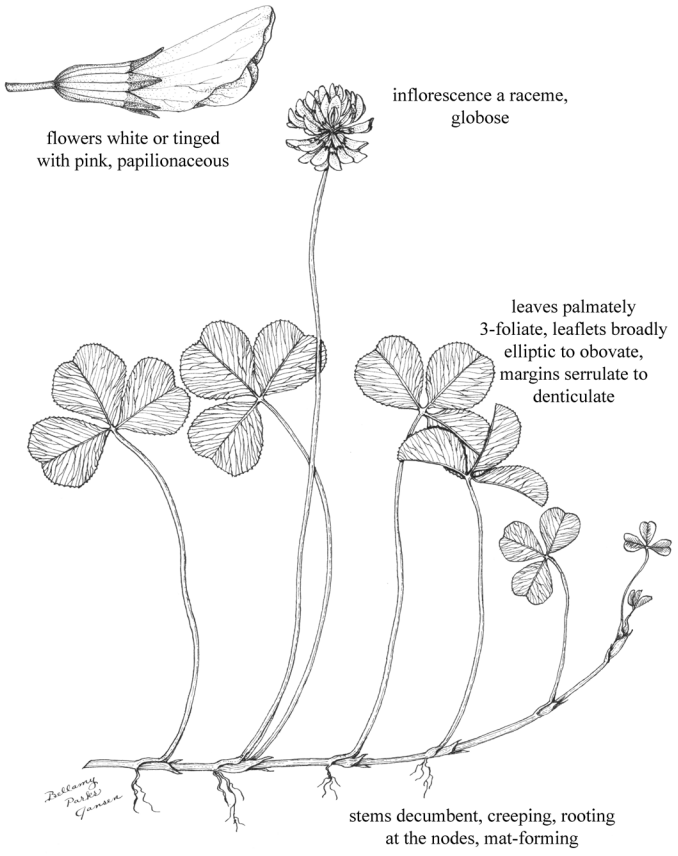
Poisoning. Bloat may occur in cattle grazing lush white clover. It contains cyanogenic glycosides, but no livestock losses have been attributed to hydrocyanic poisoning.

Wildlife. The lush, tender leaves are an important food source for many species of game birds and small mammals. The seeds are eaten by ground-foraging birds and small mammals. It attracts bees and is an excellent honey plant.

Ornamental. White clover is sometimes seeded with turf grasses or used to overseed turf grasses.

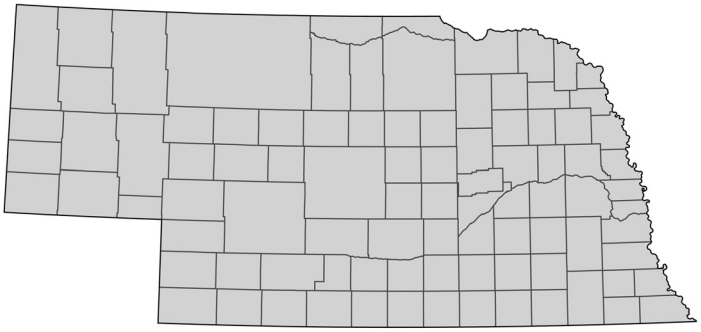
Other

Insects are necessary for pollination of white clover flowers. White clover was brought to North America by some of the first settlers. It is an important pasture legume in Europe because of its excellent forage quality and its ability to fix nitrogen.



White clover

Dandelion



COMMON NAME:	**Dandelion (common dandelion)**
Species:	*Taraxacum officinale* F.H. Wigg.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Introduced (from Eurasia)
Flowering:	March to October
Height:	2–45 cm (1–18 in)

Vegetative Characteristics

stems:	scape, hollow, 1 to few, glabrous to slightly pubescent, greenish or reddish or whitish, elongated in fruit, often villous above; contain a milky latex
leaves:	forming a basal rosette, simple, crowded; blades oblanceolate (5–30 cm long, 2–10 cm wide), variously lobed (terminal lobe usually the largest); usually glabrous above; lightly pubescent beneath and on the midvein, sometimes glabrous; contain a milky latex
underground:	taproot, deep

Inflorescence Characteristics

type:	heads (1–3 cm wide) solitary; involucre 1.5–2.5 mm tall, with 2 series of bracts; outer bracts reflexed; ray florets numerous
flowers:	yellow, showy; ray florets (1–1.5 cm long), perfect
fruits:	achenes; body slightly flattened (3–4 mm long), grayish-brown to dark brown; pappus of white capillary bristles; seeds 1
seeds:	small

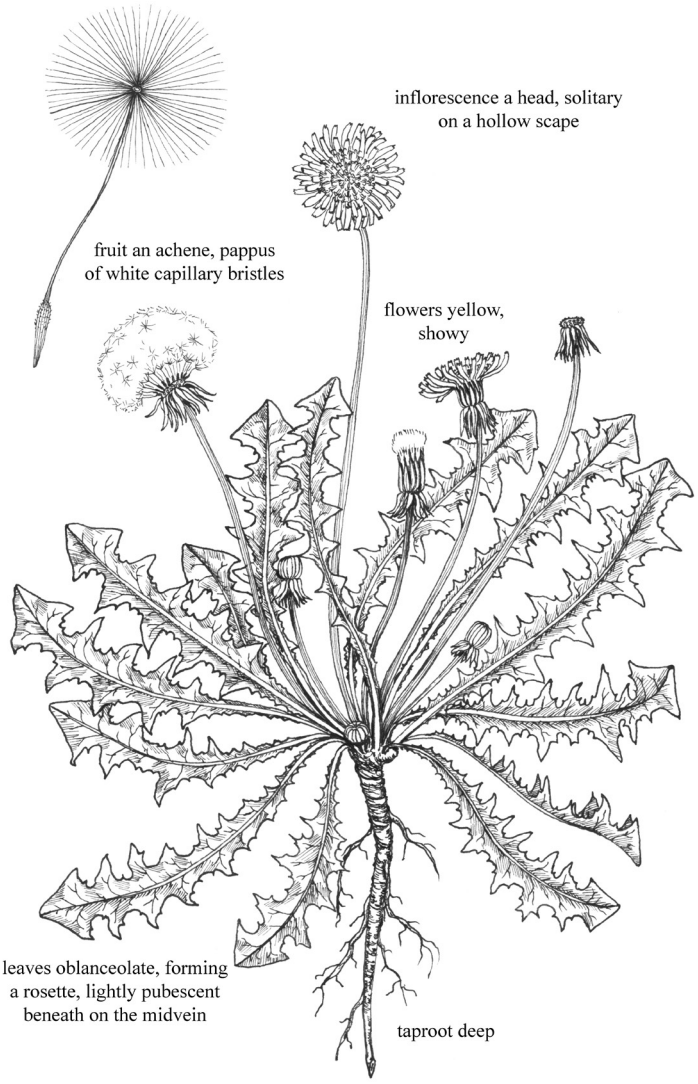
Habitat

Dandelion is common on rangelands, pastures, meadows, lawns, gardens, and waste places in all soil types. It grows between the dunes in the Sandhills, but is uncommon on the dunes. It becomes most abundant on abused pastures and rangelands, but it may also be present in lesser amounts on well managed lands.

Uses and Values

Forage. Dandelion is readily eaten by all types of livestock because it is relatively succulent. Forage quality is poor to fair. Generally, it does not occur in enough quantity to be an important forage source, except on some subirrigated meadows and other wet sites.

Poisoning. None.



Dandelion

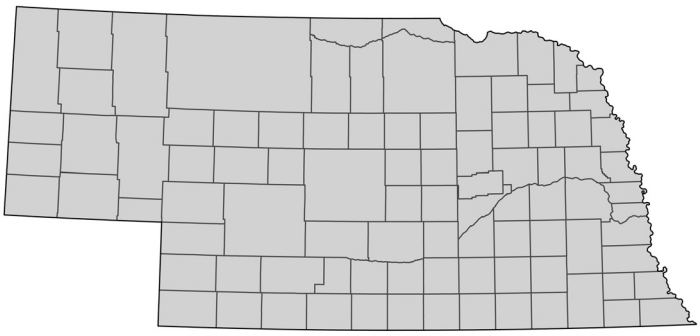
Wildlife. Its leaves are preferred by Canada geese, rabbits, small mammals wild turkeys, and deer. Dandelion heads are eaten by wild turkeys. Sharp-tailed grouse, prairie chickens, and other birds eat the seeds. Bees are attracted to the flowers, and it is considered to be an excellent honey plant.

Ornamental. Dandelion is a weed and should not be planted.

Other

Young leaves have been boiled and eaten as spring greens, roots have been used to treat heartburn and as a mild laxative. Tea and wine have been made from the flowers. Flowers can be battered, fried, and eaten. Recent DNA research indicated that some members of this species may have been native to North America, but most originated in Eurasia.

Leafy spurge



COMMON NAME:	**Leafy spurge**
Species:	*Euphorbia esula* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Introduced (from Eurasia)
Flowering:	May to September
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect, colonial, branched above, glabrous, contain a milky latex
leaves:	alternate, simple; blades linear to oblanceolate or oblong (3–10 cm long, 3–11 mm wide), acute to obtuse or rounded, wider above the middle, 1 prominent vein, drooping; margins entire; surfaces glabrous; contain a milky latex
underground:	roots deep, woody, spreading, brown; with numerous pinkish, scaly adventitious shoot buds.

Inflorescence Characteristics

type:	umbellike or racemelike groups of cyathia; each cyathium with 12–25 staminate flowers surrounding 1 pistillate flower, subtended by 2 bracts; bracts heart- to kidney-shaped (1–1.4 cm long); yellowish; peduncles 1–5 cm long
flowers:	greenish-yellow (1.5–3 mm long), unisexual; male flowers with a single stamen; female flowers with a single pistil
fruits:	capsules (2.5–3.5 mm long), tuberculate; cells 3, each cell with 1 seed
seeds:	ovoid to cylindrical (2.2–3 mm long), smooth, gray to brown, mottled

Habitat

Leafy spurge grows along irrigation ditches, roadsides, fields, pastures, open woodlands, shelterbelts, waste places, disturbed sites, rangelands, and especially subirrigated meadows.

Uses and Values

Forage. Leafy spurge aggressively invades rangeland and has no forage value for cattle. Forage quality for sheep and goats is poor to fair.

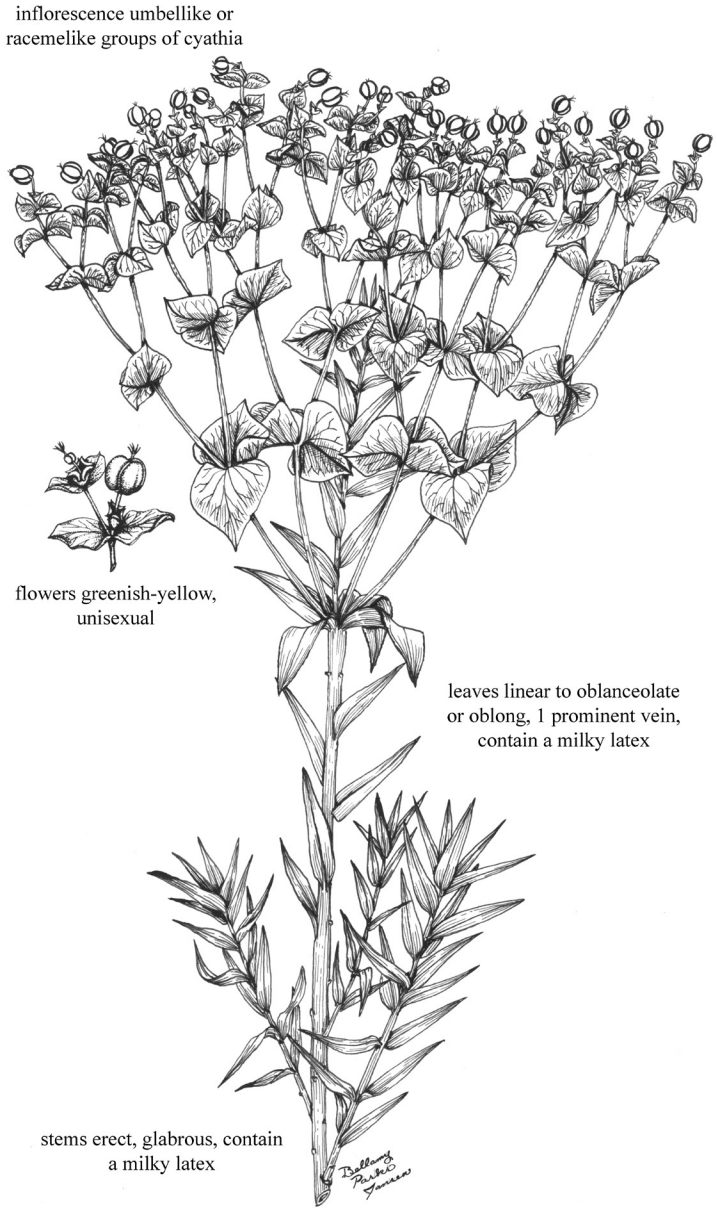
Poisoning. Leafy spurge is considered toxic to cattle, but it is rarely eaten. However, sheep may eat it with little or no harm following an acclimation period when intake of leafy spurge is controlled for a week to ten days before the animals are given unrestricted access to these plants.

Wildlife. The seeds are eaten by ground-foraging birds and small mammals.

Ornamental. This aggressive weed and should not be planted as an ornamental.

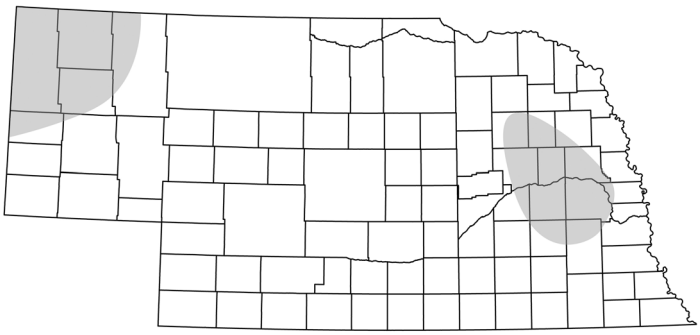
Other

Leafy spurge is a noxious weed in Nebraska and is the target of a vigorous control program. This plant aggressively spreads by seeds and rhizomes. Effective control measures are very difficult to achieve. Biological control with insects introduced from its native environment in Eurasia has provided some control assistance. Cypress spurge (*Euphorbia cyparissias* L.) is another perennial spurge and is scattered in the eastern one-third of Nebraska. Originally planted as an ornamental, it may be found in yards, cemeteries, and roadsides. Its leaves are only 1–3 cm long, and the plants are shorter than leafy spurge.



Leafy spurge

Russian knapweed



COMMON NAME:	Russian knapweed
Species:	*Centaurea repens* L.
Growth Form:	Forb
Life Span:	Perennial
Origin:	Introduced (from Eurasia)
Flowering:	June to September
Height:	0.2–1 m (0.6–3.3 ft)

Vegetative Characteristics

stems:	erect, few to many, openly branched, branches ascending, surfaces finely tmentose; usually many in dense colonies
leaves:	alternate, simple; basal blades petiolate, deeply lobed or pinnatifid (5–10 cm long, 1–2.5 cm wide); upper blades sessile, linear to oblanceolate (1–4 cm long), tips gradually pointed, margins entire or denticulate; sessile
underground:	rhizomes, deep, spreading, black; producing many adventitious shoots

Inflorescence Characteristics

type:	corymblike or paniclelike or solitary heads; heads, ovate (1–2 cm in diameter), terminal and on leafy branches, numerous; involucre of several series of bracts; bracts ovoid (9–15 mm long), pale, tips rounded with a point, with papery margins; margins entire or finely ciliate
flowers:	pink to purplish disk florets (1.2–1.3 cm long), numerous
fruits:	achenes (3–3.5 mm long), whitish, slightly ridged; pappus of bristles (6–11 mm long); seeds 1
seeds:	small

Habitat

Russian knapweed grows on abused rangelands, pastures, waste areas, fence rows, and roadsides. It is extremely aggressive and difficult to control.

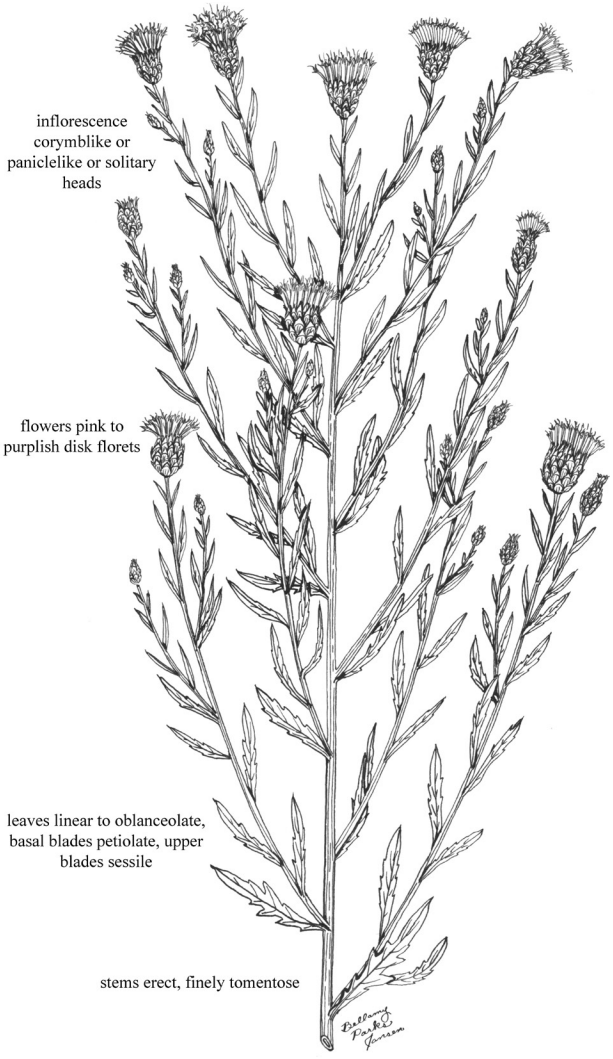
Uses and Values

Forage. Russian knapweed is not grazed by livestock because of its bitter taste.

Poisoning. Plants of this genus have been thought to cause "chewing disease", a nervous syndrome in horses. It is not a serious concern because the horses must ingest 50–150% of their weight of plant material in 1–3 months before the condition occurs.

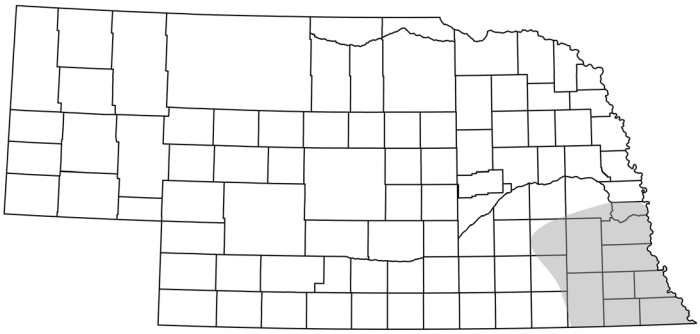
Wildlife. Deer, pronghorn, and elk may lightly graze the plants.

Ornamental. This plant is an aggressive weed and should not be planted. There are about 450 species in the genus *Centaurea* and many are not problematic. For example, bachelor buttons (*Centaurea cyanus* L.) is a popular garden flower.



Russian knapweed

Sericea lespedeza



COMMON NAME:	**Sericea lespedeza (sericea, Chinese bushclover, Chinese lespedeza)**
Species:	*Lespedeza cuneata* (Dum. Cours) G. Don
Growth Form:	Forb
Life Span:	Perennial
Origin:	Introduced (from Asia)
Flowering:	July to October
Height:	0.5–2 m (1.6–6.6 ft)

Vegetative Characteristics

stems:	erect, straight, slender, branches numerous, pubescent in lines on ridges; mature stems somewhat woody
leaves:	alternate, blades pinnately 3-foliate; leaflets cuneate (1–2.5 cm long), erect or ascending, tips round to flat with a mucro, upper surface glabrous to pubescent, lower surface pubescent; petioles reduced upward (1–5 mm long)
underground:	taproot

Inflorescence Characteristics

type:	clusters of 2–4 flowers, sometimes solitary, axillary
flowers:	white or cream to yellowish-white, marked with purple or pink along the veins of the banner petal (6–9 mm long), petals 5, papilionaceous; calyx tube silky (0.5–1 mm long), teeth 5; teeth lance-subulate (3–5 mm long)
fruits:	pods, oval (2.5–3.5 mm long), flattened, brown to olive, glabrate or with appressed pubescence; seeds 1
seeds:	ellipsoid to ovoid (1.5–2.5 mm long), slightly flattened, brown to olive, often mottled with brown

Habitat

Sericea lespedeza grows in prairies, grasslands, abandoned fields, roadsides, open woodlands, and waste places. It is most common in well-drained soils.

Uses and Values

Forage. Forage quality of sericea lespedeza is low and little is eaten by livestock.

Poisoning. It contains relatively high levels of tannins which do not poison, but they reduce forage digestibility.

Grassland Seeding. It should never be included in grassland seedings. This weed spreads rapidly and is difficult to control

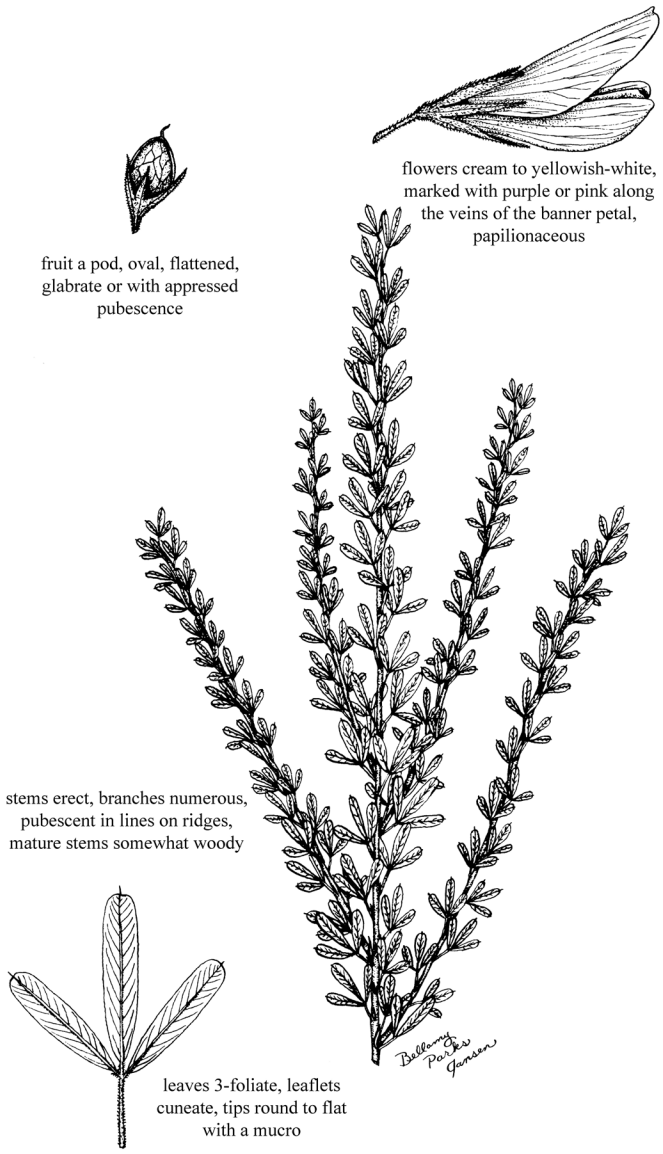
Prairie Restoration. Sericea lespedeza is not a native species and should not be included in prairie restorations.

Wildlife. The foliage may be lightly grazed by deer, rabbits, and wild turkeys. Seeds are eaten by quail and other birds.

Ornamental. Sericea lespedeza is a pernicious weed and should never be planted as an ornamental.

Other

It was introduced into the southern United States in the 1800s for forage. It has spread rapidly as a contaminant in grass seed and was included in early conservation plantings. Sericea lespedeza is highly competitive and is a serious, difficult to control weed in prairies. Seeds remain viable in the soil for more than 20 years. When found, sericea lespedeza should be the target of an aggressive control program.



Sericea lespedeza

Introduced Biennial Forbs

Common mullein

Poison hemlock

Red clover

Spotted knapweed

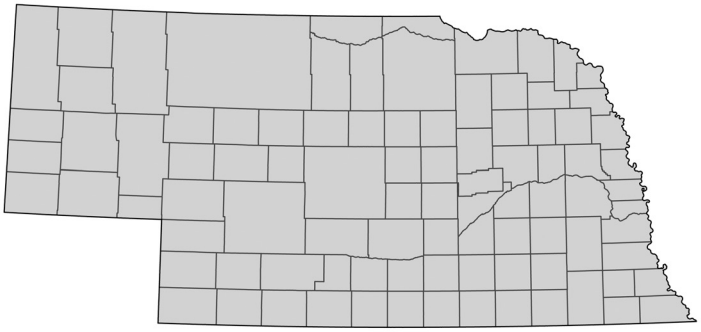
Bull thistle

Musk thistle

Western salsify

Yellow sweetclover

Common mullein



COMMON NAME:	Common mullein
Species:	*Verbascum thapsus* L.
Growth Form:	Forb
Life Span:	Biennial
Origin:	Introduced (Eurasia)
Flowering:	June to September
Height:	0.3–2.2 m (1–7.2 ft)

Vegetative Characteristics

stems:	erect, stout, unbranched or a few upright branches near the top, winged by decurrent leaf bases; surfaces covered with woolly hairs (feltlike)
leaves:	alternate, simple; rosette blades obovate to oblanceolate (8–45 cm long, 3–15 cm wide), tips rounded, margins entire to somewhat shallowly crenate, surfaces woolly tomentose (feltlike), sessile; stem blades smaller and more pointed, bases decurrent; sessile
underground:	taproot

Inflorescence Characteristics

type:	spike or spikelike panicle, cylindrical, dense, terminal
flowers:	pale yellow to sulfur yellow corolla (2–3 cm in diameter), lobes 5; calyx lobes 5, lanceolate (6–12 mm long); short woody pedicels or without pedicels
fruits:	capsules, globose to broadly ovoid (6–10 mm long), pubescent; style persistent; cells 2; seeds many
seeds:	cylindrical (0.7–0.8 mm in diameter), surfaces with many ridges and grooves, brown

Habitat

Common mullein is less common in the southern Panhandle and southwestern parts of the state. It grows on abused pastures and rangelands, waste places, and roadsides. It is most common in sandy and gravelly soils. It can be locally abundant and an aggressive weed.

Uses and Values

Forage. Common mullein is not grazed by cattle.

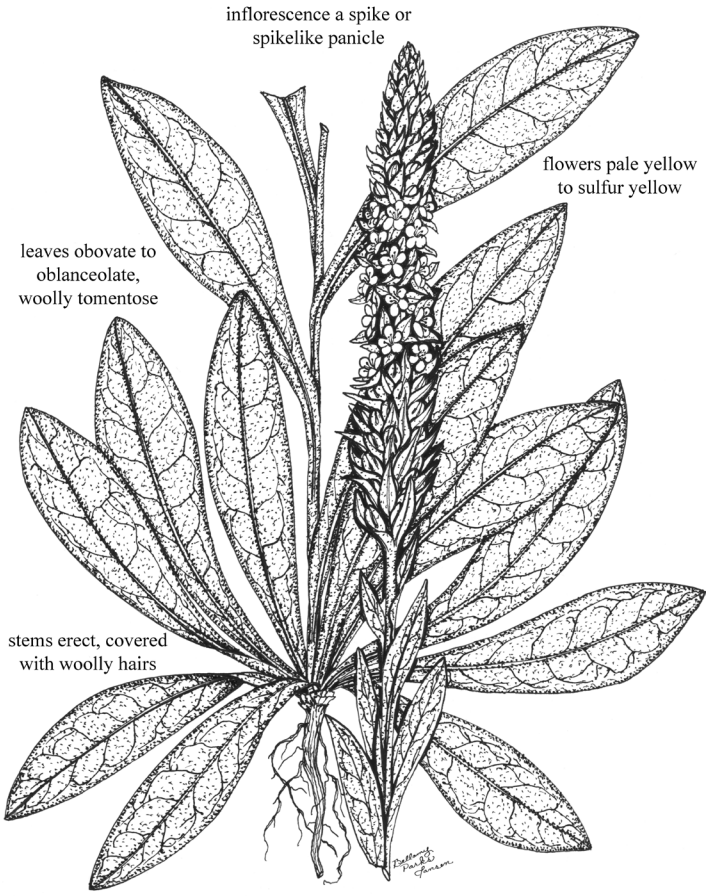
Poisoning. None.

Wildlife. Big game animals rarely graze common mullein. Songbirds eat the seeds. It attracts bees.

Ornamental. Common mullein has been marketed as a "deer proof" horticultural plant. It should not be planted in Nebraska because it can rapidly spread.

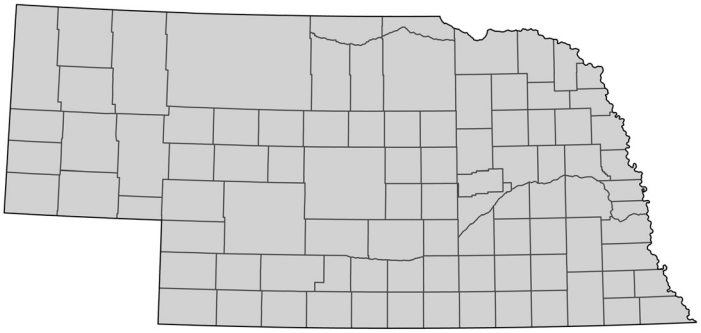
Other

Tea made from leaves was used in Europe as a sedative. A combination of dried flowers and roots was smoked for relief from asthma.



Common mullein

Poison hemlock



COMMON NAME:	Poison hemlock (hemlock, poison parsley)
Species:	*Conium maculatum* L.
Growth Form:	Forb
Life Span:	Biennial
Origin:	Introduced (from Europe)
Flowering:	May to July
Height:	0.5–3 m (1.6 to 9.8 ft)

Vegetative Characteristics

stems:	erect, stout, highly branched, distinctly ridged, glabrous with purple blotches, hollow between nodes
leaves:	alternate (may be opposite above), once- or twice-pinnately compound; fernlike (15–30 cm long, 5–30 cm wide), divided into lobes of oblong to lanceolate leaflets; each leaflet is toothed to pinnately divided; surfaces glabrous; lower petioles long and sheathing; upper petioles shorter
underground:	taproot

Inflorescence Characteristics

type:	umbel (4–7 cm wide), compound, numerous; rays 8–20, unequal; involucre of 3–6 bracts; bracts unequal; ovate- to lance-attenuate bractlets distributed toward the outside of the umbellet
flowers:	white corolla, showy, petals 5 (1–1.5 mm long); petals notched; sepals obsolete
fruits:	schizocarp, ovoid (2–4 mm long), flattened, prominently ribbed, grayish-brown; mericarps 2; seeds 1 per mericarp
seeds:	mericarps oblanceolate, flattened to concave

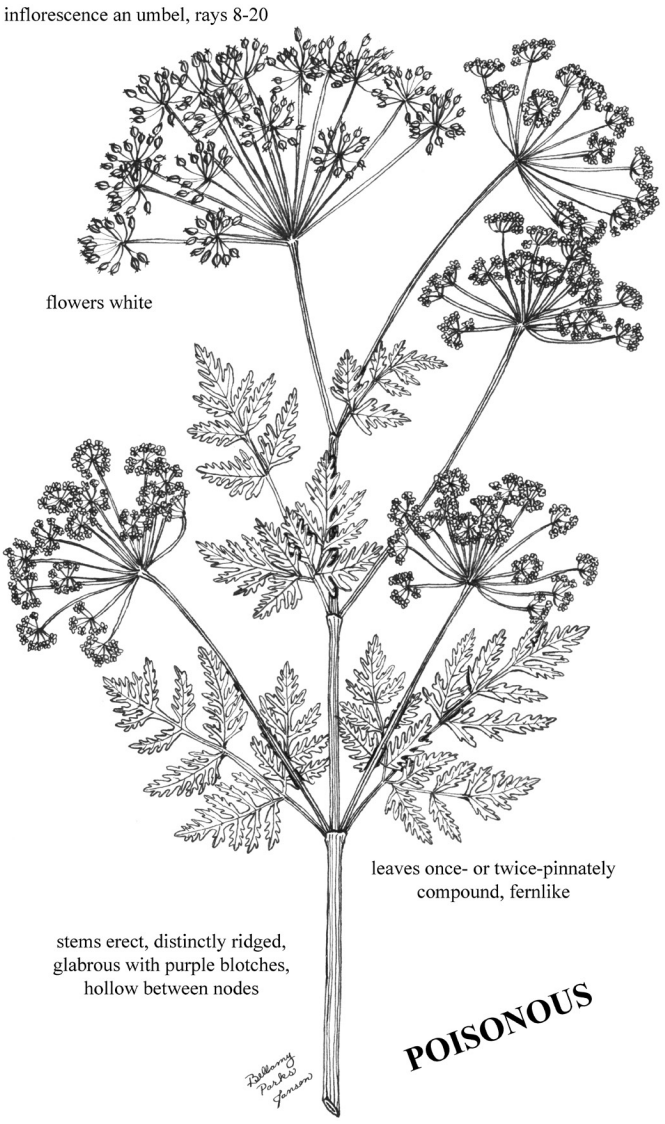
Habitat

Poison hemlock is more common in central and eastern Nebraska and less common in the Panhandle. It grows in moist soils of rangelands, pastures, meadows, floodplains, roadsides, and disturbed sites.

Uses and Values

Forage. Poison hemlock is extremely poisonous. It has no forage value because animals rarely eat it.

Poisoning. Ingestion of as little as 0.25 to 0.3 percent of an animal's body weight of poison hemlock is lethal. The stems are less poisonous than the rest of the plant. Poison hemlock contains several alkaloids. Symptoms of poisoning start with weakness and coldness in the lower extremities followed by pupil dilation, weak slow heartbeat, coma, and death. Few animals are poisoned because its palatability is



Poison hemlock

low. Children have been poisoned by poison hemlock after using the hollow stem for whistles and peashooters. Adults are poisoned by mistaking it for parsley or wild dill and using it as a spice. The foliage has a strong, distinct parsnip odor.

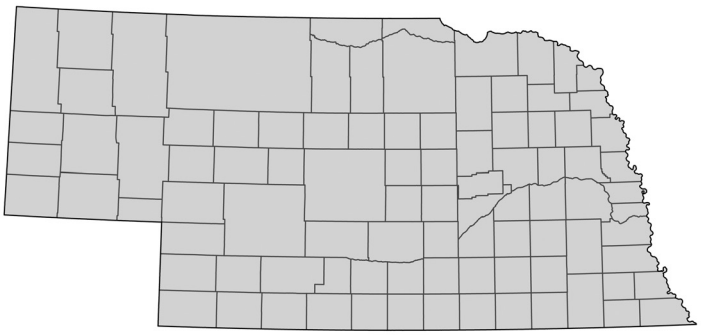
Wildlife. The seeds are eaten by songbirds and small mammals.

Ornamental. Since it is highly poisonous, it is rarely grown as an ornamental.

Other

Stories in folklore say that poison hemlock was used to put Socrates to death.

Red clover



COMMON NAME:	Red clover
Species:	*Trifolium pratense* L.
Growth Form:	Forb
Life Span:	Biennial
Origin:	Introduced (from Europe)
Flowering:	May to October
Height:	0.2–1 m (0.6 to 3.3 ft)

Vegetative Characteristics

stems:	erect to ascending, several, cespitose, simple or short-branched, sparingly to densely appressed-pubescent
leaves:	alternate, palmately 3-foliate; leaflets ovate to broadly elliptic (2–5 cm long, 1–3.5 cm wide), marked above with a darker green crescent or inverted "V" (fading on drying), pubescent on both surfaces, tips obtuse (rarely retuse); margins finely serrate on youngest leaflets, older leaflets entire; lower leaves with long petioles, upper leaves sessile; petiolules 1–1.5 mm long; stipules ovate to ovate-lanceolate, bristle-tipped
underground:	taproot, long

Inflorescence Characteristics

type:	spikes, headlike, terminal on stems and branches, globose or round-ovoid (1.5–4 cm long, 2–2.5 cm wide), flowers 30–90, subtended by a pair of reduced leaves, sessile or on peduncles to 2 cm long
flowers:	rose to purplish-pink (rarely white) corolla (1.2–2 cm long), papilionaceous; banner ovate oblong, equaling or slightly exceeding the wings; calyx tube (3–4.6 mm long) whitish, veins 10; teeth unequal, green
fruits:	pods, ovoid to oblong (2–3 mm long, about 2 mm wide), thickened above, seeds 1 (rarely 2)
seeds:	ellipsoid (1.5–2 mm long) with a slight lateral lobe, yellowish-brown to green, mottled with purple, smooth

Habitat

Red clover is found in pastures, hay meadows, prairies, roadsides, lawns, rangelands, and disturbed areas where it has escaped from plantings. It grows best on fertile fine-textured soils.

Uses and Values

Forage. Red clover produces high quality hay and is palatable to all classes of livestock. It is grazed by cattle, horses, and sheep. Red clover is sometimes used in mixtures for cover crops.

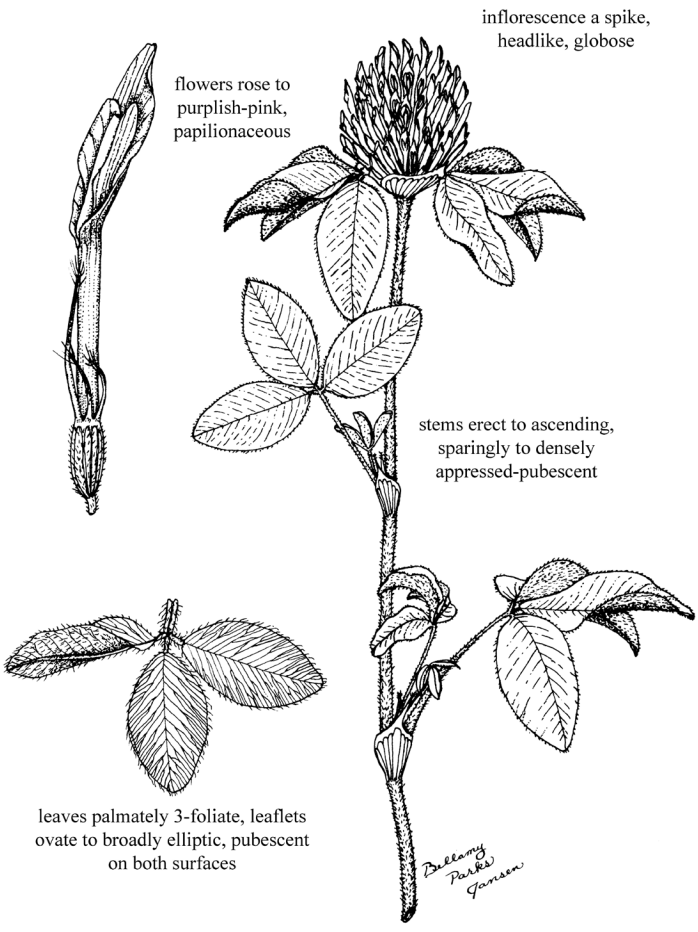
Poisoning. Second cutting or late season hay may produce a syndrome in livestock characterized by slobbering. It may progress to bloating, stiffness of gait, decreased milk flow, and diarrhea. Symptoms soon stop after animals consume different hay. Also, it has been reported to cause photosensitization.

Wildlife. Red clover forage is eaten by deer, pronghorn, and elk.

Ornamental. It is not grown as an ornamental.

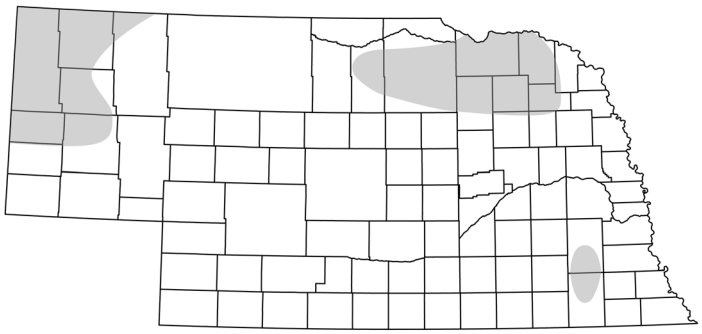
Other

Dried flowers were used in past centuries to treat whooping cough and ulcers in Europe.



Red clover

Spotted knapweed



COMMON NAME:	Spotted knapweed
Species:	*Centaurea stoebe* L. [= *Centaurea biebersteinii* DC; *Centaurea maculosa auct. non* Lam.]
Growth Form:	Forb
Life Span:	Biennial
Origin:	Introduced (Eurasia)
Flowering:	June to September
Height:	0.3–1.2 m (0.9–3.7 ft)

Vegetative Characteristics

stems:	erect or ascending, 1 to several, branching above, branches ascending, ridged, tomentose
leaves:	alternate, simple; basal and rosette blades narrowly elliptic to oblanceolate, usually once- or twice-pinnately parted or remotely dentate to entire, petiolate; petioles withering by flowering; stem blades (2–4 cm long) 1- or 2-times deeply pinnatifid, divided into remote and narrow segments (1–3 mm wide); upper blades entire (1–2 cm long); surfaces nearly glabrous to tomentose; sessile
underground:	taproot, stout

Inflorescence Characteristics

type:	corymblike or paniclelike; heads (8–25 mm in diameter) solitary, terminal on branches; disk 5–26 mm in diameter; involucre pale (1–1.5 cm tall); bracts ovate with firm points and 5–7 pairs of cilia (comblike), tips dark; innermost bracts entire or fringed, no spine at the bract tip
flowers:	pink to purple or rarely white disk florets of two kinds; marginal florets enlarged, sterile, falsely radiate (about 1.5 cm long); central florets not enlarged
fruits:	achenes (2.5–3.5 mm long), notched on one side of the base, brown to black; pappus a short tuft of bristles (2–3.5 mm long); seeds 1
seeds:	small

Habitat

Spotted knapweed is most common in sandy soils of rangelands, pastures, meadows, and roadsides.

Uses and Values

Forage. Spotted knapweed is a serious weed in pastures and rangelands. It has a bitter taste and has no forage value for livestock.

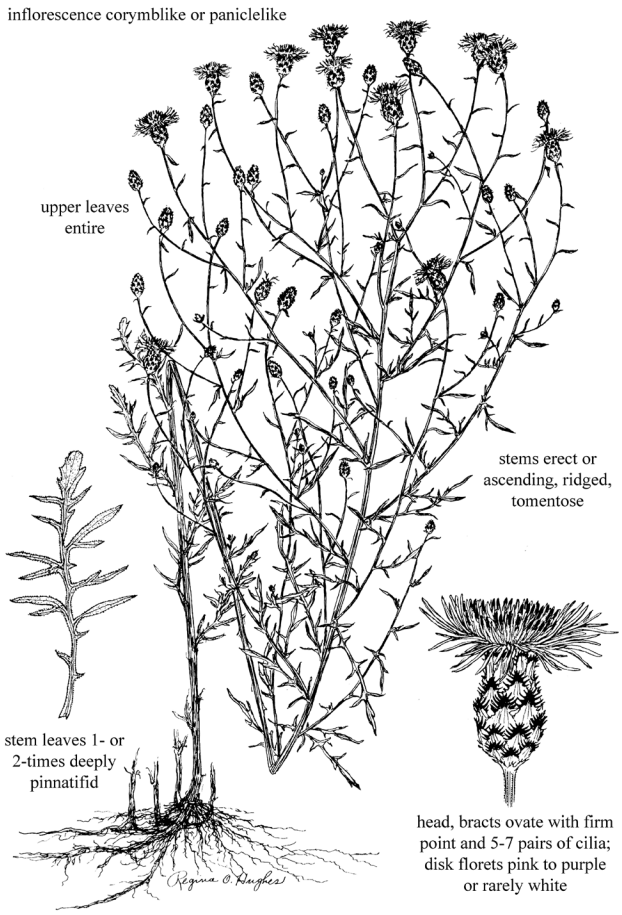
Poisoning. Plants of this genus have been thought to cause "chewing disease," a nervous syndrome in horses. It is not a serious concern because the horses must ingest 50–150% of their weight of plant material in 1–3 months before the condition occurs.

Wildlife. It is sometimes grazed by deer.

Ornamental. This aggressive weed should not be planted.

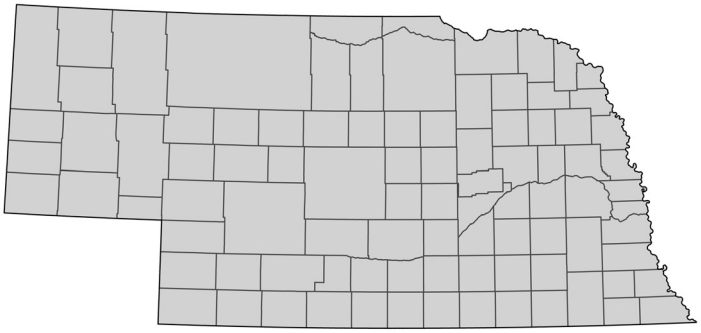
Other

Spotted knapweed is classified as a noxious weed in Nebraska. Diffuse knapweed (*Centaurea diffusa* Lam.) is another biennial noxious weed with purple, white, or pink flowers. The involucral bracts of diffuse knapweed are not dark-tipped and they do not have a terminal spine. Also, the florets are all the same size. Yellow starthistle (*Centaurea solstitialis* L.) is another biennial and can be distinguished from the other members of this genus by its yellow flowers and involucral bracts with spines (1–2.5 cm long). All can be troublesome weeds and should be subjects of an aggressive weed control effort.



Spotted knapweed

Bull thistle



COMMON NAME:	**Bull thistle (common thistle)**
Species:	*Cirsium vulgare* (Savi) Tenore
Growth Form:	Forb
Life Span:	Biennial
Origin:	Introduced (from Eurasia)
Flowering:	July to September
Height:	0.5–2 m (1.6–6.6 ft)

Vegetative Characteristics

stems: erect, many spreading branches, green to brownish, slightly hairy with cobwebby hairs; wings irregular, winged with long-decurrent leaf bases, spiny at least on the upper portion; not colonial

leaves: alternate, simple; rosette blades elliptic to ovate (12–30 cm long, 3–15 mm wide), unlobed to pinnately lobed (4 to 6 pairs); margins toothed and tipped with spines (1–10 mm long), petiole winged; stem blades similar to rosette blades only smaller and with spines up to 1.7 cm long; blades becoming progressively smaller upwards; all leaves green, with appressed yellowish prickles above, gray-green villous below; bases decurrent

underground: taproot, fleshy

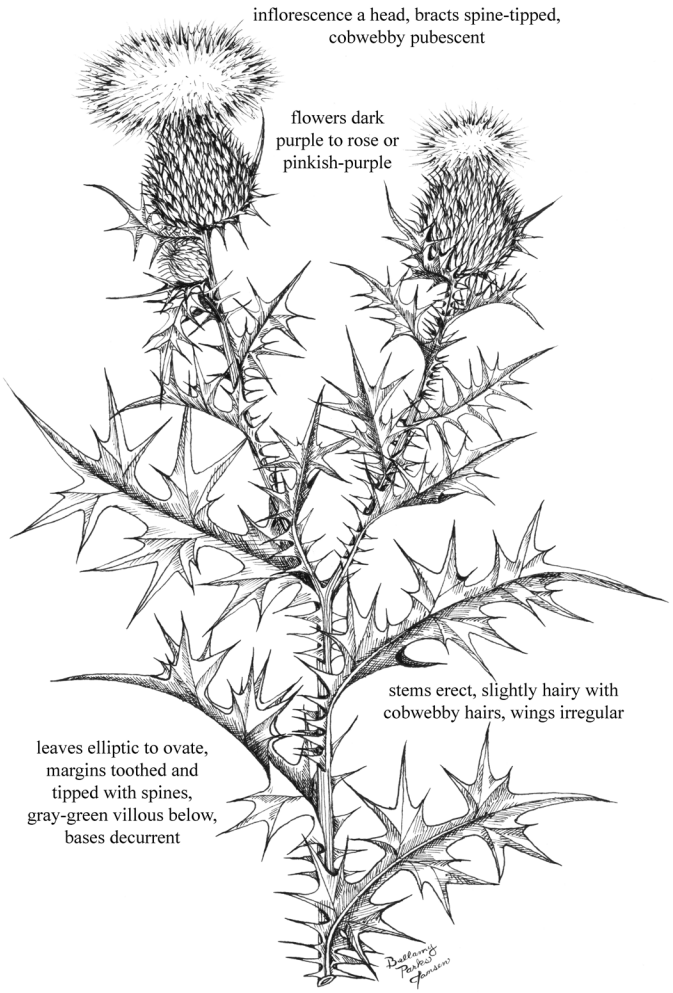
Inflorescence Characteristics

type: heads (2–4 cm tall, 2–5 cm wide), solitary, terminal, numerous, appearing clustered; involucre (2.5–4 cm tall) with 5–8 series of bracts; bracts lanceolate (7–30 mm long, 1–2 mm wide), cobwebby pubescent, spine-tipped, without prominent glandular dorsal ridges

flowers: dark purple to rose or pinkish-purple corolla (rarely white); disk florets 2.5–3.5 cm long

fruits: achenes, oblong (3–4 mm long, 1.3–1.6 mm wide), white to pale yellow with brown or black streaks, ridged around one end, curved; pappus of white bristles (1.5–3 cm long), plumose, deciduous; seeds 1

seeds: small



Bull thistle

Habitat

Bull thistle grows on rangelands, pastures, meadows, and disturbed sites.

Uses and Values

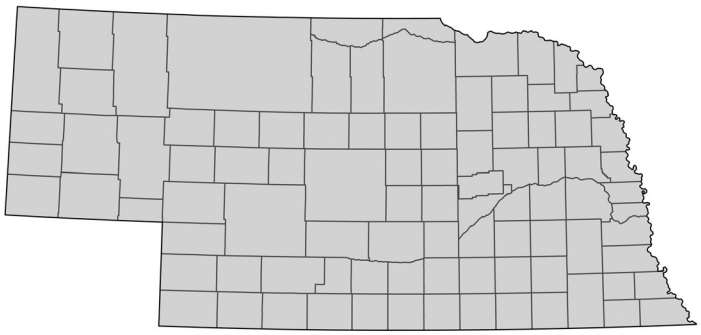
Forage. Bull thistle is a weed and has little or no forage value. Cattle and horses may eat the flowers.

Poisoning. None.

Wildlife. Songbirds and small mammals eat the fruits.

Ornamental. Bull thistle should not be planted in Nebraska because it can rapidly spread and become an aggressive weed.

Musk thistle



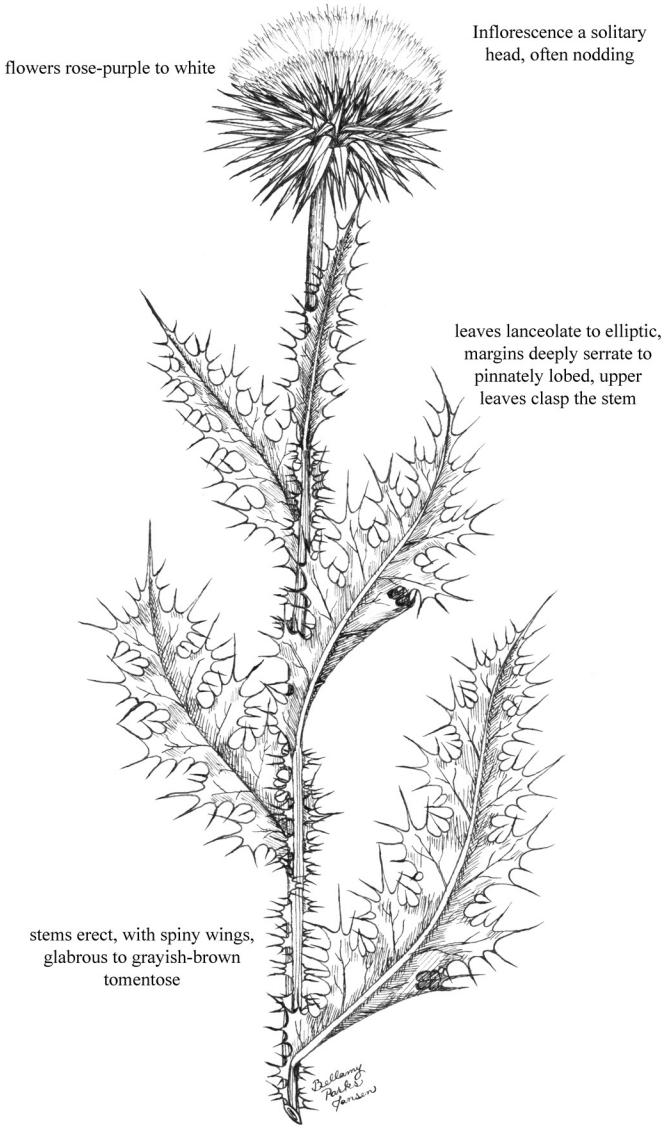
COMMON NAME:	Musk thistle (nodding thistle)
Species:	*Carduus nutans* L.
Growth Form:	Forb
Life Span:	Biennial
Origin:	Introduced (Eurasia)
Flowering:	May to July
Height:	0.5–3 m (1.6–10 ft)

Vegetative Characteristics

stems:	erect, highly branched, with spiny wings (0.5–2.0 cm wide), glabrous to grayish-brown tomentose
leaves:	alternate, simple; rosette blades lanceolate to elliptic (5–22 cm long, 1.5–9 cm wide); margins deeply serrate to pinnately lobed (lobes often white); surfaces mostly glabrous; veins extending past margins as spines; upper stem blades (1–15 cm long) like rosette blades except clasping the stem
underground:	taproot fleshy, stout

Inflorescence Characteristics

type:	heads solitary, globose (3–7 cm in diameter), terminal, often nodding; heads 1–2 on upper branches, heads 2–9 on lower branches; outer involucral bracts (1.5–4.5 cm long, 5–7 mm wide); middle involucral bracts with a constriction
flowers:	rose-purple to white disk florets (2–4.5 cm tall), developing from the outer edge to the center
fruits:	achenes (3–5 mm long), yellowish-brown, one edge straight and the other curved; pappus of white bristles (1.5–2.5 cm long); seeds 1
seeds:	small



Musk thistle

Habitat

Musk thistle is widespread throughout Nebraska, but it is reduced to isolated pockets in the Sandhills. It is abundant to sparse on pastures, rangelands, open woodlands, and fertile lowlands.

Uses and Values

Forage. Musk thistle is a serious weed on pastures and rangelands and has no forage value for livestock. These plants will form dense stands, serving as a barrier to the grazing of other forage plants.

Poisoning. None.

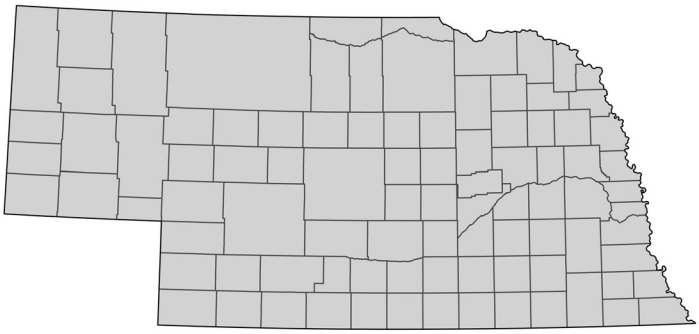
Wildlife. Big game animals rarely graze musk thistle. Songbirds eat the seeds and butterflies are frequent visitors.

Ornamental. This aggressive weed should not be planted.

Other

Musk thistle is classified as a noxious weed in Nebraska and should be immediately controlled upon discovery. Seeds germinate in the fall forming a rosette of leaves. It flowers the following summer. Musk thistle was introduced as an ornamental in California from Eurasia and is now widely established throughout North America. 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. Plumeless thistle (*Carduus acanthoides* L.) is closely related to musk thistle and also is classified as a noxious weed in Nebraska. Plumeless thistle leaves are more deeply serrate than musk thistle leaves, and they are pubescent on the lower side. The peduncles of plumeless thistle are winged, and the heads rarely nod.

Western salsify



COMMON NAME:	**Western salsify (yellow salsify, yellow goatsbeard)**
Species:	*Tragopogon dubius* Scop.
Growth Form:	Forb
Life Span:	Biennial
Origin:	Introduced (Eurasia)
Flowering:	May to July
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect, sparsely branching; branches ascending, unevenly woolly pubescent when young, nearly glabrous when older; contain a white latex
leaves:	alternate, simple; blades long-linear (to 30 cm long), tapering from the base; somewhat grasslike
underground:	taproot long, thick

Inflorescence Characteristics

type:	heads solitary (to 5.5 cm in diameter), terminal on long peduncles; involucre (2.5–4 cm tall) with 1 series of 8–16 linear bracts, longer than the outer florets
flowers:	yellow ray florets (2–3 cm long), all fertile, long-exserted
fruits:	achenes (2.5–3.5 cm long), terete or angled, veins 5–10, brown, tapering to a stout beak; pappus of dirty white colored bristles; seeds 1
seeds:	small

Habitat

Western salsify is found in rangelands, pastures, meadows, roadsides, and waste places in all types of soil.

Uses and Values

Forage. It is grazed occasionally by livestock when it is immature, however, it is rarely grazed when it is mature and produces little forage.

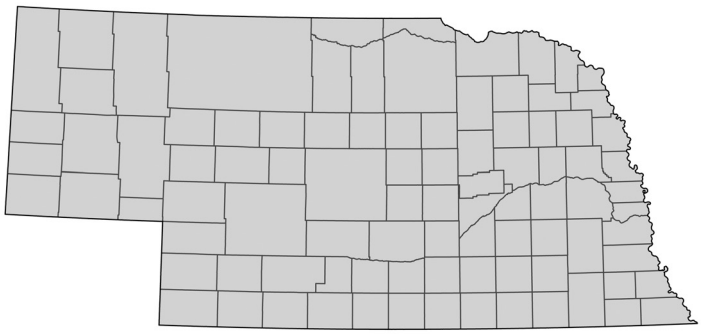
Poisoning. None.

Wildlife. Pronghorn and bighorn sheep graze the foliage. Prairie chickens and sharp-tailed grouse eat the fruits.

Ornamental. Western salsify is drought tolerant and occasionally has been planted as an ornamental.

Western salsify

Yellow sweetclover



COMMON NAME:	Yellow sweetclover
Species:	*Melilotus officinalis* (L.) Lam.
Growth Form:	Forb
Life Span:	Biennial (rarely annual)
Origin:	Introduced (from Eurasia)
Flowering:	May to October
Height:	0.5–2.5 m (1.6–8.2 ft)

Vegetative Characteristics

stems:	erect to ascending, highly branched, glabrous to sparsely pubescent
leaves:	alternate, pinnately 3-foliate; leaflets oblanceolate to obovate (1–2.5 cm long, 0.5–2 cm wide), margins toothed at the tip and along the sides, both surfaces glabrous; stipules lance-attenuate
underground:	taproot

Inflorescence Characteristics

type:	raceme (5–15 cm long including the peduncle), spikelike, axillary, flowers 30 to 70
flowers:	yellow corolla (4.5–7 mm long); papilionaceous, banner about equaling the wings; calyx bell-shaped (1.8–2.8 mm long)
fruits:	pods (2.5–5 mm long, 2–2.5 mm wide), cross-veined, brown to tan at maturity; seeds 1
seeds:	kidney- to heart-shaped (2 mm long), yellowish-green to brown, smooth

Habitat

Yellow sweetclover grows in rangelands, pastures, meadows, fields, waste places, and along roadsides. It grows in all types of soil and is sometimes planted for forage or soil improvement.

Uses and Values

Forage. Yellow sweetclover is eaten by livestock and has fair forage quality. It responds to timing and amount of precipitation. It is not dependable and while it may be an important forage some years, it might only be present in small amounts in other years. Yellow sweetclover is sometimes used in mixtures for cover crops.

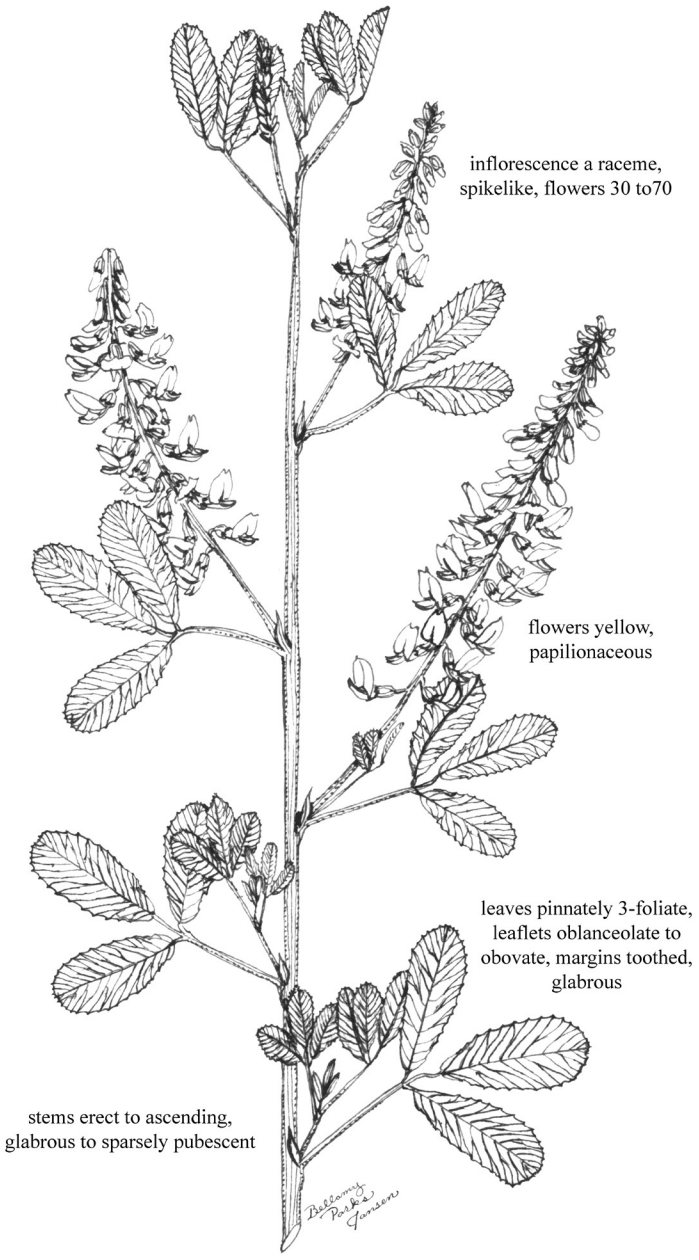
Poisoning. Sweetclover poisoning may occur in livestock after ingesting moldy hay. Coumarin in sweetclover is converted to dicoumarol during heating and spoilage. Dicoumarol prevents coagulation of blood, and animals may die of internal bleeding. A similar substance is used in many rat and mouse poisons.

Wildlife. It is eaten by pronghorn, deer, elk, and bighorn sheep. Ground-foraging birds and small mammals eat the seeds. It attracts grasshoppers which are eaten by upland gamebirds. It attracts bees and is an excellent honey plant.

Ornamental. Yellow sweetclover has few applications in ornamental plantings.

Other

Yellow sweetclover was recommended by Hippocrates (4th century B.C.) for external treatment of inflamed and swollen body parts and internal treatment of intestinal and stomach ulcers. It was first reported in North America in 1739. White sweetclover (*Melilotus alba* Medik.), is nearly identical except that it has white flowers. It may also be taller (to 3 m), and the flowers are 4–5 mm long.



Yellow sweetclover

Introduced Annual Forbs

Black medic

Hairy vetch

Kochia

Lambsquarters

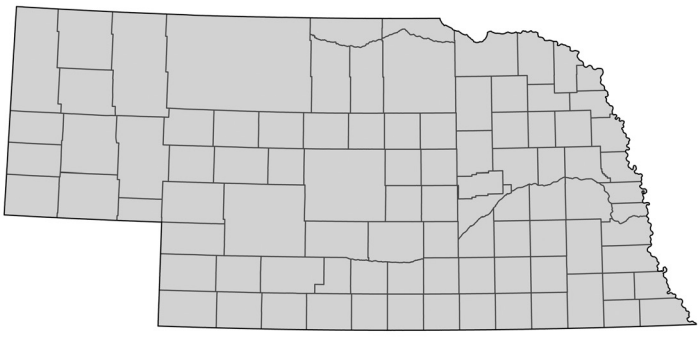
Marijuana

Pepperweed

Russian thistle

Tumbling mustard

Black medic



COMMON NAME:	**Black medic (hopmedic, yellow trefoil)**
Species:	*Medicago lupulina* L.
Growth Form:	Forb
Life Span:	Annual (or short-lived perennial)
Origin:	Introduced (from Europe)
Flowering:	April to October
Height:	Prostrate with stems 0.1–0.8 m (0.3–2.6 ft) long

Vegetative Characteristics

stems:	prostrate to ascending; surfaces glabrous to having long, soft hairs
leaves:	alternate, pinnately 3-foliate; leaflets elliptic to obovate (1–2 cm long, 5–10 mm wide), usually with a short and abrupt tip; margins minutely toothed on upper one-half; glabrous to sparsely pubescent or villous; petioles 0–3 cm long; stipules lanceolate
underground:	taproot

Inflorescence Characteristics

type:	raceme (4–15 mm long), headlike, clustered, densely flowered; flowers 10–50; peduncles slender, exceeding the subtending leaves by 1–4-times
flowers:	yellow corolla (2–4 mm long), papilionaceous; calyx bell-shaped (1–1.7 mm long), teeth nearly equal
fruits:	pods, kidney-shaped (2–3 mm long), not enclosed in the calyx, nearly black at maturity, conspicuous longitudinal veins; seeds 1
seeds:	kidney-shaped (1.5–2 mm long), olive to brown or black

Habitat

Black medic grows in meadows, pastures, rangelands, roadsides, gardens, and lawns.

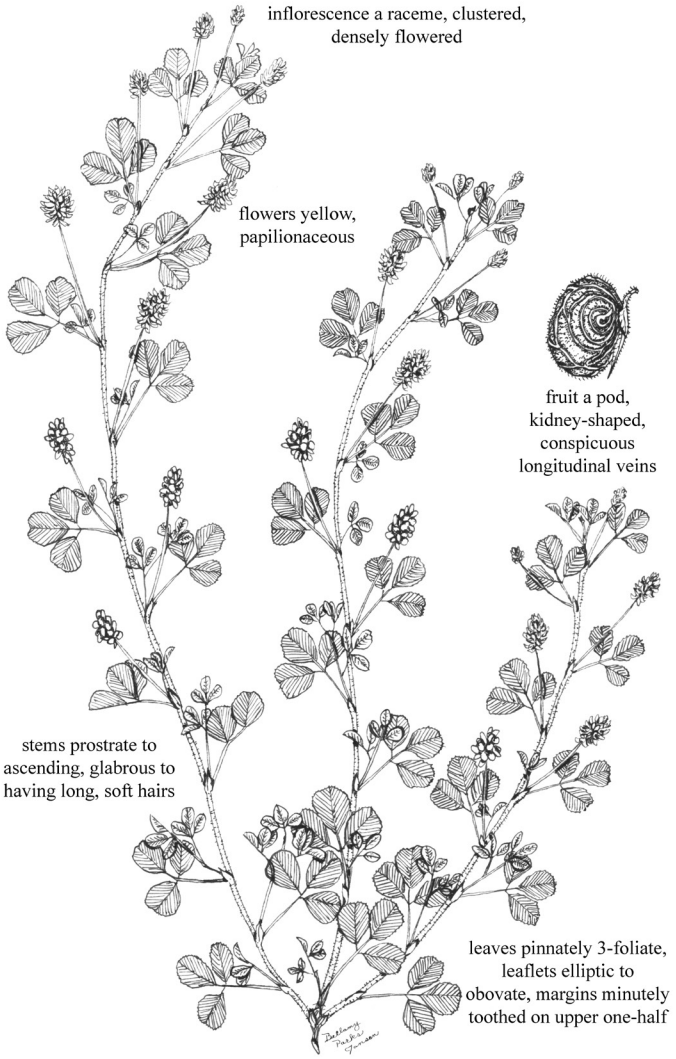
Uses and Values

Forage. Black medic is palatable to all classes of livestock and has fair forage quality. Since it is an annual, it has limited value as a pasture plant and for winter cover to prevent soil erosion. Black medic is sometimes used in mixtures for cover crops.

Poisoning. Black medic can cause bloat, but animals rarely can eat enough of the foliage for it to become a problem.

Wildlife. The foliage is eaten by deer and pronghorn, and the seeds are eaten by upland gamebirds, waterfowl, and small mammals.

Ornamental. Black medic is considered to be a weed and is not planted.

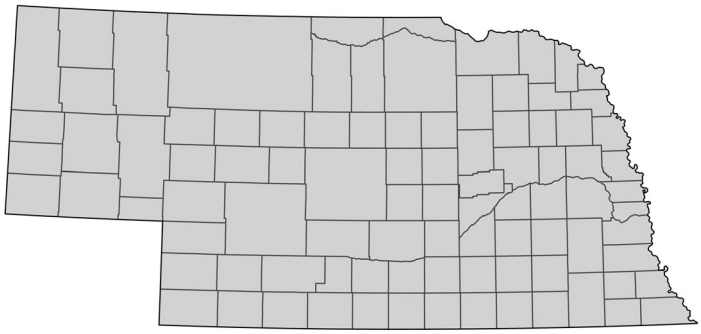


Black medic

Other

It is a common contaminant in uncleaned clover and alfalfa seed, and it quickly escapes and spreads into waste places and pastures. It is sometimes said to be the true Irish shamrock.

Hairy vetch



COMMON NAME:	**Hairy vetch (winter vetch)**
Species:	*Vicia villosa* Roth
Growth Form:	Forb
Life Span:	Annual (rarely biennial or perennial)
Origin:	Introduced (from Europe)
Flowering:	April to August
Height:	Trailing to 2 m (6.6 ft) long

Vegetative Characteristics

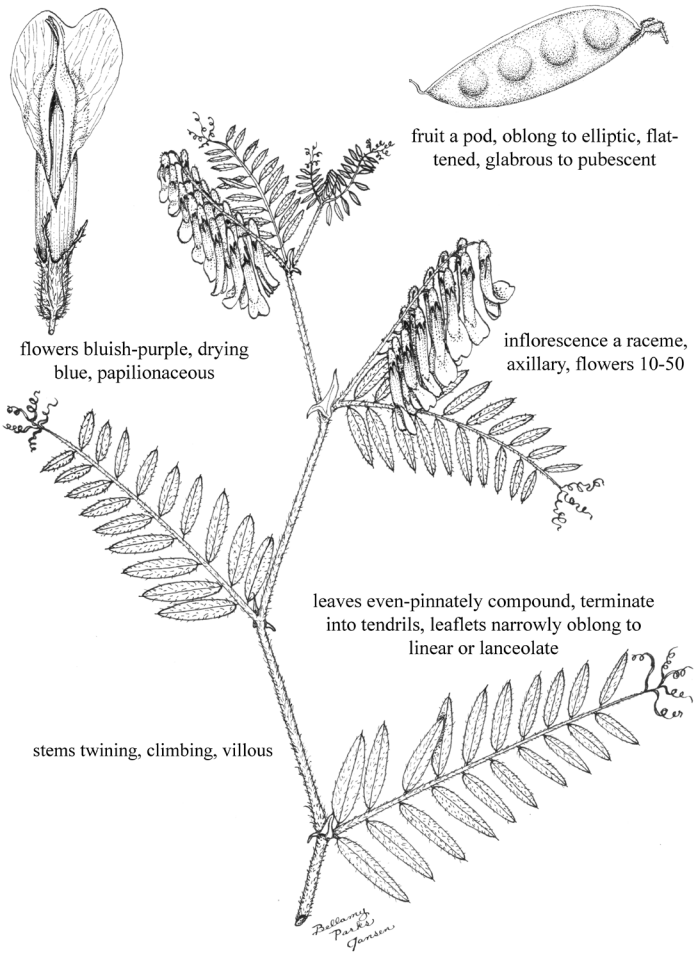
stems:	twining, climbing, villous
leaves:	alternate, even-pinnately compound, terminate into tendrils; leaflets 10–24; leaflets opposite or alternate, narrowly oblong to linear or lanceolate (1–2.5 cm long, 3–7 mm wide); tips obtuse and mucronate; margins entire; both surfaces softly villous (hairs 1–2 mm long); stipules oblanceolate to one-half sagittate, entire or toothed
underground:	taproot

Inflorescence Characteristics

type:	raceme, axillary, dense, flowers 10–50; peduncles with long (1–2 mm long), soft hairs
flowers:	bluish-purple, drying blue (9–16 mm long); papilionaceous; calyx irregular, tube 2–4 mm long, teeth unequal (0.8–1.5 mm long), linear above a triangular base; villous
fruits:	pods, oblong to elliptic (2–4 cm long, 7–10 mm wide), flattened, glabrous to pubescent; seeds 3–5
seeds:	globose (4–5 mm in diameter), dark brown, smooth

Habitat

Hairy vetch grows throughout Nebraska planted in fields. It was formerly planted in roadsides. It is most common in the eastern part of the state. It occasionally escapes



Hairy vetch

to adjacent pastures, rangelands, other cultivated fields, waste places, and stream valleys. It is most abundant on sandy soils.

Uses and Values

Forage. Hairy vetch is occasionally planted for hay or pasture and is usually sown with a support crop of small grain. Forage quality for hay or grazing is good to excellent. Hairy vetch is sometimes used in mixtures for cover crops.

Poisoning. Consumption of relatively small quantities of hairy vetch seed has been implicated in cattle deaths. Cattle grazing hairy vetch may develop dermatitis, swelling of the eyelids, and diarrhea. Horses grazing hairy vetch have shown similar symptoms.

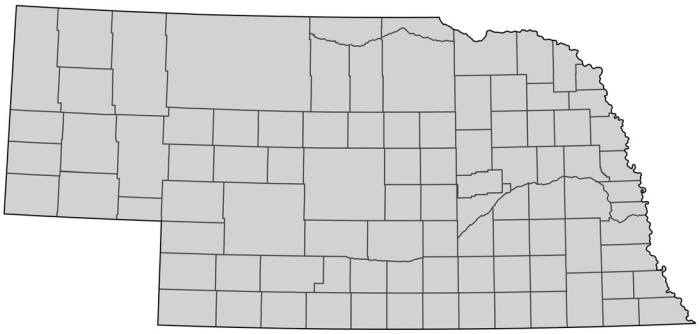
Wildlife. All types of big game animals eat the foliage. The seeds are eaten by many kinds of ground-foraging birds and small mammals.

Ornamental. Hairy vetch is rarely planted as an ornamental, but it is occasionally used as a "living mulch" for crops such as pumpkins.

Other

Hairy vetch seed is commercially available. It tolerates more alkali in the soil than do most legumes. Hairy vetch is both cold and drought hardy. It is sometimes used for winter cover and as a green manure crop.

Kochia



COMMON NAME:	**Kochia (summer cypress, fireweed, Mexican fireweed)**
Species:	*Kochia scoparia* (L.) Schrad.
Growth Form:	Forb
Life Span:	Annual
Origin:	Introduced (from Eurasia)
Flowering:	July to October
Height:	0.3–1.8 m (1–5.9 ft)

Vegetative Characteristics

stems:	erect, highly branched; branches spreading to ascending; turning red with age, surfaces glabrous to pubescent
leaves:	alternate, simple; blades linear to oblanceolate (1–5 cm long, 2–8 mm wide), gradually reduced upwards, flat, prominent veins 1–5; margins entire, fringed with hairs; surfaces nearly glabrous to pubescent; short-petioled
underground:	taproot, shallow

Inflorescence Characteristics

type:	spikelike, axillary and terminal, flowers 1–4
flowers:	green calyx (0.3–0.6 mm long, 2.3–3 mm in diameter), winged; tepals 5, paired in leaflike bracts, enveloped by tufts of hair, developing wings at maturity; sessile
fruits:	utricles, globose, horizontal, calyx persistent; seeds 1
seeds:	oval (2–3 mm long), concave, brown to black, dull

Habitat

Kochia is common in rangelands, pastures, fields, and disturbed sites. It grows in all types of soils. It is found in low places and depressions between the dunes in the Sandhills.

Uses and Values

Forage. Kochia is usually classified as having poor forage quality. However, forage quality can be good when the plants are young. When immature, kochia is eaten by all classes of livestock. It can be an important forage during severe drought.

Poisoning. It can accumulate high concentrations of nitrates. Caution should be exercised when grazing or feeding harvested hay containing large amounts of kochia. Water stress and/or high soil nitrogen levels will accelerate nitrate accumulation. Testing forage for nitrate concentration is

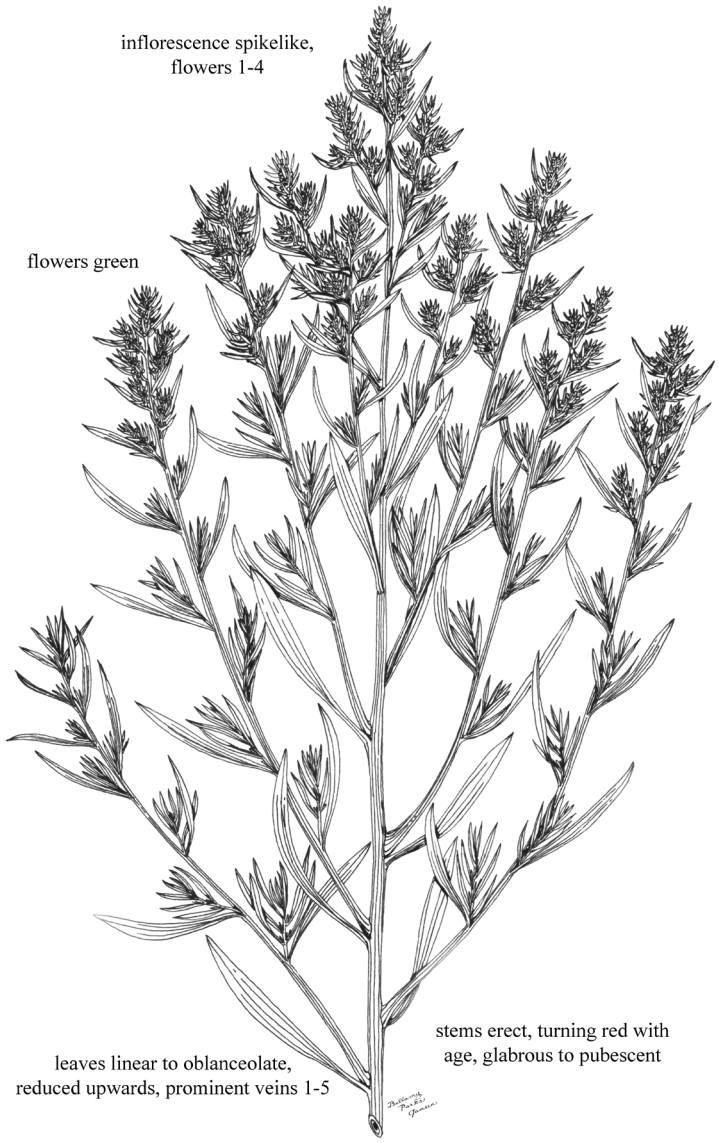
advised. Also, kochia has been linked to causing photosensitivity in cattle.

Wildlife. Kochia foliage is eaten by deer, pronghorn, elk, and bighorn sheep. The seeds are eaten by ground-foraging birds and small mammals. It provides excellent escape cover for upland gamebirds.

Ornamental. Kochia is an escaped ornamental. Its pyramidal growth form can be an interesting addition to a landscape, but most Nebraskans recognize it as a weed.

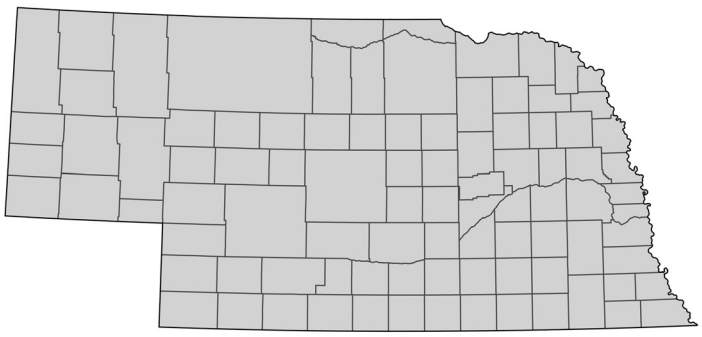
Other

Kochia is a prime contributor to the hay fever season.



Kochia

Lambsquarters



COMMON NAME:	**Lambsquarters (common lambsquarters, white goosefoot)**
Species:	*Chenopodium album* L.
Growth Form:	Forb
Life Span:	Annual
Origin:	Introduced (from Europe)
Flowering:	June to September
Height:	0.1–1.5 m (0.3–4.9 ft)

Vegetative Characteristics

stems:	erect, solitary, not branched to usually much-branched above; branches often ascending; glabrous, angulate, often with red or light green stripes
leaves:	alternate, simple; blades highly variable, trowel-shaped to lanceolate (3–6 cm long 2–4 cm wide), glaucous, tips pointed, margins irregularly toothed or wavy to entire; veins 3; covered with a white mealy powder, especially on the underside
underground:	taproot, branched

Inflorescence Characteristics

type:	clusters (glomerules) in dense terminal and axillary paniclelike spikes, small, compact
flowers:	green calyx, sepals 5; sepals small and inconspicuous, covered with a mealy powder; without petals; sessile
fruits:	utricles (1.1–1.5 mm in diameter); pericarp lightly roughened; seeds 1
seeds:	discoid, horizontal, with a notch, black, shiny; pericarp usually adhering; second type oval, larger, flattened, brown

Habitat

It is a common weed of rangelands, pastures, fields, and disturbed sites throughout Nebraska, but it is most common in the eastern part of the state. It grows in all types of soils.

Uses and Values

Forage. Lambsquarters is not a desirable species, but it may provide fair to good forage when young for cattle, especially following suppression of grasses by drought. It is occasionally eaten by sheep.

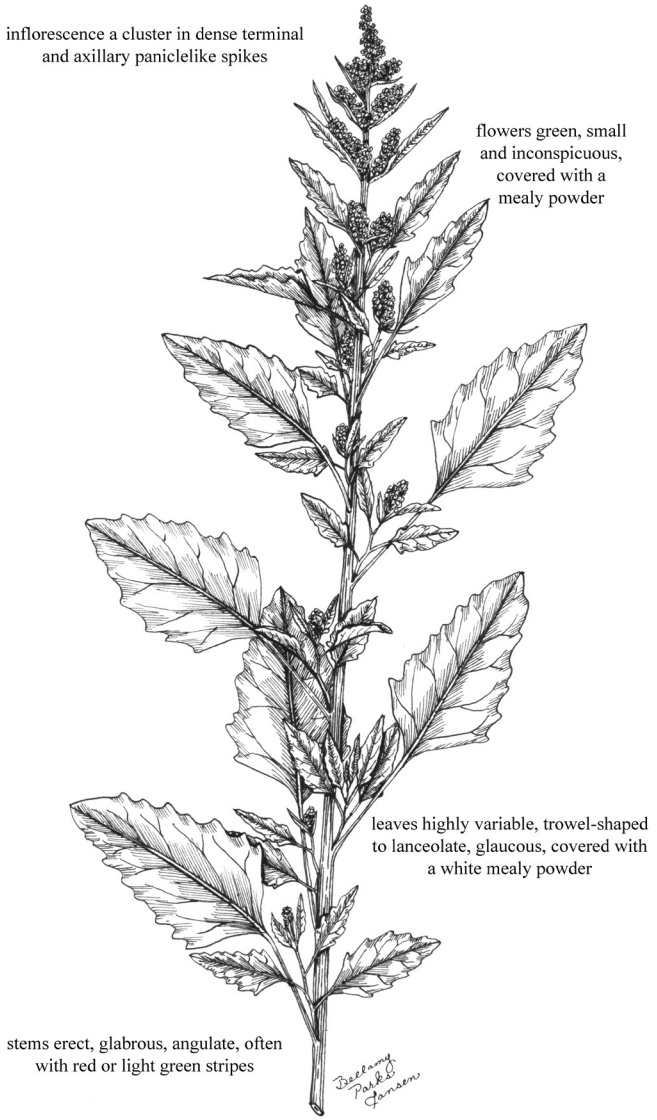
Poisoning. Lambsquarters can accumulate dangerous levels of nitrates.

Wildlife. It is eaten by deer, pronghorn, elk, and bighorn sheep. Mourning doves, songbirds, and small mammals eat the seeds.

Ornamental. It is considered to be a weed and should not be planted as an ornamental.

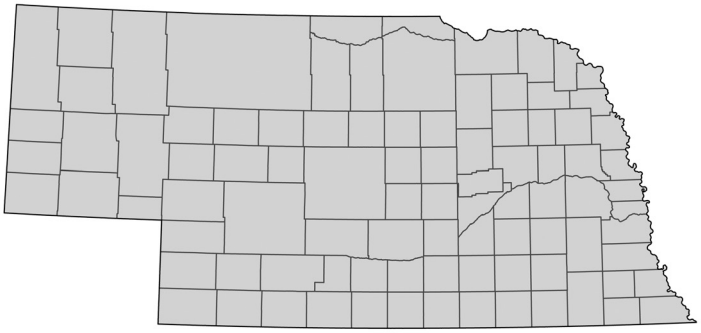
Other

Lambsquarters is a prime contributor to the hay fever season. Young leaves and shoots have been used as greens in salads or boiled and eaten as a green vegetable similar to spinach.



Lambsquarters

Marijuana



COMMON NAME:	**Marijuana (hemp, cannabis, ditchweed, pot)**
Species:	*Cannabis sativa* L.
Growth Form:	Forb
Life Span:	Annual
Origin:	Introduced (from Asia)
Flowering:	July to October
Height:	0.4–5 m (1.3–16 ft)

Vegetative Characteristics

stems:	erect, solitary, unbranched to highly branched, surfaces coarse, slightly grooved
leaves:	opposite below, mostly alternate above; palmately divided into 5–9 (sometimes 11) leaflets; leaflets linear-lanceolate to lanceolate (4–16 cm long, 3–20 mm wide); middle leaflet longest; tips gradually pointed; margins serrate; surfaces pubescent (especially beneath); clear to yellowish resin dots beneath
underground:	taproot

Inflorescence Characteristics

type:	dioecious; staminate panicles, axillary; pistillate spikes, few-flowered, axillary
flowers:	green to greenish-yellow calyx, without petals; sepals of staminate flowers 5, lanceolate to ovate (2.5–4 mm long), on pedicels (0.5–2.5 mm long); pistillate flowers sessile, partially surrounded or nearly enclosed by subtending leaves
fruits:	achenes, globose to ovoid (2.5–4.5 mm long), yellow or buff to green; seeds 1
seeds:	oval, netted surface, usually mottled with brown or purple, edge distinct

Habitat

Marijuana is scattered across most of Nebraska, but it is most common in the central and eastern portions of the state. It grows in abused rangelands, pastures, roadsides, and waste areas with moist, fertile soils.

Uses and Values

Forage. It is unpalatable and worthless to livestock.

Poisoning. The terminal parts of the female plants contain the largest quantities of the drug tetrahydrocannabinol (THC). Animals are not poisoned by the foliage, although poisoning has occurred following consumption of harvested seed.

Wildlife. Its seeds are important food for pheasants, quail, mourning doves and small mammals.

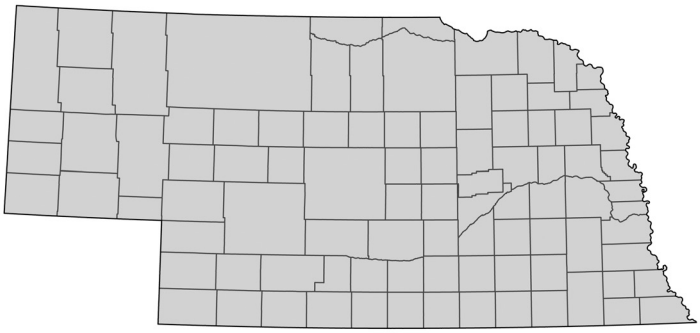
Ornamental. It is illegal to possess marijuana plants, and it should not be planted as an ornamental.

Other

The entire plant is odoriferous. Pollen is widespread in late summer and may cause hay fever. The fibers can be made into ropes (hemp) and cloth. It was introduced into Nebraska as a fiber crop during the first half of the last century.

Marijuana

Pepperweed



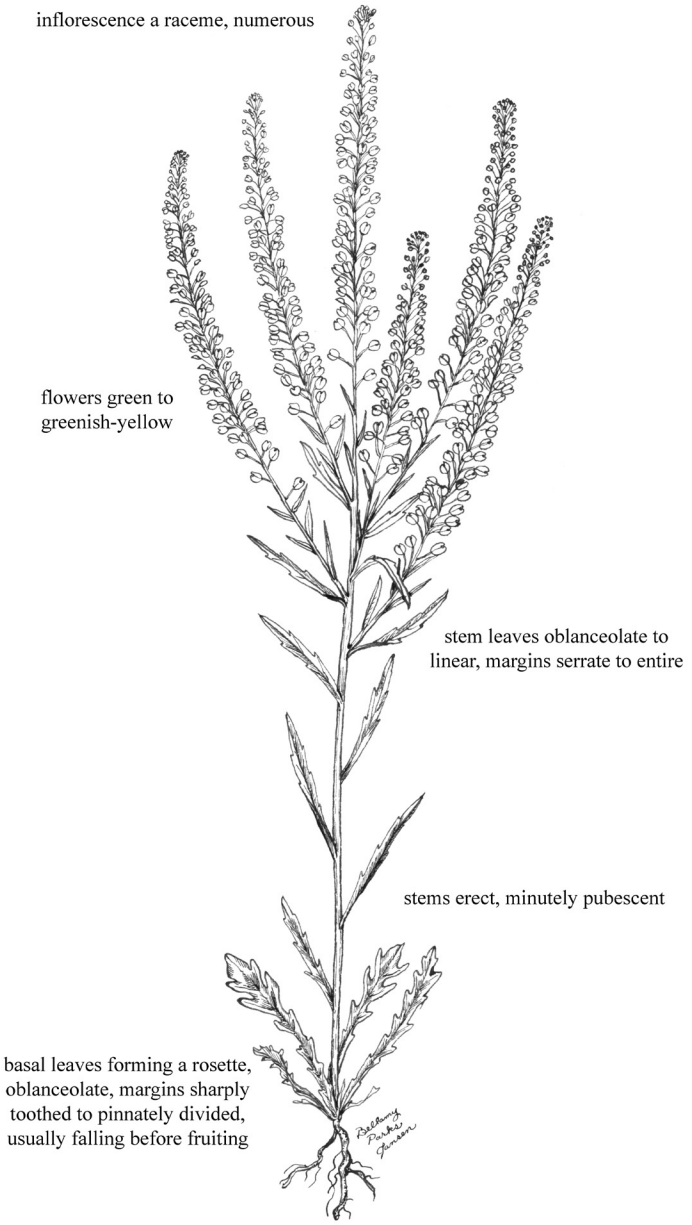
COMMON NAME:	**Pepperweed (peppergrass, greenflower pepperweed, common pepperweed)**
Species:	*Lepidium densiflorum* Schrad.
Growth Form:	Forb
Life Span:	Annual (rarely biennial)
Origin:	Introduced (from Europe)
Flowering:	April to August
Height:	0.1–0.5 m (0.3–1.6 ft)

Vegetative Characteristics

stems:	erect, much-branched at the top, surfaces minutely pubescent
leaves:	alternate, simple, variable; basal blades forming a rosette, oblanceolate (1–9 cm long), usually falling before fruiting; margins sharply toothed to pinnately divided; stem leaves oblanceolate to linear (1.3–4.5 cm long); margins serrate to entire; surfaces glabrous; petioled below, becoming sessile toward the inflorescence
underground:	taproot, short

Inflorescence Characteristics

type:	raceme (5–10 cm long), numerous, erect, terminating stems and branches
flowers:	green to greenish-yellow calyx; sepals 4; sepals oblong or broadly elliptic (about 0.8 mm long), tips rounded, often tinged with purple; petals absent, or much shorter than the sepals, linear
fruits:	silicles (2.5–3.5 mm in diameter), with a narrow wing on the distal end, notched; pedicels about equaling the fruits; seeds usually 2
seeds:	ovate (1.5–1.8 mm long), flattened, narrowly winged, orange to tan



Pepperweed

Habitat

Pepperweed grows in dry or moist soils of disturbed sites, waste areas, pastures, rangelands, and roadsides.

Uses and Values

Forage. Pepperweed is considered to be a weed and becomes abundant when perennial grasses are depleted. It has little or no forage value for livestock.

Poisoning. None.

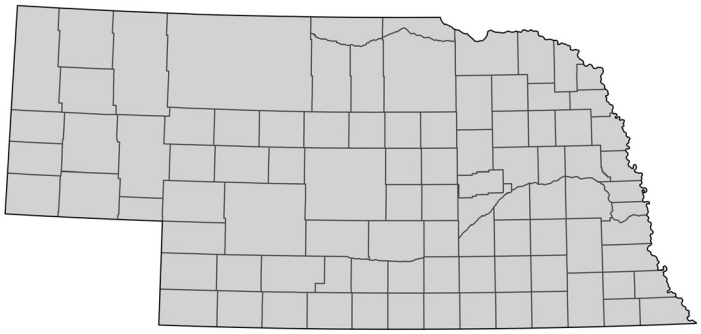
Wildlife. It is not grazed by big game animals. Its seeds are eaten by ground-foraging birds and small mammals.

Ornamental. This weedy plant spreads quickly and should not be planted.

Other

In Europe, young plants were used in salads, and the seeds were used to flavor meat. A tea was prepared to treat kidney ailments.

Russian thistle



COMMON NAME:	Russian thistle (tumbleweed)
Species:	*Salsola tragus* L. [= *Salsola iberica* (Sennen & Pau) Botsch. *ex* Czerep.; *Salsola kali* L.]
Growth Form:	Forb
Life Span:	Annual
Origin:	Introduced (from Eurasia)
Flowering:	August to October
Height:	0.3–1.5 m (1–4.9 ft)

Vegetative Characteristics

stems:	erect, highly branched, usually streaked with red, glabrous or nearly so
leaves:	alternate, simple; blades linear to filiform (1.2–8 cm long, 1 mm wide), subterete, tips spinose, upper leaves thickened at the base and enclosing the fruit; surfaces glabrous to pubescent; sessile to clasping
underground:	taproot

Inflorescence Characteristics

type:	spikelike (1–8 cm long), axillary, interrupted below, bracts reflexed and spine-tipped
flowers:	perfect, greenish to pinkish-white, small (2–4 mm long); bracts ovate to triangular, spreading and often recurved; sessile
fruits:	utricles, obovoid (1.5–2.5 mm indiameter), tepals winged; pericarp fleshy; seeds 1
seeds:	round (1.5 mm in diameter), black, smooth, shiny

Habitat

Russian thistle is more frequent in the western portion of the state. It grows in abused rangelands, waste areas, corrals, cultivated dryland fields, and disturbed areas.

Uses and Values

Forage. Russian thistle produces forage with fair quality when it is young. Mature plants are worthless because the leaves become stiff and sharply pointed.

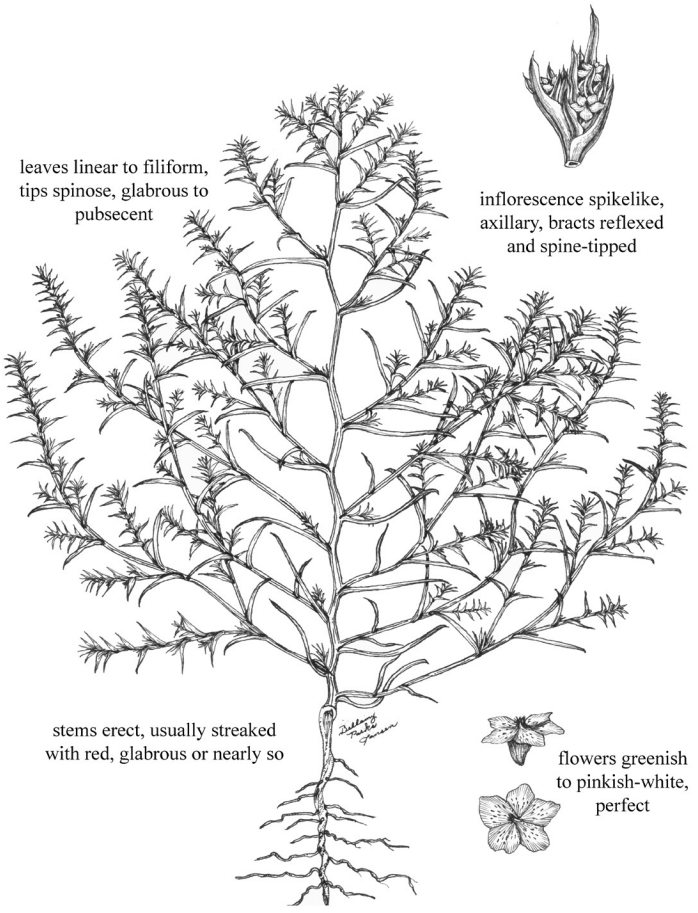
Poisoning. It can accumulate high concentrations of nitrates when grown in soils high in nitrogen such as in and around corrals.

Wildlife. Russian thistle provides excellent cover for upland gamebirds. Ground-foraging birds and small mammals eat the seeds. Young plants are grazed by deer, pronghorn, and bighorn sheep.

Ornamental. Russian thistle is considered to be a weed and should not be planted as an ornamental.

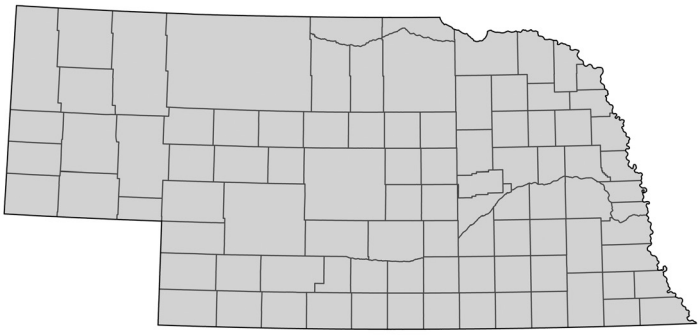
Other

Hay made from young Russian thistle plants was important survival feed during the drought of the 1930s. Russian thistle stems break at the ground level in the fall and roll with the wind, hence, one of its common names is "tumbleweed."



Russian thistle

Tumbling mustard



COMMON NAME:	Tumbling mustard (Jim Hill mustard)
Species:	*Sisymbrium altissimum* L.
Growth Form:	Forb
Life Span:	Annual
Origin:	Introduced (from Europe)
Flowering:	May to August
Height:	0.5–1.5 m (1.6–4.9 ft)

Vegetative Characteristics

stems:	erect, simple below, much-branched above, surfaces pubescent
leaves:	alternate, variable; lower blades oblanceolate to spatulate (3–23 cm long, 1–4 cm wide), petiolate; upper blades smaller, pinnately lobed or divided nearly to the midvein; margins coarsely toothed; surfaces pubescent, pale green; short petiolate
underground:	taproot

Inflorescence Characteristics

type:	raceme, terminating branches, numerous; flat- topped, becoming elongated in fruit
flowers:	pale yellow to yellowish-white corolla (9–14 mm in diameter), drying cream-colored; petals 4; petals spatulate (6–10 mm long); sepals 4, awl-shaped and tapering (3.5–5 mm long); margins membranous

fruits:	siliques, linear (5–12 cm long), straight, spreading, pubescent; seeds several; pedicel stout (4–10 mm long), as thick as or nearly as thick as the silique
seeds:	oblong or angular (1–1.5 mm long), yellow to brown, with a slight groove

Habitat

Tumbling mustard is found on rangelands, roadsides, waste places, and cultivated fields. It is most common on sandy soils.

Uses and Values

Forage. It is unpalatable and worthless to livestock.

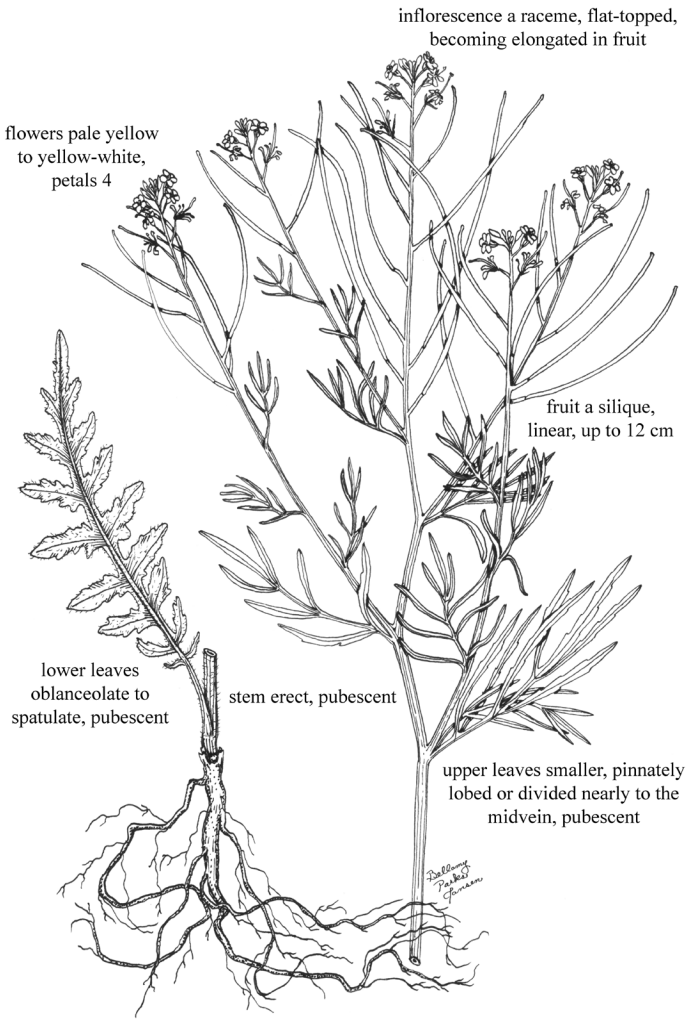
Poisoning. Tumbling mustard may accumulate toxic levels of nitrates, but livestock seldom eat enough of the foliage to become poisoned.

Wildlife. Its seeds are eaten by ground-foraging birds and small mammals.

Ornamental. Tumbling mustard is considered to be a weed and should not be planted as an ornamental.

Other

Tumbling mustard often breaks off near the soil surface when mature and scatters seed as it is tumbled by the wind.



Tumbling mustard

Cacti

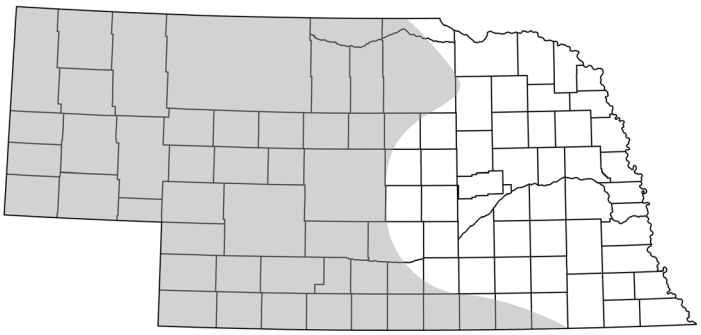
Ball cactus

Brittle cactus

Bigroot pricklypear

Plains pricklypear

Ball cactus



COMMON NAME:	**Ball cactus (nipple cactus, pincushion cactus, purple pincushion)**
Species:	*Coryphantha vivipara* (Nutt.) Britton & Rose [= *Mammillaria vivipara* (Nutt.) Haw; *Escobaria vivipara* (Nutt.) Buxb.]
Growth Form:	Succulent
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	< 5 cm (< 2 in)

Vegetative Characteristics

stems:	globose or cylindric (2–5 cm long, 2–5 cm in diameter), turbinate at the base, 1 to several, fleshy, covered with spirally arranged tubercles (5–10 mm); most tubercles with a groove on the upper side; areoles with 3–4 (sometimes up to 12) prominent, reddish central spines (1 spine turned downward) and 12–20 smaller, white radial spines (9–15 mm long)
leaves:	essentially absent
underground:	fibrous roots, shallow

Inflorescence Characteristics

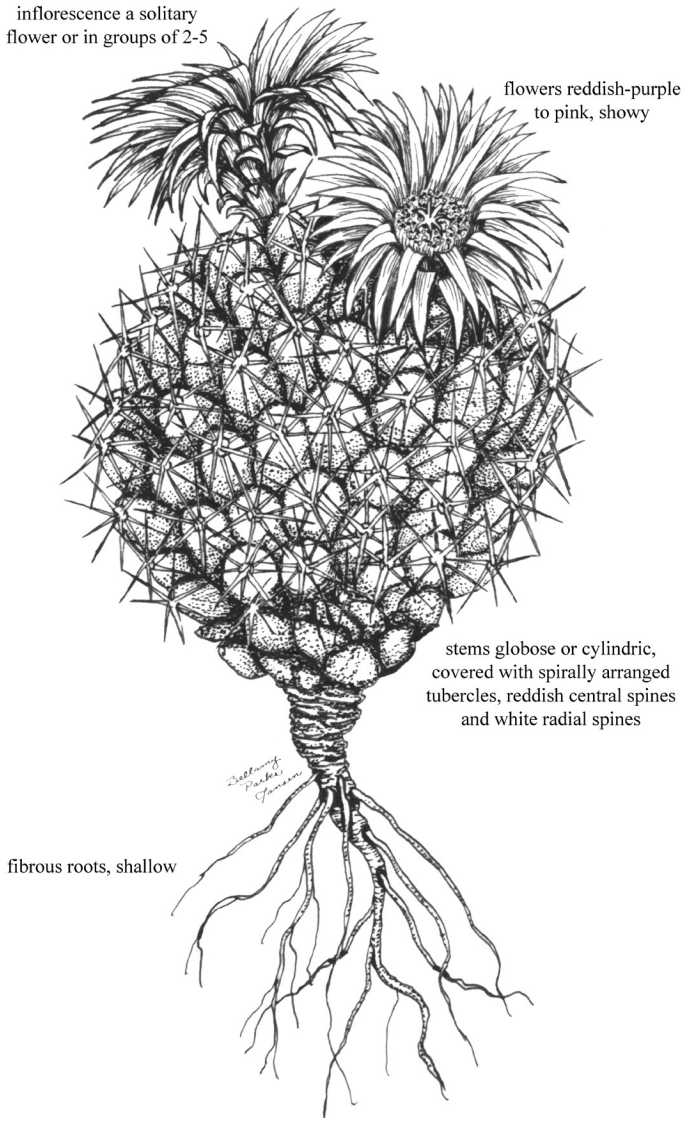
type:	flowers solitary or in groups of 2–5, terminal, sessile
flowers:	reddish-purple to pink petals, showy (2.5–4 cm in diameter)
fruit:	berries (1–2 cm long), ellipsoid, fleshy, red; seeds many
seeds:	semicircular (1.2–1.8 mm long), brown to reddish-brown or black, reticulate

Habitat

Ball cactus grows on dry rangelands and prairies, especially in sandy or rocky soils.

Uses and Values

Forage. Ball cactus has no forage value for livestock or big game animals, and it very slowly increases on heavily grazed rangelands. Livestock on abused rangelands may cause a reduction in numbers of ball cactus because their hooves dislodge the plants.



Ball cactus

Poisoning. None but the spines may injure soft tissue.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Ball cactus is rarely used in prairie restorations.

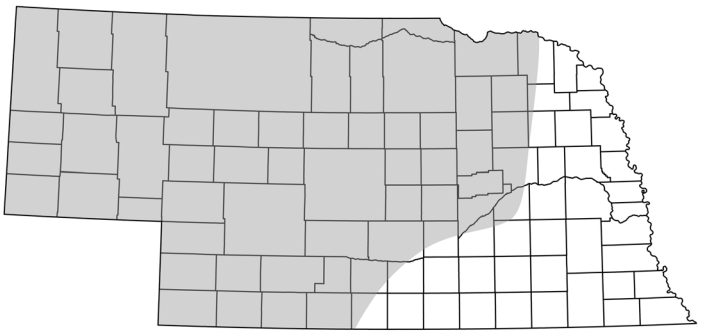
Wildlife. The fruits are an important food source for many small mammals.

Ornamental. Ball cactus is a popular plant in rock and cacti gardens. Sometimes it is grown as a potted plant. It grows best in full sun and well drained soils. It is easier to establish from transplants than from seed. Seed germination is difficult and growth is extremely slow.

Other

Ball cactus is capable of storing large volumes of water, because the shallow roots are able to extract water from the soil even under relatively dry conditions. Missouri pincushion [*Coryphantha missouriensis* (Sweet) Britton & Rose] is occasionally found in central and western Nebraska. It has pale yellow to straw-colored flowers and produces numerous basal offshoots. It is not unusual to find a cluster of over 40 plants.

Brittle cactus



COMMON NAME:	**Brittle cactus (jumping cactus, little pricklypear, fragile pricklypear)**
Species:	*Opuntia fragilis* (Nutt.) Haw.
Growth Form:	Succulent
Life Span:	Perennial
Origin:	Native
Flowering:	June to July
Height:	< 20 cm (< 8 in)

Vegetative Characteristics

stems:	pads or joints, elliptic to ovoid or obovoid (3–5 cm long, 1.5–2.5 cm wide), bilaterally flattened, fleshy, readily detaching and rooting; spines (mostly less than 3 cm long), distributed over most of the joint, 1–10 per areole; mat-forming
leaves:	cylindrical to subulate, small, fleshy, green, seldom present and soon falling
underground:	fibrous roots

Inflorescence Characteristics

type:	flowers solitary, sessile
flowers:	yellow to greenish-yellow or tinged with red (4–5 cm in diameter), petals (1.5–2 cm long)
fruits:	berries (1–1.5 cm long), ovate, fleshy, spiny or spineless, green turning purple; seeds many
seeds:	discoid (6 mm long), white to gray, margins conspicuous

Habitat

Brittle cactus grows on sandy to gravelly rangelands and hillsides. Occasionally, it is found in eastern Nebraska.

Uses and Values

Forage. Brittle cactus increases on heavily grazed rangelands and has no forage value for domestic livestock.

Poisoning. None but the spines may injure soft tissue.

Grassland Seeding. It is not used in grassland seedings.

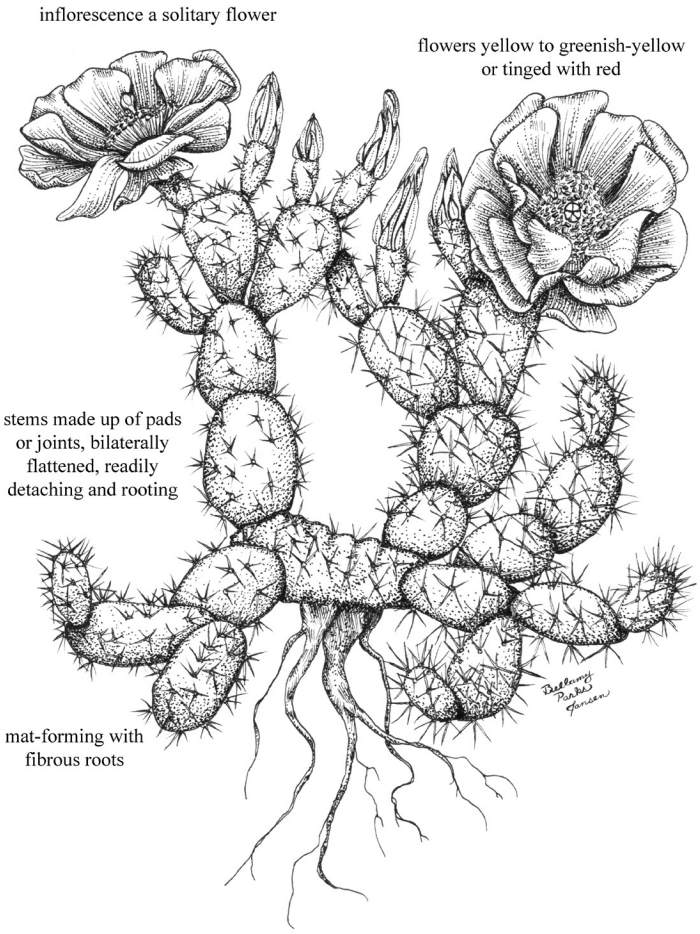
Restoration. Brittle cactus is rarely added to prairie restorations.

Wildlife. The stems, fruits, and seeds may comprise a large percentage of the diets of some wildlife species.

Ornamental. Brittle cactus can be planted in rock and cacti gardens.

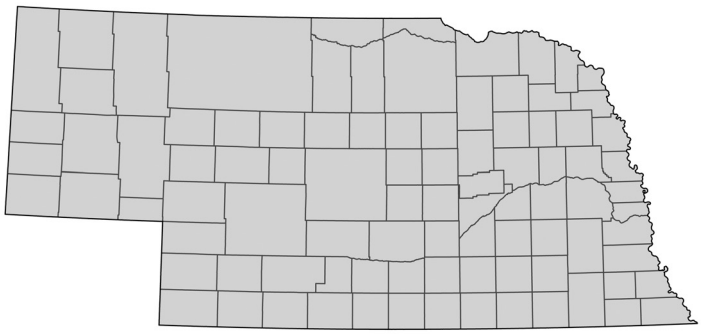
Other

The stems and fruits have been used extensively as food. The fruits can be used in making jellies. The stems can be chopped and used as a relish or the main component in stews and casseroles. The spines can be burned off, the stem roasted and peeled, and then eaten. Some Native Americans used the spines to lance blisters and boils and the peeled stem for dressing wounds. The mucilaginous juice of the stems was applied over paint on hides to make the paint permanent. This plant often is concealed by surrounding vegetation and often goes unnoticed until it is kicked up onto the back of your leg. Hence, it is sometimes called jumping cactus.



Brittle cactus

Bigroot pricklypear



COMMON NAME:	**Bigroot pricklypear (common pricklypear, twistspine pricklypear)**
Species:	*Opuntia humifusa* (Raf.) Raf. [= *Opuntia macrorhiza* Engelm.; *Opuntia tortispina* Engelm. & J.M. Bigelow]
Growth Form:	Succulent
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	< 20 cm (< 8 in)

Vegetative Characteristics

stems:	pads or joints ovate (5–10 cm long, 5–6 cm wide, 1.1–1.3 cm thick), flattened, fleshy; spines (3.5–6 cm long), mostly straight, occasionally twisted, 1–6 per areole, on the upper areoles, not barbed; pads rooting when detached, mat-forming
leaves:	cylindrical or conical, small, fleshy, green, seldom present and soon falling
underground:	fibrous roots, thick, often tuberous

Inflorescence Characteristics

type:	solitary flowers, sessile
flowers:	yellow to rarely reddish-yellow, pink or copper petals (4–7 cm in diameter); petals red at base, wedge-shaped, tips notched
fruits:	berries, globose to obovoid (2–4 cm long), fleshy, becoming red to purple, not spiny; seeds many
seeds:	discoid (3–6.5 mm long), light tan to bone white, flattened; winged rim irregular (0.5–1 mm wide)

Habitat

Bigroot pricklypear is most common in the central and western parts of the state. It grows in dry soils and is most abundant in sandy, gravelly, or rocky soils of rangelands and prairies.

Uses and Values

Forage. Bigroot pricklypear increases on heavily grazed rangeland and generally has no forage value for domestic livestock.

Poisoning. Bigroot pricklypear is not poisonous, but the spines may cause injury. Livestock usually avoid contact with the spines.

Grassland Seeding. It is not used in grassland seedings.

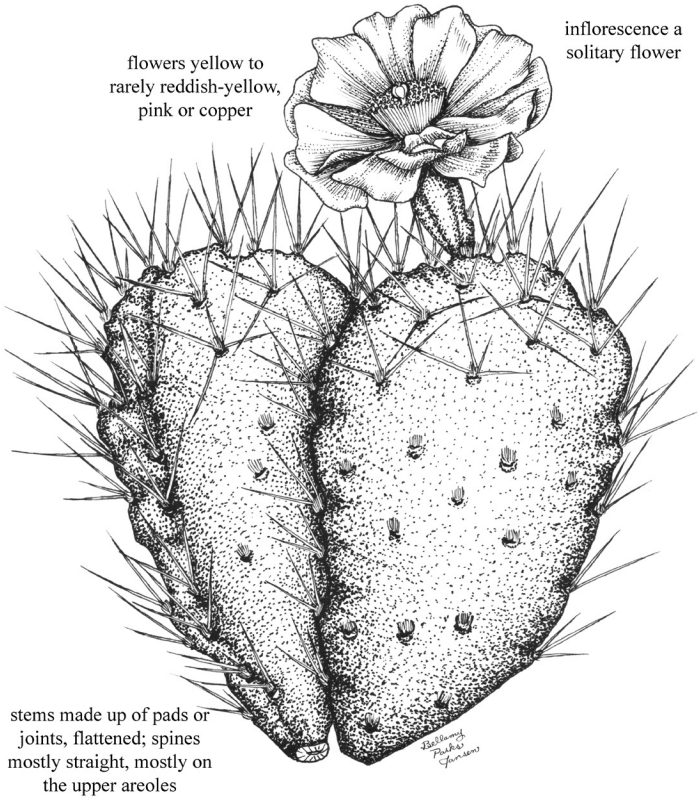
Prairie Restoration. A few plants may be transplanted into prairie restorations to increase diversity.

Wildlife. The stems, fruits and seeds may comprise a large percentage of the diets of many wildlife species.

Ornamental. Bigroot pricklypear may be planted in cacti and rock gardens. It grows best in full sun and well-drained soils.

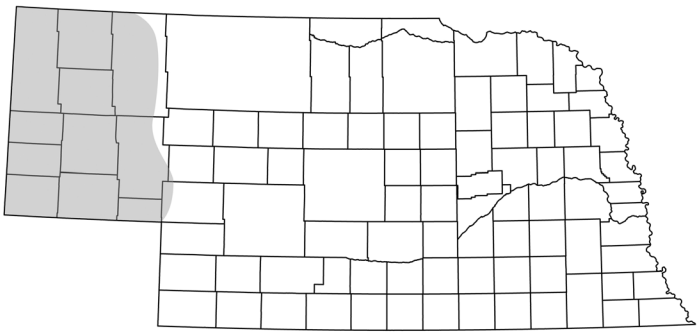
Other

All of the cactus species have similar current and historical uses. See the discussion of brittle cactus (*Opuntia fragilis*) for these uses.



Bigroot pricklypear

Plains pricklypear



COMMON NAME:	Plains pricklypear
Species:	*Opuntia polyacantha* Haw.
Growth Form:	Succulent
Life Span:	Perennial
Origin:	Native
Flowering:	June to July
Height:	< 20 cm (< 8 in)

Vegetative Characteristics

stems:	joints or pads (5–10 cm long, 4–10 cm wide, 8–11 mm thick), orbiculate to obovate, flattened, fleshy; with spines (2–4 cm long), 1–10 or more per areole, on nearly all areoles, weakly barbed; rooting when detached
leaves:	cylindrical or conical, small, fleshy, green, seldom present and soon falling
underground:	fibrous roots, thick

Inflorescence Characteristics

type:	solitary flowers, sessile
flowers:	yellow to rarely pink or red petals (4.5–7 cm in diameter), waxy
fruits:	berries globose to obovoid (2–4 cm long), pinkish first and then becoming tan; spiny, seeds many
seeds:	irregular to discoid (3–7 mm long); margins uneven, winged

Habitat

Plains pricklypear grows especially in the Panhandle on dry sandy rangelands, pastures, and disturbed sites. Occasionally, it may be found east of the Panhandle.

Uses and Values

Forage. Generally, plains pricklypear has no forage value for domestic livestock. In the southwestern states during extreme drought, ranchers have burned the spines from the plants allowing use by livestock.

Poisoning. Plains pricklypear is not poisonous, but the spines may cause injury. Livestock usually avoid contact with the spines.

Grassland Seeding. Plains pricklypear is not included in grassland seedings.

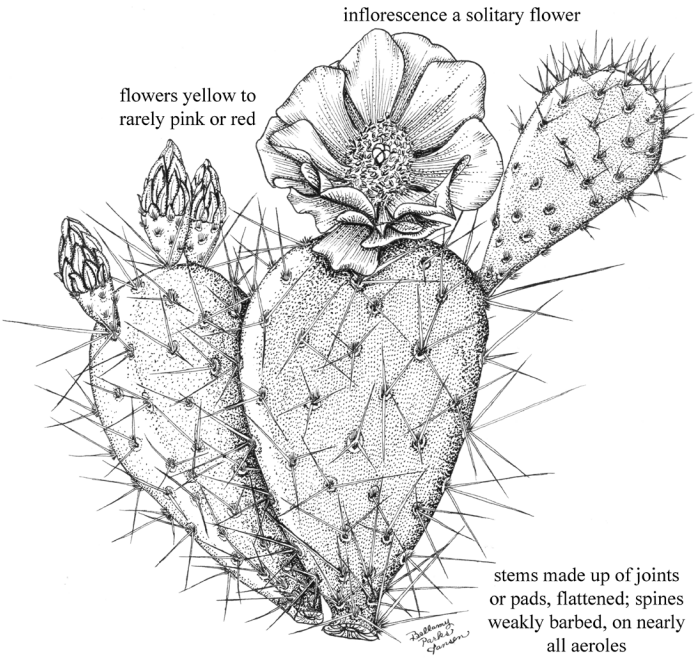
Prairie Restoration. While usually not included in prairie restorations, a few plants could be transplanted onto restoration sites.

Wildlife. The stems, fruits, and seeds may comprise a large percentage of the diets of some wildlife species. Cacti often provide a fortified sanctuary for small mammals.

Ornamental. Plains pricklypear is sometimes used in rock and cacti gardens. It grows best in well-drained soils in full sun.

Other

All of the cactus species have similar current and historical uses. See the discussion of brittle cactus (*Opuntia fragilis*) for these uses. The clammy white fuzz commonly found on pricklypears is the home of a scale insect (*Dactylopius coccus*) which feeds on the cactus. Natives of Mexico used the brightly colored female insects as a source of reddish dye.

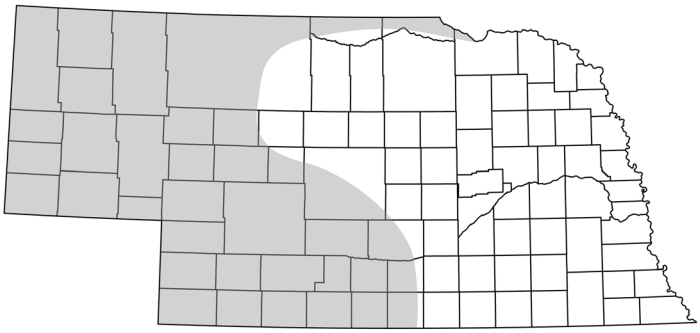


Plains pricklypear

Shrubs

Broom snakeweed
Chokecherry
Elderberry
False indigo
Fringed sagewort
Leadplant
New Jersey tea
Poison ivy
Prairie wildrose
Sand sagebrush
Silver buffaloberry
Buckbrush
Common snowberry
Western snowberry
Skunkbrush sumac
Smooth sumac
Western sandcherry
Wild plum
Yucca

Broom snakeweed



COMMON NAME:	**Broom snakeweed (broomweed, turpentine weed, perennial snakeweed)**
Species:	*Gutierrezia sarothrae* (Pursh) Britton & Rusby [= *Xanthocephalum sarothrae* (Pursh) Shinners]
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	July to September
Height:	0.1–0.8 m (0.3–2.6 ft)

Vegetative Characteristics

stems:	erect or ascending from a woody base, multi-stemmed; branched blow and above; glandular punctate, herbaceous above
leaves:	alternate, simple; blades linear to filiform (1–7 cm long, 1–3 mm wide), midvein prominent; margins entire, rolled inward, scabrous, otherwise glabrous; sessile
underground:	taproot, stout, spreading

Inflorescence Characteristics

type:	corymblike, heads numerous; corymbs rounded, loose or dense; involucres (3–6 mm tall) with 2–4 series of bracts; bracts linear (1.2–3.5 mm long), pointed, imbricate, veins 1; midvein green at the tip; ray florets 3–8 (sometimes absent); disk florets 2–6
flowers:	yellow ray florets, tubular (for 2 mm) then expanding into a ray (2.5 mm long), pistillate; yellow disk florets
fruits:	achenes; cylindrical (1.7–2 mm long, 0.5 mm in diameter), brown, pubescent; pappus of 8–10 scales (0.5–1.5 mm long), chaff white; seeds 1
seeds:	small

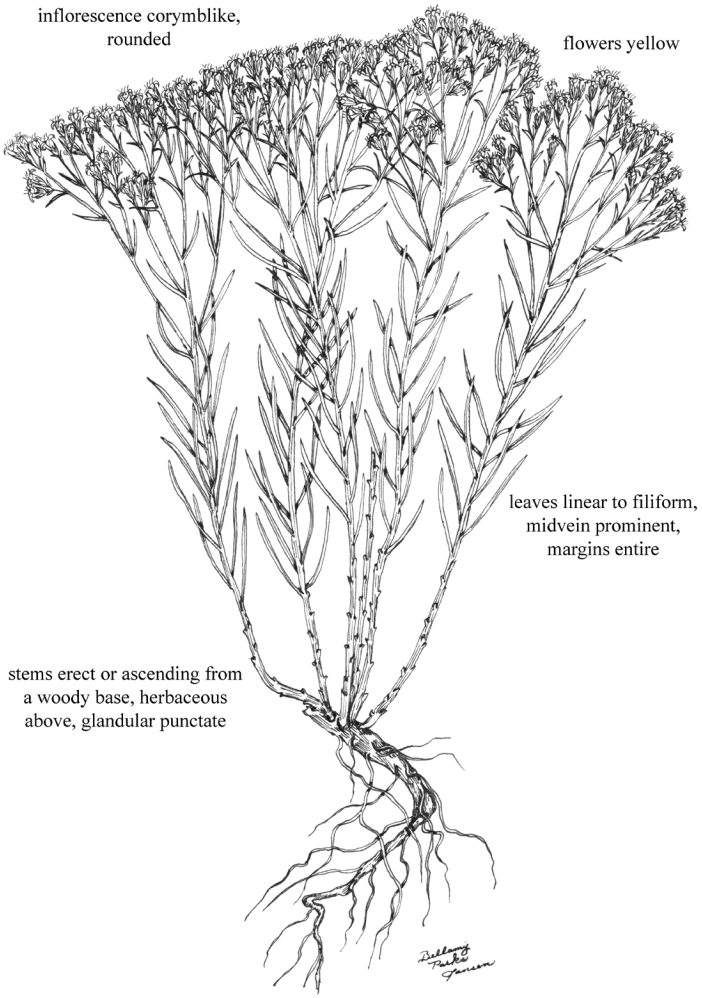
Habitat

Broom snakeweed is occasional to abundant in the western one-half of Nebraska on dry, abused rangelands on gravelly, sandy, or loess soils. It is rare in the Sandhills.

Uses and Values

Forage. Broom snakeweed is usually considered worthless as forage, except on winter range where it is poor forage. It spreads rapidly on depleted rangeland.

Poisoning. Broom snakeweed may be poisonous to sheep and cattle causing abortion but rarely death. The foliage contains a poisonous saponin and is most toxic during



Broom snakeweed

leaf formation and quickly decreases with maturity. It will accumulate selenium.

Grassland Seeding. Broom snakeweed is not a desirable plant and is not included in grassland seeding mixtures.

Prairie Restoration. It is not used in prairie restorations.

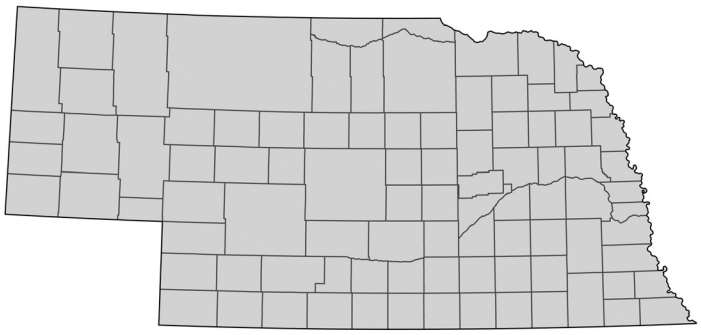
Wildlife. Broom snakeweed serves as browse for rabbits, pronghorn, bighorn sheep, and deer.

Ornamental. This small, nearly symmetrical shrub with yellow flowers makes it an attractive plant for rock gardens. It should be planted in well-drained soils in full sun.

Other

Pioneers sometimes pulled the whole plant from the ground and used it as a broom. The Lakota boiled whole plants to make tea to treat coughing, colds, and dizziness. A high density of broom snakeweed is usually an indication of previous poor management. It has the fragrance of turpentine.

Chokecherry



COMMON NAME:	Chokecherry
Species:	*Prunus virginiana* L.
Growth Form:	Shrub or small tree
Life Span:	Perennial
Origin:	Native
Flowering:	April to May
Height:	2–6 m (6.6–20 ft)

Vegetative Characteristics

stems:	erect; twigs reddish-brown, sparsely white-spotted, slender; bark gray to black with age
leaves:	alternate, simple; blades obovate to oval (5–10 cm long, 3–5 cm wide), acute to acuminate, margins finely serrate (5–7 teeth per cm); upper surface glabrous and dark green; lower surface sparsely pubescent at the midvein, pale; petioles glabrous
underground:	rhizomes, forming dense thickets

Inflorescence Characteristics

type:	raceme, oblong (5–15 cm long), initially erect, then drooping; cylindrical, densely flowered, terminal; appearing after the leaves have formed
flowers:	white corolla, small (4 mm wide); petals 5; petals subround to orbicular (2–4 mm long), fragrant
fruits:	drupes in pendant racemes; globose (6–10 mm in diameter), dark red to black, juicy, sour, lustrous; seeds 1
seeds:	stone, oblong-ovoid (7–9 mm long, 5–6 mm wide), cream-colored, pointed at the tip, 1 suture ridged

Habitat

Chokecherry grows in moist soils of rangelands, prairies, fence rows, forest edges, open forests, and roadsides.

Uses and Values

Forage. The forage value of chokecherry is fair for cattle. Forage quality of regrowth is rated as poor because it may be poisonous. These plants increase with abusive grazing.

Poisoning. Hydrocyanic (prussic) acid may be present in toxic quantities in regrowth of leaves, stems, and seed following dry periods and frost. This substance is poisonous to all classes of livestock.

Grassland Seeding. Chokecherry is not included in grassland seeding mixtures.

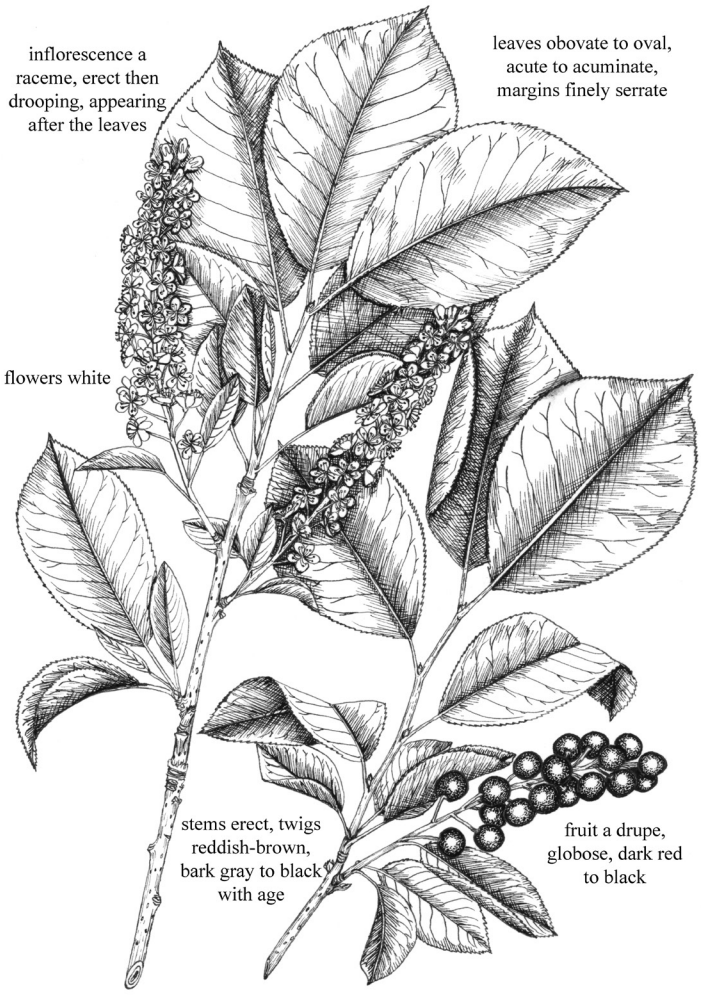
Prairie Restoration. It could be planted in ravines and hillsides in prairie restorations.

Wildlife. Chokecherry fruits are an important source of food for songbirds, coyotes, racoons, and opossums. Thickets provide loafing and escape cover for upland game, wild turkeys, and deer. Many species of songbirds nest in chokecherry. The twigs are important browse for deer and elk in winter. The seeds are spread by birds.

Ornamental. Chokecherry is planted for fruit production. It is occasionally used as a screen planting, but care should be taken because it can rapidly spread.

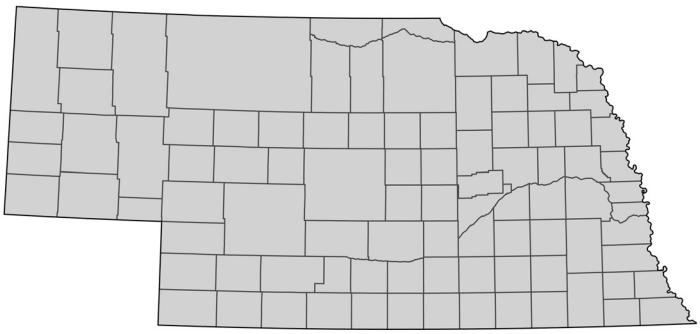
Other

Chokecherry fruit is commonly used to make jams and jellies. Native Americans used the fruit as an ingredient in pemmican and to treat canker sores. The wood was used for arrows, bows, and pipe stems.



Chokecherry

Elderberry



COMMON NAME:	**Elderberry (American elderberry, wild elder)**
Species:	*Sambucus canadensis* L.
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	1–3 m (3.3–10 ft)

Vegetative Characteristics

stems:	erect to ascending; hollow; pith thick, white; branches glabrous to glaucous; lenticels prominent
leaves:	opposite, odd-pinnately compound 5–9-foliate (to 30 cm long); leaflets narrowly ovate to elliptic (3–14 cm long, 2–7 cm wide), acuminate; glabrous above or midvein puberulent, upper surface dark green; pubescent to glabrate beneath, pale green; margins finely serrate except at the apex; petioles 3–9 cm long
underground:	spreading by root sprouts

Inflorescence Characteristics

type:	cymose (to 30 cm in diameter); terminal, much-branched, flat at the top or slightly convex; pedicels and inflorescence branches reddish and drooping in fruit
flowers:	white corollas (4–5 mm wide), petals 5; petals rounded to obtuse, longer than the tube; calyx lobes minute (0.8–1 mm long); sessile or short-pedicellate (1–4 mm long); sweet-scented

fruits:	drupes (berrylike) blackish-purple (4–6 mm in diameter), glabrous; seeds 3–4
seeds:	obovoid (2.5–3 mm long, 1.5–2 mm wide), yellowish, rough, usually with 2 flattened and 1 rounded surfaces

Habitat

Elderberry is most common in the east. It is not common in the Sandhills and southern Panhandle. It is found in rich and moist soils of roadsides, forest edges, open woodlands, prairies, fence rows, ditches, and stream banks.

Uses and Values

Forage. Young elderberry growth may be eaten by cattle and horses and provides poor to fair forage. However, older growth is poisonous and is avoided by most livestock other than goats.

Poisoning. The older leaves may contain hydrocyanic acid which has caused death of cattle and sheep. Also, the foliage contains the alkaloid sambucine which will cause nausea. Roots and stems are poisonous to swine. Fresh berries may cause nausea in humans, but the berries are harmless after being cooked.

Grassland Seeding. Elderberry is not included in grassland seeding mixtures.

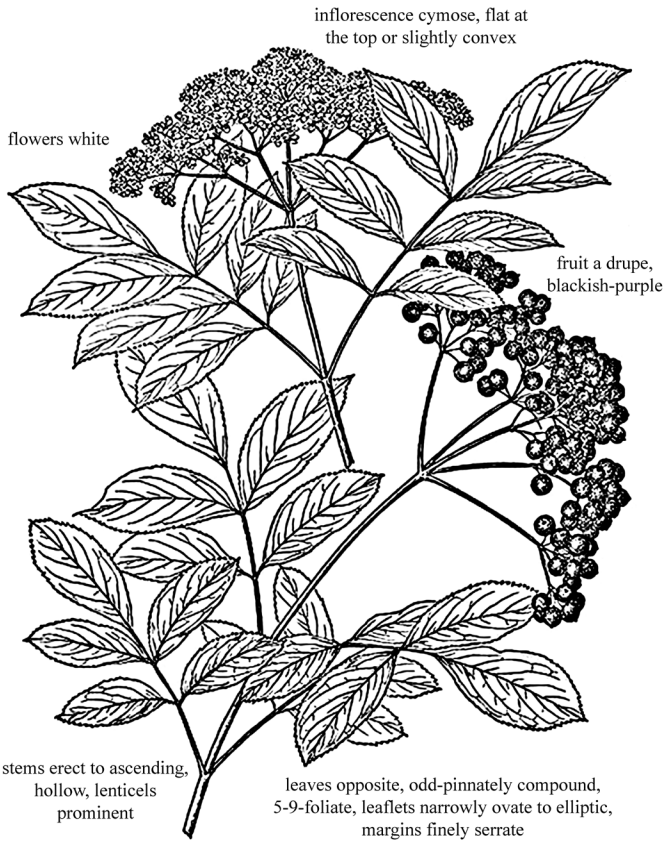
Prairie Restoration. It is rarely planted for wildlife cover and food.

Wildlife. Elderberry fruits are an important source of food for songbirds and small mammals. The leaves provide fair forage for deer and seldom cause poisoning.

Ornamental. The flowers and fruits are made into a number of foods and beverages. A famous pioneer use was making elderberry wine. Elderberry fruit is commonly used to make jams and jellies.

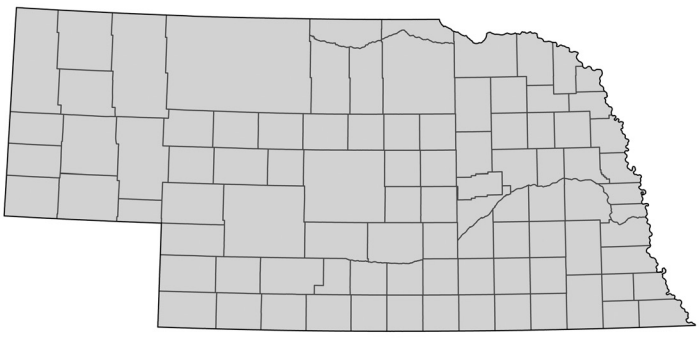
Other

Native Americans made arrow shafts from the stems and dyed them by soaking them in elderberry bark extract. The hollow stems were used as sugar maple taps and children's toys such as blowguns, whistles, and flutes. Elderberry has numerous uses in traditional medicine. Individual stems only live for 3–5 years before being replaced by new stems from root sprouts.



Elderberry

False indigo



COMMON NAME:	False indigo (streambank amorpha)
Species:	*Amorpha fruticosa* L.
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	1.5–3 m (4.9–10 ft)

Vegetative Characteristics

stems:	erect, single or a few clustered trunks; branching above; bark of young trunks smooth and brownish-gray; bark of old trunks slightly fissured
leaves:	alternate, odd-pinnately compound (12–22 cm long); leaflets 9–35; leaflets elliptic to oblong (2–4.5 cm long, 8–18 mm wide), rounded to obtuse at the tip, usually mucronate; base acute or obtuse; margins entire, upper surface glabrous to pubescent; lower surface variously pubescent and gland-dotted, aromatic
underground:	taproot and rhizomes

Inflorescence Characteristics

type:	raceme (10–15 cm long), terminal, usually in groups of 2–3, densely flowered
flowers:	purple, rarely white to blue, single petal; petal broadly ovate (5–6 mm long); calyx tube inverted cone-shaped (2–4 mm long), lobes 5; lobes unequal, acute to broadly rounded (0.5–1.2 mm long), upper lobes shortest; anthers yellow to yellowish-orange, conspicuous; fragrant
fruits:	legume (6–8 mm long, 1.5–3 mm wide), curved, brown, with glandular dots; seeds 1
seeds:	oblong to ovate (3–4.5 mm long, 1.2–1.5 mm wide), glossy, tan to brown, with a slight beak

Habitat

False indigo is infrequent to locally common throughout Nebraska on moist stream banks, prairie and rangeland gullies, open woods, and along shorelines.

Uses and Values

Forage. False indigo is palatable to livestock and is good quality forage, although it is generally not present in large enough quantities to be an important component of their diets. It decreases with heavy grazing and trampling.

Poisoning. None.

Grassland Seeding. False indigo is not included in grassland seedings.

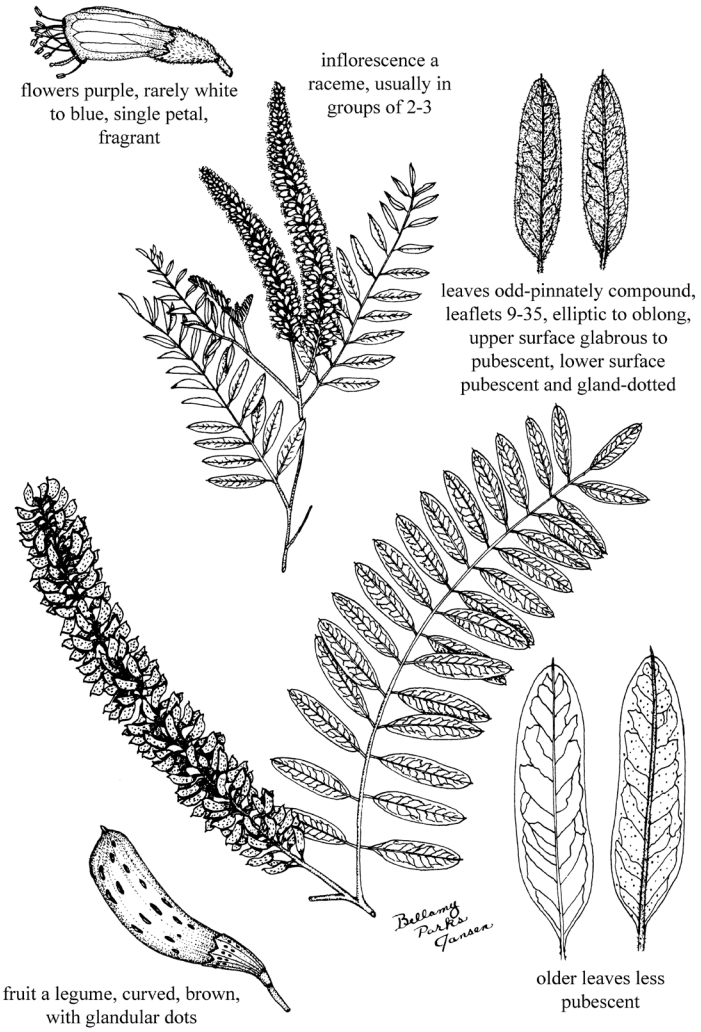
Prairie Restoration. It should be included on appropriate sites such as along shorelines and in gullies. Germination is improved by scarification and stratification.

Wildlife. It produces good quality forage for all types of big game. The seeds are eaten by ground-foraging birds and small mammals. The flowers attract butterflies.

Ornamental. False indigo is sold widely for landscaping. It should be planted in full or partial sun in moist soils. Formerly, it was used in windbreak borders and buffer strips to prevent erosion. These plantings were not always successful.

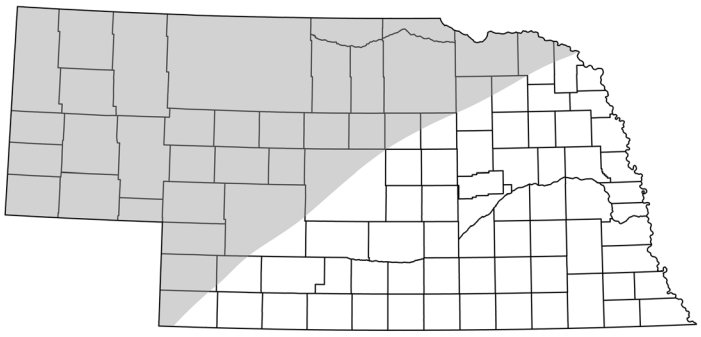
Other

Pawnee Native Americans gathered the leafy branches and spread them on the ground near the place of butchering. Fresh meat was placed on the branches to keep it clean. Some Lakota cut false indigo to feed to horses and made arrow shafts from the stems. False indigo emits a pleasant, sweet fragrance when flowering.



False indigo

Fringed sagewort



COMMON NAME:	**Fringed sagewort (fringed sagebrush, prairie sagewort)**
Species:	*Artemisia frigida* Willd.
Growth Form:	Shrub (woody base only)
Life Span:	Perennial
Origin:	Native
Flowering:	August to September
Height:	0.1–0.4 m (0.3–1.3 ft)

Vegetative Characteristics

stems:	forming mats with numerous ascending or erect stems arising from a woody base
leaves:	alternate, clustered near the base and scattered above; blades divided into linear-filiform segments (up to 1.2 cm long, 1 mm wide); margins entire; both surfaces gray tomentose; lower leaves on petioles; upper leaves sessile; with characteristic sage odor
underground:	taproot and caudex

Inflorescence Characteristics

type:	paniclelike or racemelike (2–12 cm long), standing above the foliage; heads pedunculate; leafy; involucre 2 to 3 mm tall, tomentose; ray florets 10–18; disk florets 25–50
flowers:	yellowish-green, discoid (2–3.5 mm long, 4–6 mm wide); ray florets pistillate; disk florets perfect
fruits:	achene, subcylindrical, (1–2 mm long), narrowed toward base, glabrous; seeds 1
seeds:	small

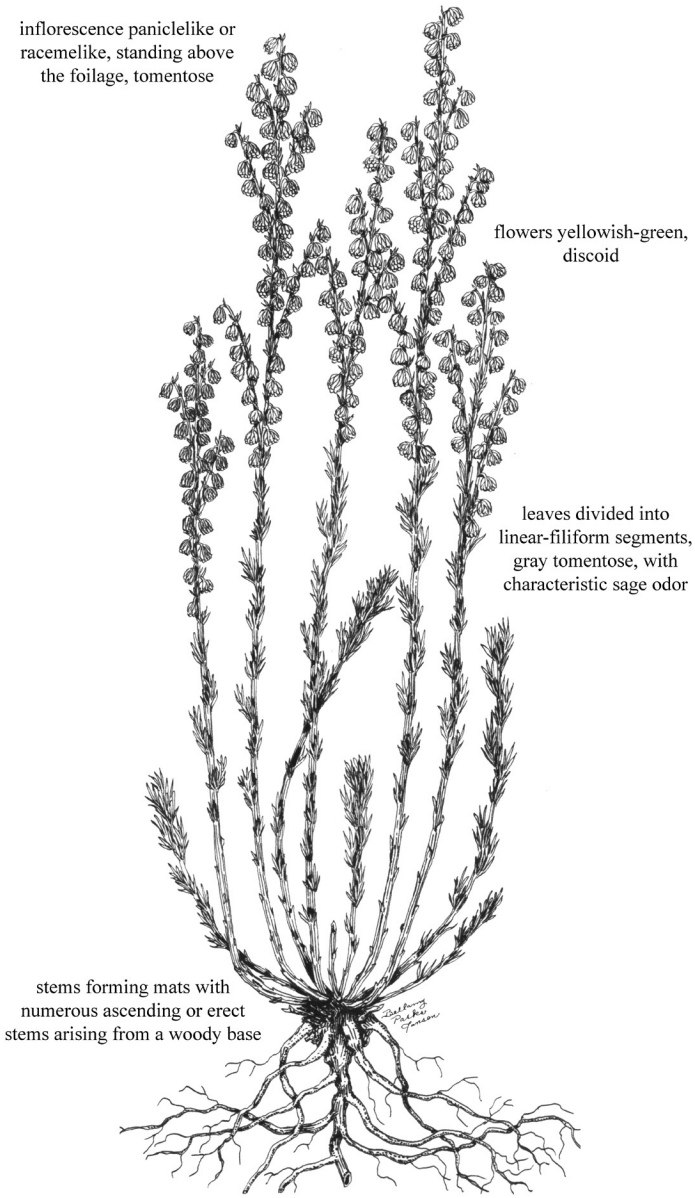
Habitat

Fringed sagewort grows on dry rangelands, especially sandy soils. It is uncommon in the Sandhills. Fringed sagewort is often abundant on old fields several years following abandonment.

Uses and Values

Forage. Forage value of fringed sagewort is poor for cattle and fair for sheep. It increases rapidly with continuous, heavy grazing and becomes a persistent weedy species on depleted rangeland. An abundance of fringed sagewort may be an indicator of abuse.

Poisoning. None.



Fringed sagewort

Grassland Seeding. Fringed sagewort is not included in grassland seeding mixtures.

Prairie Restoration. A small amount of fringed sagewort can be included in restorations on appropriate sites.

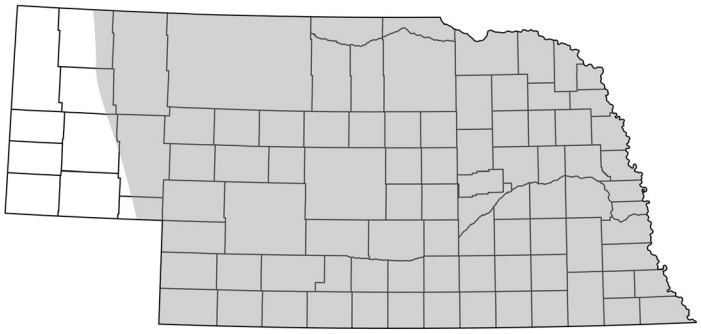
Wildlife. It furnishes good forage for pronghorn, bighorn sheep, deer, and elk. Rabbits and small mammals eat the foliage. Ground-foraging birds eat the fruits.

Ornamental. This low-growing shrub with grayish foliage has been used in border plantings, rock gardens, and mixed with wildflowers. It is drought and heat tolerant and grows best in full sun.

Other

Some Native Americans used fringed sagewort to reduce the greasy, rancid, odor from dried meat. It was used to bandage cuts after being chewed. Steam from boiling leaves was inhaled to relieve congestion. Tea was made from the leaves to treat various maladies.

Leadplant



COMMON NAME:	**Leadplant (prairie shoestring)**
Species:	*Amorpha canescens* Pursh
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	June to July
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect to ascending, branched; new growth covered with long, matted hairs
leaves:	alternate, odd-pinnately compound (3.5–10 cm long); leaflets 11–49; leaflets crowded to overlapping, elliptic to oblong (7–16 mm long, 3–6 mm wide), mucronate on the tip, margins entire; sparingly gland-dotted; lower surface woolly and light green, upper surface darker green and not as woolly; petioles 1–4 mm long, pubescent
underground:	taproot and rhizomes

Inflorescence Characteristics

type:	raceme (6–10 cm long), clustered in groups from the upper leaf axils, several, central raceme the longest and first to flower
flowers:	rose-purple to bright purple, occasionally light blue to violet blue; single petal (4–4.5 mm long), broadly ovate with a slender claw; calyx tube inverted top-shaped (3–5 mm long), surface with resinous glands, lobes 5; lobes lanceolate (1–1.6 mm long), pubescent to canescent; anthers conspicuous, yellowish-orange
fruits:	pods (3–5 mm long, 1.5–2 mm long), curved, covered with woolly pubescence; seeds 1
seeds:	elliptic (2–3 mm long, 1–1.5 mm wide), smooth, orangish-brown, with a slight beak

Habitat

Leadplant grows on well-drained soils of rangelands and prairies. It is abundant in the Sandhills, and it is uncommon in the western Panhandle.

Uses and Values

Forage. Leadplant is excellent forage for livestock. Protein content of the forage is high; especially in the new growth. Leadplant is rarely abundant on heavily grazed rangeland.

Poisoning. None.

Grassland Seeding. Leadplant can be added to grassland seedings. It fixes nitrogen and improves soil fertility. Germination is improved by stratification and scarification.

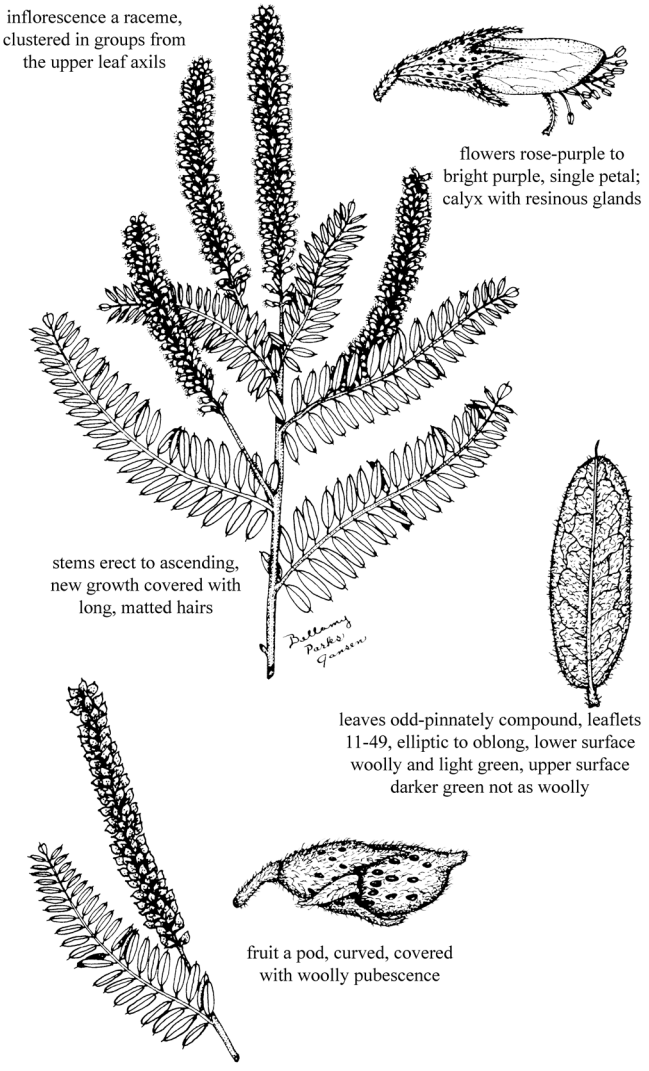
Prairie Restoration. It is an important component of most prairie restorations.

Wildlife. Leadplant produces excellent forage for deer, pronghorn, elk, and bighorn sheep. Its seeds are important food for ground-foraging birds and small mammals.

Ornamental. Leadplant is an increasingly popular ornamental plant. It can be started from seeds and from stem cuttings.

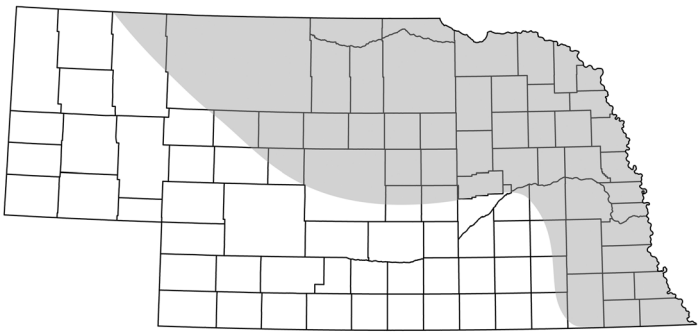
Other

Plains Indians dried the leaves for smoking and tea. It was also used to treat rheumatism and neuralgia. Stems were cut into small pieces, and one end attached to the affected area by first moistening it. The stem pieces were then lit and allowed to burn into the skin as a counterirritant. Leadplant has the appearance of a forb on mowed or burned prairies. When the pioneers plowed the prairies, their plows would occasionally catch the tough rhizomes of leadplant. The rhizomes would stretch until breaking creating a loud "pop" similar to a breaking shoestring. Hence, prairie shoestring became one of the common names.



Leadplant

New Jersey tea



COMMON NAME:	New Jersey tea (redroot)
Species:	*Ceanothus herbaceus* Raf.
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	single to few, not clustered, densely pubescent, flexible; bark grayish-brown and cracked into short slits
leaves:	alternate, simple; blades ovate to elliptic (4–6 cm long, 1–2.5 cm wide); tips acute to obtuse; bases wedge- to heart-shaped; margins finely serrate (7–9 teeth per cm); usually with 3 main veins arising from the base; upper surface dark green and glabrous or pubescent; lower surface paler and pubescent
underground:	taproot and lateral roots, reddish

Inflorescence Characteristics

type:	panicle of umbellike clusters, loose; umbels 1–3, solitary and terminal on leafy twigs of the year; slightly exceeding the leaves
flowers:	white, perfect, petals 5; petals pipe-shaped (1.5 mm long), clawed, hooded
fruits:	capsules (3–4.5 mm wide), dark brown to black; lobes 3, lobes not dorsally crested; seeds 3
seeds:	plano-convex, reddish-brown (2 mm long, 1.6–1.8 mm wide), pitted

Habitat

New Jersey tea grows on rangelands, prairies, and roadsides in sandy and loamy soils. It is most abundant in areas protected from grazing in the eastern Sandhills.

Uses and Values

Forage. New Jersey tea produces good quality forage for livestock and quickly decreases when grazed. Therefore, it is most common in areas such as roadsides and protected north slopes.

Poisoning. None.

Grassland Seeding. It is not included in grassland seedings.

Prairie Restoration. It should be included in prairie restorations on sandy and loamy soils in the eastern one-half of the state. It fixes nitrogen and can improve soil fertility.

Wildlife. It produces good to excellent quality forage for big game. Its seeds are eaten by many types of birds and small mammals.

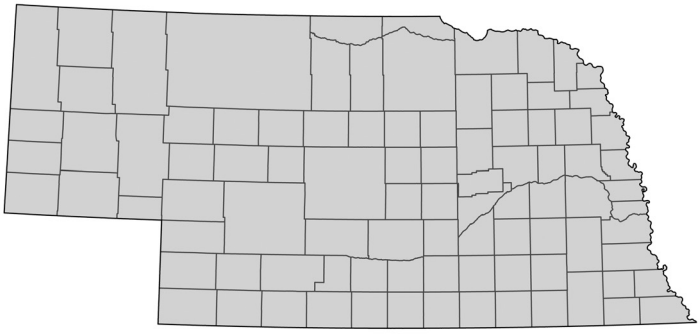
Ornamental. New Jersey tea is a small shrub with showy white flowers. It can be propagated from seeds or cuttings. Seeds germinate best after being soaked in warm water and stratified. It grows best in full sun to partial shade.

Other

Some Lakota dried the leaves in the shade for tea. Tea was also made from the bark of the roots. It was thought to be effective for asthma, bronchitis, and whooping cough. The roots were used for firewood.

New Jersey tea

Poison ivy



COMMON NAME:	**Poison ivy (western poisonivy)**
Species:	*Toxicodendron radicans* var. *rydbergii* (Small *ex* Rydb.) Erskine
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	May to June
Height:	0.3–2 m (1–6.6 ft)

Vegetative Characteristics

stems:	erect, simple to branching above, without aerial roots, never climbing
leaves:	alternate, 3-foliate; leaflets ovate to elliptic (5–17 cm long, 3–10 cm wide), tips pointed; margins entire to irregularly dentate, undulate, or notched; upper surface glabrous or thinly pubescent on the midrib; shiny; turning yellow to deep red in autumn; petioles glabrous
underground:	rhizomes, creeping forming thickets

Inflorescence Characteristics

type:	panicle; dioecious; male panicles axillary (3–10 cm long); female panicles axillary (4–5 cm long), flowers few
flowers:	yellowish-green, unisexual; petals 5, ovate to oval (1.8–2 mm long); sepals 5 (about 1.5 mm long), united at the base
fruits:	drupes, globe-shaped (4–7 mm in diameter), grayish-white to yellow or tan, usually glabrous, often persistent; seeds 1
seeds:	stone, ovate (3–4 mm in diameter), grayish-striped

Habitat

Poison ivy grows on prairies, meadows, rangelands, pastures, roadsides, waste places, and in thickets. On rangelands, it is most common on hillsides.

Uses and Values

Forage. Poison ivy is worthless to cattle. They rarely browse the plant. Goats and sheep may eat poison ivy.

Poisoning. Poison ivy contains oils and resins, known as urushiols, which cause dermatitis in about half of the people within a few hours of contact. Plants retain the urushiols after drying, and smoke from burning plants may be dangerous. Animals are seldom susceptible, although their fur can transmit urushiols to humans.

Grassland Seeding. It is not included in grassland seeding mixtures.

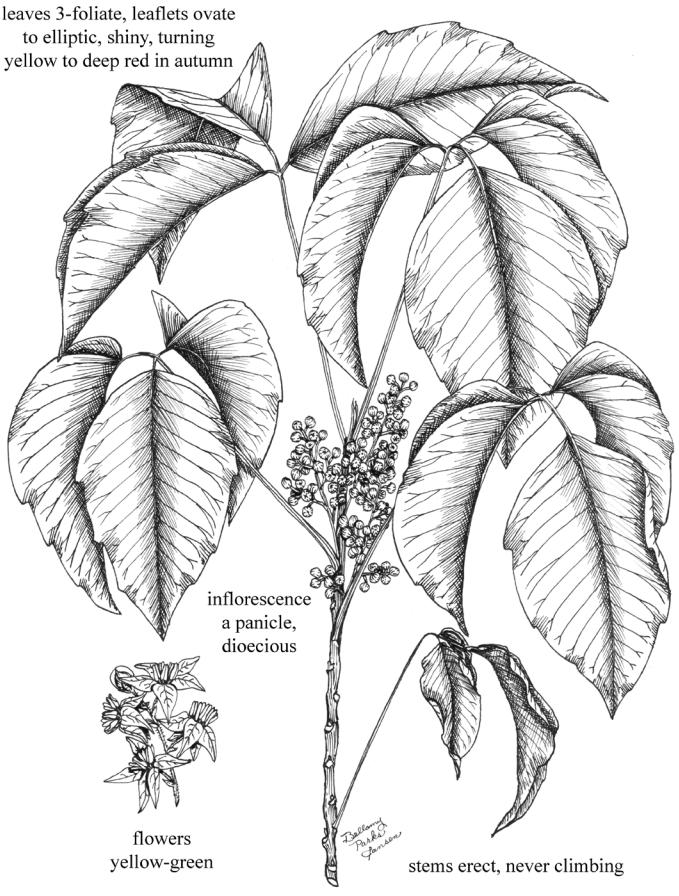
Prairie Restoration. Poison ivy is not included in prairie restorations.

Wildlife. Deer browse the leaves and twigs. Wild turkeys and ground-foraging birds eat the fruits.

Ornamental. It is not planted as an ornamental because of the potential of causing dermatitis.

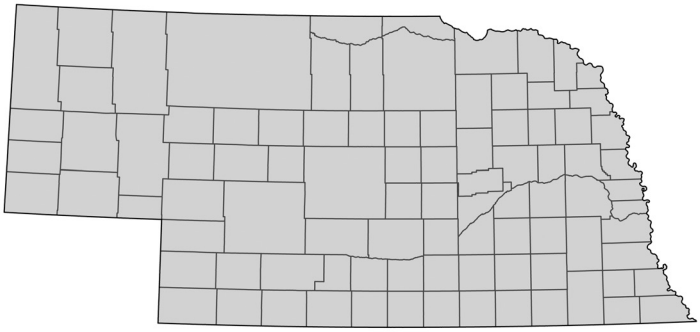
Other

Eastern poisonivy [*Toxicodendron radicans* var. *negundo* (Greene) Reveal] is common in the eastern one-half of Nebraska. This highly variable species may be in the form of a vine or shrub, and it frequently has aerial roots. The petioles of mature leaves are usually pilose to puberulent. Contrary to popular belief, poison oak (*Toxicodendron pubescens* Mill.) does not grow in Nebraska. Plants referred to a poison oak in Nebraska are usually the vine form of *Toxicodendron radicans*.



Poison ivy

Prairie wildrose



COMMON NAME:	**Prairie wildrose (wild rose, Arkansas rose)**
Species:	*Rosa arkansana* Porter [= *Rosa suffutta* Greene]
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	May to August
Height:	0.1–1 m (0.3–3.3 ft)

Vegetative Characteristics

stems:	erect to spreading, flexible, red to brown, with prickles (thorns); prickles 1–3.5 mm long, sometimes up to 8 mm long
leaves:	alternate, odd-pinnately compound, leaflets 5–11; leaflets obovate to oval (1–6 cm long, 1–3 cm wide), margins serrate on upper two-thirds; upper surface dark green and glabrate; lower surface paler and pubescent; with stipules (1.5–1.8 cm long), margins entire or serrate or glandular-serrate
underground:	stout, horizontal roots

Inflorescence Characteristics

type:	corymblike clusters (usually 3 or more) or solitary flowers, terminal, borne on both current and previous years' growth
flowers:	pink (white to deep rose), petals 5; petals broadly ovate (1.5–3 cm long), notched at tip; sepals 5 (1.5–3 cm long), outside stipitate-glandular, inside pubescent
fruits:	fruiting accessories (commonly called hips) of numerous achenes enclosed by a large fleshy hypanthium, subglobose (1–1.5 cm long), red
seeds:	ovoid (4.5–5 mm long), flattened on the sides, straw-colored, tuft of hairs at the tip

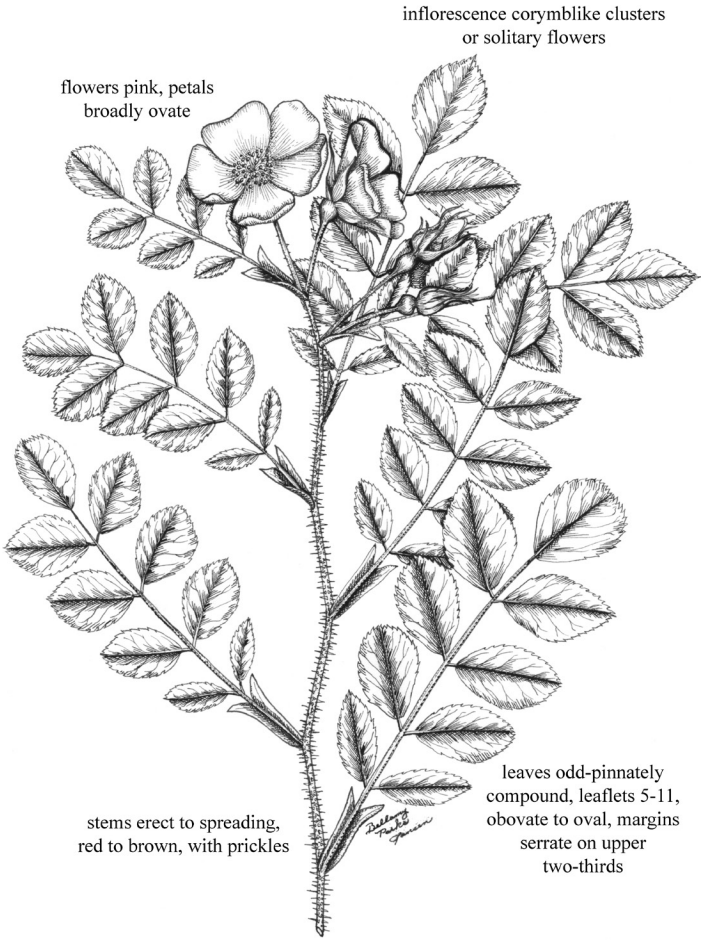
Habitat

Prairie wildrose grows in dry soils of rangelands, pastures, prairies, roadsides, bluffs, hills, and thickets. It is common in the Sandhills.

Uses and Values

Forage. Prairie wildrose produces poor to fair forage for cattle and sheep, especially in the early spring when it is immature. It increases with abusive grazing practices.

Poisoning. It is not poisonous to livestock, but the thorns may injure soft tissue of the noses and mouths of livestock.



Prairie wildrose

Grassland Seeding. It is not a component of grassland seeding mixtures.

Prairie Restoration. Prairie wildrose should be included in prairie restorations.

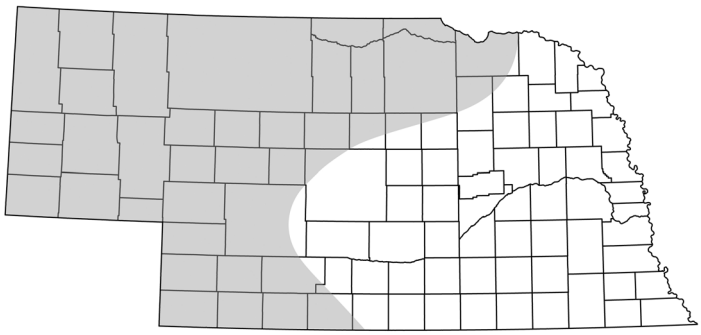
Wildlife. It provides good browse for deer and pronghorn. The fruits, commonly called hips, are important winter food for small mammals, wild turkeys, prairie chickens, and other birds.

Ornamental. Selections of prairie wildrose are used extensively in beds, borders, and a specimen plantings. The flowers are used in bouquets. They grow best in well-drained soils in full to partial sun.

Other

Several species of wildrose are found in Nebraska. Native Americans used young shoots as a pot herb, leaves were steeped for tea, petals were eaten raw, inner bark was smoked like tobacco, and dried petals were stored for perfume. The hips were eaten and were an important source of vitamins A and C.

Sand sagebrush



COMMON NAME:	**Sand sagebrush (sand sage, sandhill sage)**
Species:	*Artemisia filifolia* Torr.
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	June to September
Height:	0.3–1 m (1–3.3 ft)

Vegetative Characteristics

stems:	erect to ascending, freely branching; branches ascending to erect, pubescent when immature; bark often marked with longitudinal grooves or lines; bark of older stems exfoliating in thin strips
leaves:	alternate, simple; blades usually clustered, filiform (3–5 cm long, 3–5 mm wide); margins entire, both surfaces gray-green with appressed pubescence; sessile; aromatic
underground:	taproot and lateral roots.

Inflorescence Characteristics

type:	paniclelike (15–20 cm long), plumelike, leafy, heads numerous; phyllaries imbricate, tomentose; ray florets 2–4, pistillate; disk florets 3–5, staminate
flowers:	green ray florets (0.6–0.7 mm long); yellowish disk florets (1.5 mm long)
fruits:	achenes, obovoid (0.7–1 mm long, 0.4–0.5 mm wide); ribs 4–5: covered with woolly scales; seeds 1
seeds:	small, rarely reach maturity

Habitat

Sand sage grows in sandy rangeland soils. It is considered to be an indicator of sandy soils.

Uses and Values

Forage. Sand sage is poor to worthless for cattle, and they seldom browse it. It is poor to fair for horses and sheep. It increases with heavy, continuous grazing and may nearly completely cover low sandy hills.

Poisoning. It has been reported to cause "sage sickness" in horses. Symptoms of nervousness and paralysis of the forelegs have been noted soon after horses unaccustomed to sand sage have been turned onto rangeland with the plants. After a week or two, they adjust to the plants and the symptoms disappear.

Grassland Seeding. Sand sage is not used in grassland seedings.

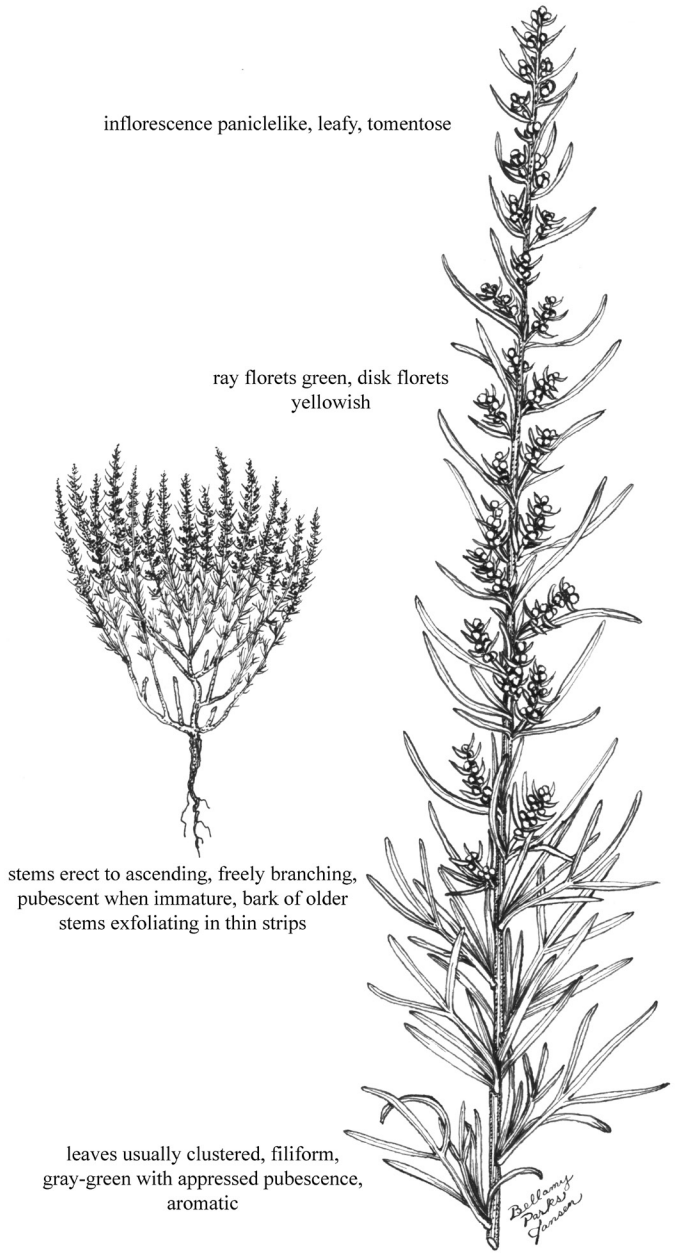
Prairie Restoration. It should be included in prairie restorations on appropriate sites. It helps to stabilize light, sandy soils.

Wildlife. Fruits of sand sage are an important food for sharp-tailed grouse, prairie chickens, and other ground-foraging birds. It furnishes fair forage for pronghorn and deer.

Ornamental. Sand sage tolerates drought and heat, and it is adapted to poor soils. Its threadlike, silver foliage is attractive, and it has been used as an accent or background plant. It should be planted in well-drained soils in full sun. Commercial seed is available.

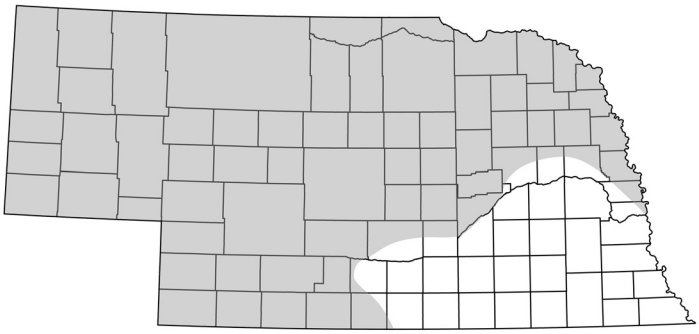
Other

Sand sage is an important hay fever plant. The whole plant is aromatic.



Sand sagebrush

Silver buffaloberry



COMMON NAME:	Silver buffaloberry (buffaloberry)
Species:	*Shepherdia argentea* (Pursh) Nutt.
Growth Form:	Shrub or small tree
Life Span:	Perennial
Origin:	Native
Flowering:	April to May
Height:	2–5 m (6.6–16.4 ft)

Vegetative Characteristics

stems:	erect, freely branching; branches reddish-brown; densely scaly; scales silver; sometimes spine-tipped
leaves:	opposite, simple; blades lanceolate to elliptic (3–5 cm long, 7–10 mm wide); tips rounded; margins entire; both surfaces covered with peltate scales (0.2 mm in diameter); scales silvery, often with a reddish center; petioles 4–6 mm long
underground:	rhizomes, forming dense thickets

Inflorescence Characteristics

type:	dioecious; flowers clustered on short spur branches from the previous year; female flowers on stout pedicels (1–1.2 mm long), axillary; appearing before the leaves
flowers:	male flower calyx greenish to brownish-yellow, yellowish on the inside, lobes 4; lobes ovate (2–2.5 mm long, 1–1.5 mm wide), spreading or sharply-reflexed, female flower calyx lobes erect to spreading, ovate (0.7–1 mm long), scaly

fruits:	drupes, subglobose (6–8 mm long, 7–9 mm wide), bright red, lustrous, smooth, with a few silvery or reddish scales; seeds 1
seeds:	light or dark brown (3–4 mm long, 2.4–2.8 mm wide), flattened, smooth or minutely pitted, shallow groove on each surface.

Habitat

Silver buffaloberry is found on rangelands, pastures, river bottoms, and stream banks. It grows on ravines and steep hillsides in the loess hills. It is common on sandy soils but is uncommon in the Sandhills.

Uses and Values

Forage. Silver buffaloberry is nearly worthless as forage for cattle and horses. It provides fair forage for sheep.

Poisoning. None, but the twigs ending in spines may cause damage to soft tissues.

Grassland Seeding. Silver buffaloberry is not included in grassland seeding mixtures.

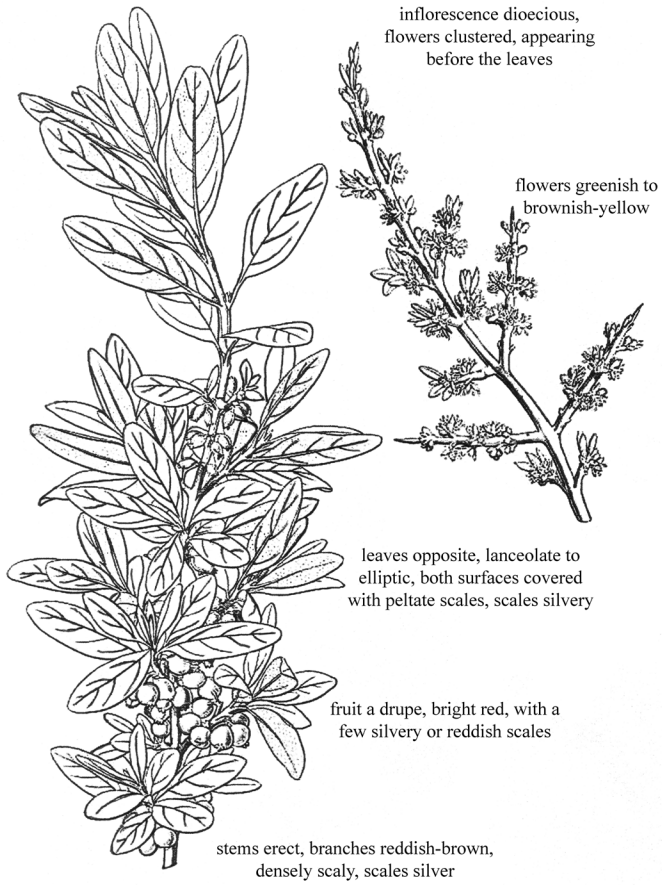
Prairie Restoration. It could be added to ravines and other appropriate sites in restorations.

Wildlife. Silver buffaloberry is browsed by deer, elk, and pronghorn. It is especially valuable in winter. The buds are eaten by sharp-tailed grouse in winter, and the drupes are eaten by many birds and small mammals. It provides important escape cover for many wildlife species.

Ornamental. It is planted in wind breaks and shelterbelts. Its use is limited in other applications because it spreads rapidly by rhizomes.

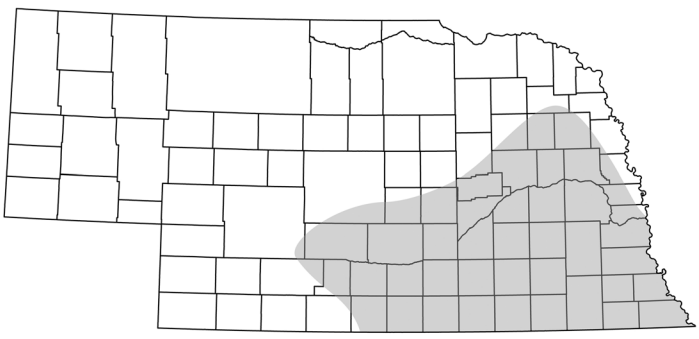
Other

The fruit of silver buffaloberry was an important food for Plains Tribes and pioneers. Even today, it is used in pies, jams, and jellies.



Silver buffaloberry

Buckbrush



COMMON NAME:	Buckbrush (coralberry)
Species:	*Symphoricarpos orbiculatus* Moench
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	July to August
Height:	0.2–1.5 m (0.6–4.9 ft)

Vegetative Characteristics

stems:	erect, slender, surfaces sparsely pubescent and then becoming nearly glabrous; internodes not hollow
leaves:	opposite, simple; blades elliptic to ovate or suborbicular (2–5 cm long, 1–3.5 cm wide); tips sharply pointed to blunt or sometimes rounded; margins usually entire or occasionally with blunt and irregular teeth; upper surface dull green and glabrous; lower surfaces lighter in color or whitened and variously pubescent; petiole (1–3 mm long) pubescent
underground:	rhizomes, creeping; producing large colonies and thickets

Inflorescence Characteristics

type:	raceme, spikelike, terminal and axillary; flowers 4–12
flowers:	greenish-white to purple, corolla bell-shaped, tube densely hairy within; lobes 5 (2.4–4 mm long, 2–3 mm wide), lobes barely spreading; stamens and style included not exserted; short-pedicellate
fruits:	drupes (4–6 mm wide), nearly globose to elliptic, coral or pink to red or purple, fleshy; calyx persistent; seeds 2
seeds:	ovate to elliptic (2.5–3 mm long), flattened on one side, white to light tan, smooth

Habitat

Buckbrush is most common in the southeastern one-quarter of the state. It grows in pastures, rangelands, woodland, ravines, and along streams.

Uses and Values

Forage. Buckbrush is worthless for cattle and increases on heavily grazed land.

Poisoning. The foliage contains a saponin. It is seldom a problem because only small amounts of leaves are eaten by livestock.

Grassland Seeding. It is not used in grassland seedings.

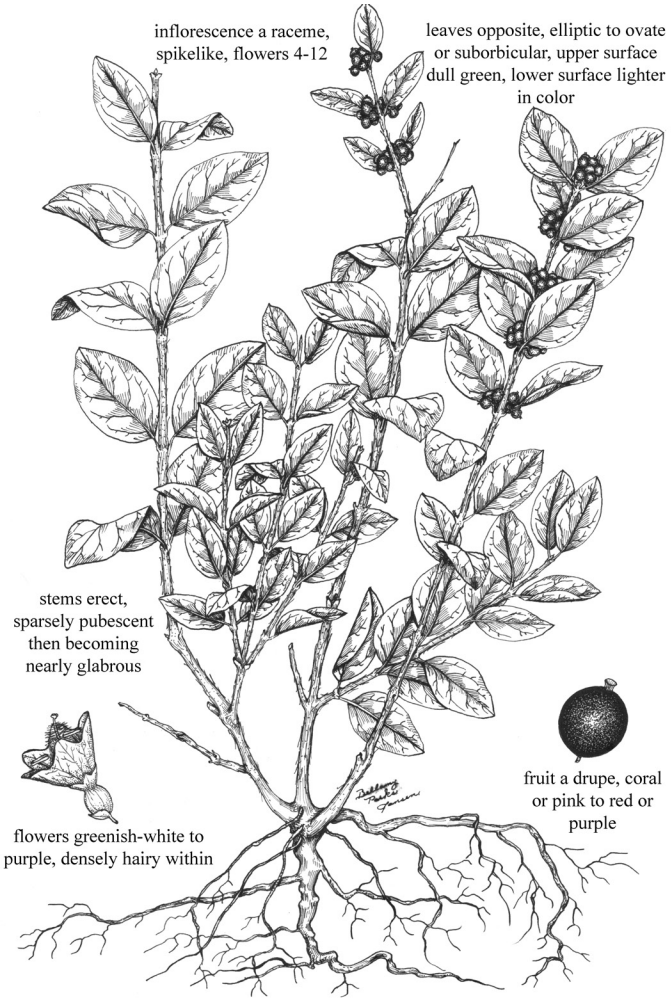
Prairie Restoration. It spreads quickly and is rarely used in restorations.

Wildlife. Buckbrush can be an important browse plant for deer, and its fruits and seeds provide food for pheasants, quail, prairie chickens, sharp-tailed grouse, and songbirds.

Ornamental. Buckbrush has limited use as an ornamental. Some varieties have been selected for an arching growth habit. It is sometimes used as a ground cover for large areas. It will grow in partial shade to full sun.

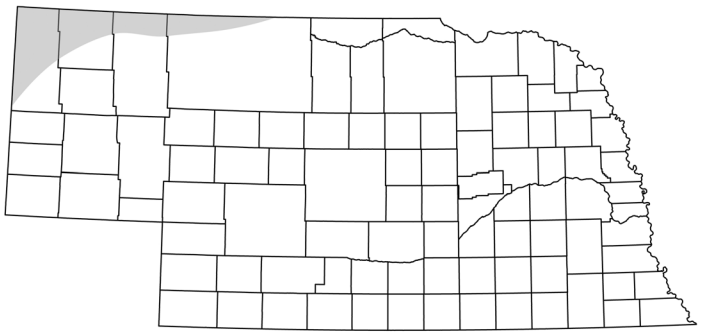
Other

Buckbrush leaves were steeped by some Native Americans to make a wash for sore eyes. The fruits were eaten during times of famine, and the boiled fruits were fed to horses as a diuretic.



Buckbrush

Common snowberry



COMMON NAME:	Common snowberry (white coralberry)
Species:	*Symphoricarpos albus* (L.) S.F. Blake
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	June to July
Height:	0.1–1 m (0.3–3.3 ft)

Vegetative Characteristics

stems:	erect to ascending, yellowish-brown, covered with curled hairs (especially at the nodes); internodes hollow
leaves:	opposite, simple; blades oval to ovate (1–8 cm long, 2–4 cm wide), margins entire and ciliate or occasionally irregularly toothed, upper surface dark green and glabrate, lower surface paler and pubescent; pedicellate
underground:	rhizomes, creeping; producing thickets

Inflorescence Characteristics

type:	raceme, spikelike, terminal; flowers 2–5 (occasionally single); axillary with 1–2 flowers
flowers:	pinkish to white, corolla bell-shaped (3–9 mm long, 3–3.5 mm wide), tube densely hairy within; lobes 5, lobes not spreading
fruits:	drupes (8–9 mm long, 6–8 mm wide), ovoid, white, smooth; seeds 2
seeds:	white, elliptic (4–5 mm long, 2–2.5 mm wide)

Habitat

Common snowberry grows on heavily grazed rangeland, open slopes, and ravines in either moist or dry soil.

Uses and Values

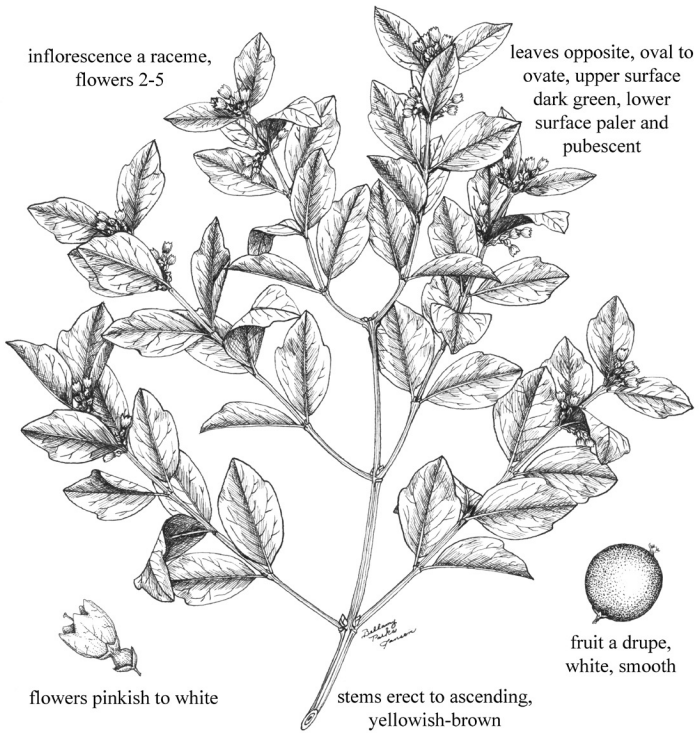
Forage. Forage quality of common snowberry is rated as poor in Nebraska. It is rated much higher in the western states. It is browsed by sheep in the winter. It increases with heavy grazing, especially in valleys and overflow sites with extra moisture.

Poisoning. A poisonous saponin has been reported to be present in the leaves. It is seldom a problem because only small amounts of the leaves are eaten by livestock.

Grassland Seeding. Common snowberry is not used in grassland seedings.

Prairie Restoration. It could be planted on appropriate sites within prairie restorations in western and north central Nebraska. It spreads quickly on moist banks and helps to prevent erosion.

Wildlife. Common snowberry is more important as a food source for wildlife than livestock. It is browsed by deer, bighorn sheep, elk, and pronghorn. Because the fruits persist into the winter, they are an important food for upland birds and small mammals. Butterflies are attracted to the flowers.



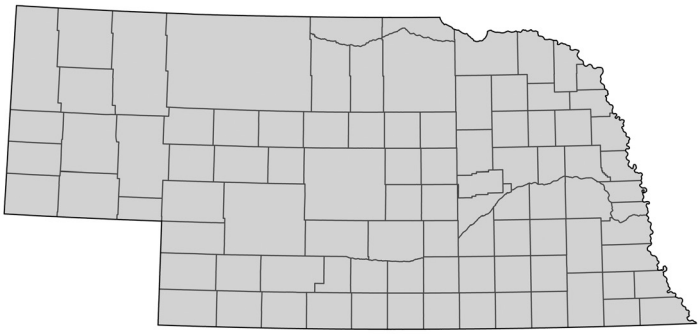
Common snowberry

Ornamental. Common snowberry is used has a large scale ground cover and shrub border. The rangeland plant is var. *albus* while the cultivated plant is var. *laevigatus* (Fernald) S.F. Blake. The cultivated variety is usually more erect and taller. The flowers and fall foliage are not showy, but the fruits are attractive and persist. Care should be taken because common snowberry spreads rapidly by rhizomes.

Other

Native Americans made tonic from the roots, eyewash from the bark, and all parts were crushed and applied to wounds.

Western snowberry



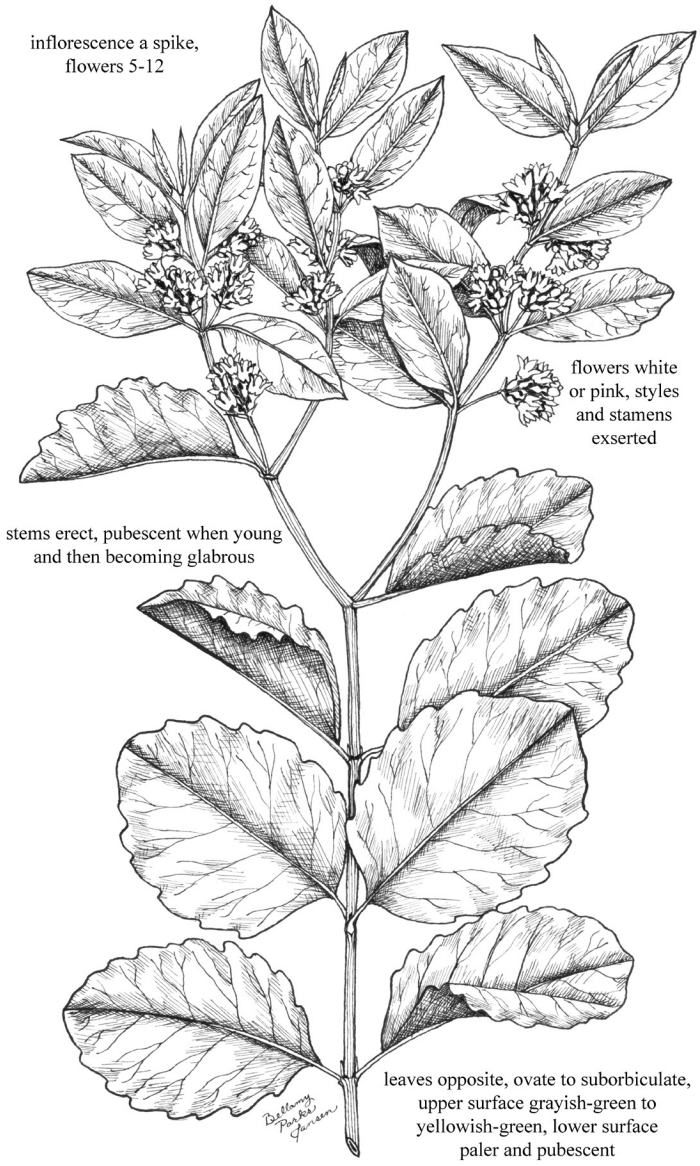
COMMON NAME:	**Western snowberry (wolfberry)**
Species:	*Symphoricarpos occidentalis* Hook.
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	June to July
Height:	0.2–1.3 m (0.6–4.3 ft)

Vegetative Characteristics

stems:	erect, flexible, pubescent when young and then becoming glabrous
leaves:	opposite, simple; blades ovate to suborbiculate (2–6 cm long, 1–3.5 cm wide); margins entire or with coarse rounded teeth; upper surface grayish-green to yellowish-green and glabrate; lower surface paler and pubescent
underground:	rhizomes, extensive; forming large colonies and thickets

Inflorescence Characteristics

type:	spike, terminal or axillary; flowers 5–12
flowers:	white or pink (coral), corolla bell-shaped (4–8 mm long); lobes 5, spreading; style and stamens exserted or longer than the corolla; sessile; sweetly fragrant
fruits:	drupes, globose (5–9 mm in diameter), white drying blackish or bluish, seeds 2; sessile
seeds:	oval, flattened (2–3 mm long, 1.5–2 mm wide), pale yellow, smooth or finely lined or ridged



Western snowberry

Habitat

Western snowberry grows on rangelands, pastures, woodlands, and in ravines. It is common in the Sandhills.

Uses and Values

Forage. Western snowberry is rated as poor forage for cattle and fair for sheep. It spreads on abused rangeland.

Poisoning. The plants contain saponins, but they are seldom troublesome because only small amounts of the plants are eaten by livestock.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Western snowberry may be used to stabilize moist soils on banks and slopes.

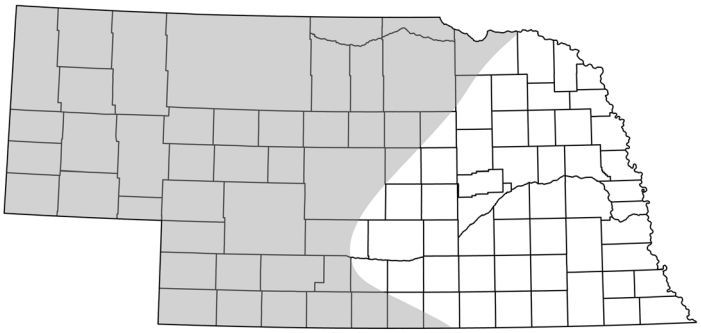
Wildlife. Western snowberry provides food and cover for many species of wildlife. Its leaves and twigs are eaten by deer and pronghorn. The fruits are eaten by sharp-tailed grouse, other birds and small mammals.

Ornamental. It is used occasionally in landscaping. It grows best in well-drained soils, and it does well in either sun or shade. It can be trimmed to form a hedge.

Other

Lakota children made light-weight arrows from western snowberry to use in play. The fruits are insipid but they can be eaten. An infusion of the leaves was used as an eye wash.

Skunkbrush sumac



COMMON NAME:	**Skunkbrush sumac (skunkbrush, fragrant sumac)**
Species:	*Rhus aromatica* Aiton [= *Rhus trilobata* Nutt.]
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	April to June
Height:	0.5–3 m (1.6–9.8 ft)

Vegetative Characteristics

stems:	erect, much-branched, branches alternate; glabrous to pubescent, gray brown to red or dark brown; smooth to fissured; fragrant when bruised
leaves:	alternate, compound, 3-foliate; leaflets sessile or nearly so, variable in shape, ovate to broadly ovate, lateral leaflets smallest (3.5–4 cm long, 2–2.5 cm wide); terminal leaflet largest (5–6 cm long, 3–4 cm wide); margins 3–7-lobed; upper surface green, lower surface pale, both surfaces glabrous to sparsely pubescent; leaflets sessile to subsessile; aromatic, fragrance unpleasant
underground:	taproot

Inflorescence Characteristics

type:	spikelike clusters (about 6 cm long, 3 cm wide), dense, terminal; appearing before the leaves or with the leaves from catkins formed the previous season
flowers:	yellowish-green to brown, inconspicuous; petals 5; petals obtuse (1–2 mm long), spreading at maturity
fruits:	drupes, globose (4–7 mm long), red or reddish-orange, lightly to densely hirsute, hairs simple to glandular; occurring in clusters; persistent in winter; seeds 1
seeds:	stone (4.5–6.2 mm long), somewhat flattened

Habitat

Skunkbrush sumac grows in dry hillside ravines and canyon bottoms of rangelands and prairies.

Uses and Values

Forage. Skunkbrush sumac provides poor to fair forage for cattle and sheep. It increases with abusive grazing.

Poisoning. None.

Grassland Seeding. It is not used in grassland seedings.

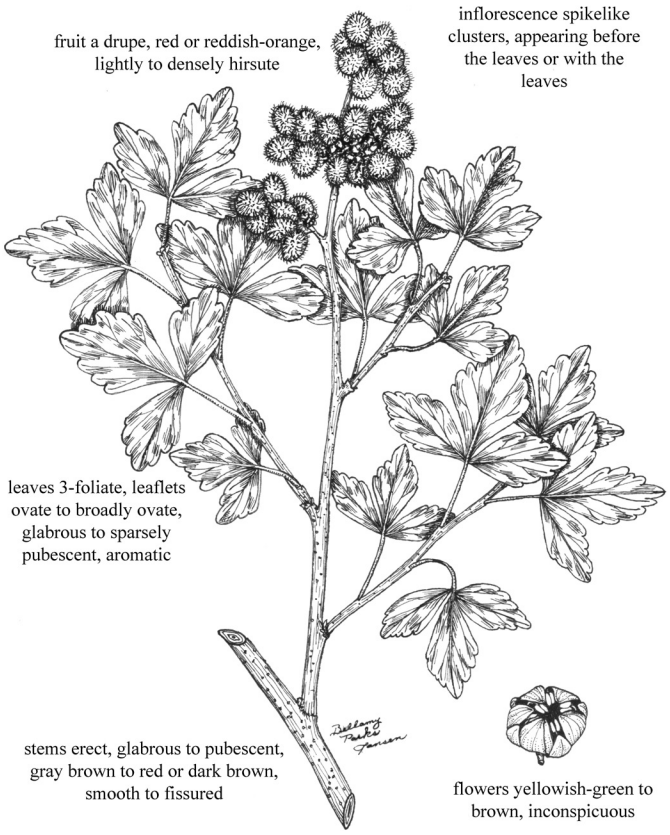
Prairie Restoration. It can be included in prairie restorations on appropriate sites.

Wildlife. Skunkbrush sumac provides browse for deer, bighorn sheep, and pronghorn. The fruit is an important food for birds in the winter.

Ornamental. It is used extensively in landscaping throughout Nebraska. The brilliantly colored berries (fruits) are used in wreaths and other holiday decorations.

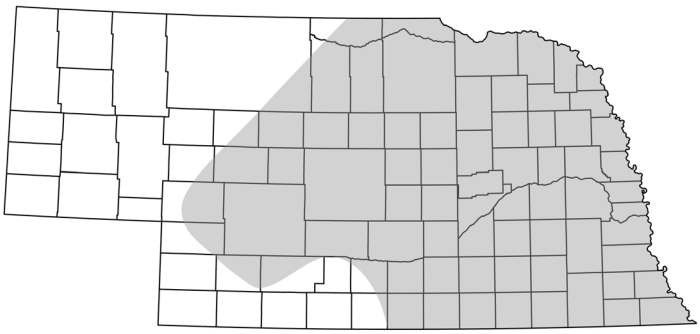
Other

Native Americans used the berrylike fruit for food, medicine, and lemonadelike drinks. The slender shoots were used for basket weaving. The leaves were mixed with tobacco and smoked. The bruised leaves emit an unpleasant odor, thus the common name "skunkbrush" sumac.



Skunkbrush sumac

Smooth sumac



COMMON NAME:	Smooth sumac
Species:	*Rhus glabra* L.
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	June to July
Height:	1–4 m (3.3–13.1 ft)

Vegetative Characteristics

stems:	erect, rigid, single or few-branched, reddish-brown to purple when young; grayish-brown when older, glabrous, glaucous
leaves:	opposite to sub-opposite, odd-pinnately compound, leaflets 7–17; leaflets elliptic to narrowly ovate (7–10 cm long, 2–3 cm wide); margins coarsely serrate (2–3 teeth per cm); upper surface dark green and lustrous, lower surface whitened and glaucous; leaves turn bright red in the fall
underground:	rhizomes, extensive; forming dense thickets

Inflorescence Characteristics

type:	panicle, pyramidal, dioecious; staminate inflorescence diffuse, often broader than long; pistillate inflorescence more congested
flowers:	yellowish-green pistillate flowers, petals 5; petals ovate (2.5 mm long, 1 mm wide), weakly fragrant; yellowish-green staminate flowers, petals 5; petals ovate (3–3.5 mm long, 1 mm wide), odorless

fruits:	drupes, globose and compressed (3.5–4.5 mm in diameter), dark red, pubescent; seeds 1
seeds:	oval to elliptic (3.5 mm long, 2.5 mm wide), straw-colored, smooth

Habitat

Smooth sumac is found on rangelands, prairies, fence rows, roadsides, thickets, abandoned fields, pastures, and edges of woodlands in all soil types.

Uses and Values

Forage. Smooth sumac is nearly worthless as forage to cattle. Dense stands provide shelter to livestock. It increases on abused and little used rangeland and prairie, especially in draws and on hillsides.

Poisoning. Contrary to popular belief, smooth sumac is not poisonous nor does it cause dermatitis.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Smooth sumac is not recommended for prairie restorations because it spreads rapidly.

Wildlife. Deer, elk, and rabbits occasionally browse the leaves. The seeds are eaten as an emergency food by wild turkeys, pheasants, and quail. Dense stands provide shelter for wildlife.

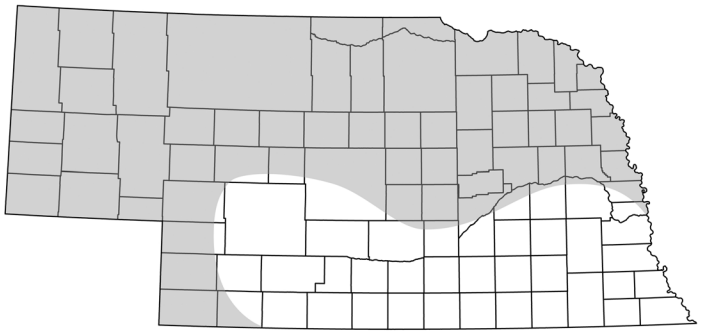
Ornamental. Smooth sumac is used as a landscape shrub, but it spreads rapidly and is difficult to control.

Other

The Lakota crushed the fruit in water to make a drink. Leaves were smoked after they turned red in the fall, and a yellow dye was extracted from the roots. It is one of the few shrubs that is not controlled with prescribed burning. Plants belonging to this genus contain tannic acid and extracts were formerly used to tan leather. The common name "sumac" is an alteration of "shoe-make," referring to its use in tanning.

Smooth sumac

Western sandcherry



COMMON NAME:	**Western sandcherry (dwarf cherry, sand cherry)**
Species:	*Prunus pumila* L. var. *besseyi* (L.H. Bailey) Waugh [= *Prunus besseyi* L.H. Bailey]
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	April to May
Height:	0.1–0.9 m (0.3–3 ft)

Vegetative Characteristics

stems:	ascending to decumbent, not branched or few-branched above, young bark red and turning reddish-gray with age; waxy; bases often buried in sand
leaves:	alternate, simple, often clustered; blades elliptic or obovate to oblanceolate (4–6.5 cm long, 1–2.5 cm wide), acute to obtuse; margins finely serrate with longer teeth near the base; upper surface dark green and glabrous; lower surface paler and often appearing waxy; petioles glabrous
underground:	taproot, not forming thickets

Inflorescence Characteristics

type:	clusters of 2–4 flowers, from axillary buds on old wood, appearing before and with the leaves
flowers:	white to pinkish; petals 5; petals ovate (6–8 mm long, 3–4 mm wide); sepals rounded, often slightly toothed; fragrant
fruits:	drupes, globose to ovoid (1–1.4 cm long), dark purple, lustrous; seeds 1
seeds:	stone, oval (7–8 mm long), flattened, flesh-colored, ridged on one side

Habitat

Western sandcherry grows in sandy soils of rangeland and roadsides. It is most common on dry soils in the Sandhills.

Uses and Values

Forage. Western sandcherry produces good quality forage for cattle and sheep. It can be eliminated from the plant community when subjected to abusive grazing.

Poisoning. Hydrocyanic (prussic) acid may be present in regrowth following frost and dry periods. Few problems with poisoning have been reported.

Grassland Seeding. It is not used in grassland seedings.

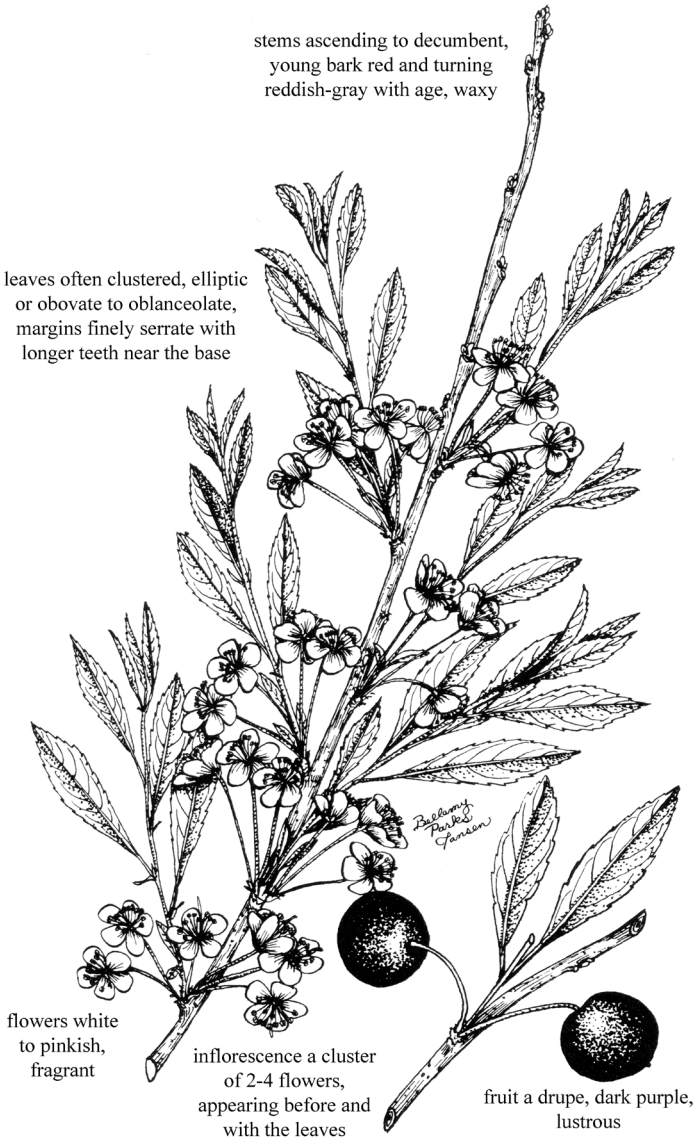
Prairie Restoration. It could be added to restoration mixtures planted in sandy soils.

Wildlife. Western sandcherry is browsed by deer and pronghorn. The fruit is locally important for birds and small mammals.

Ornamental. It is planted for fruit production and as a low-growing shrub in landscapes. Improved selections are available from nurseries. It grows best in well-drained soils in full sun.

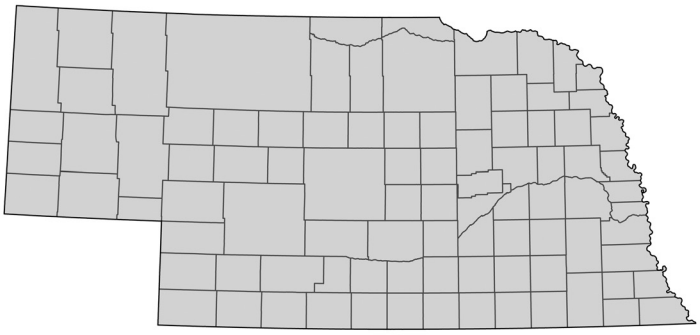
Other

The fruit of western sandcherry has long been a favorite for jams and jellies. It is tart, but has a pleasant flavor when fully ripe. The variety was named after a famous Nebraska botanist, Charles E. Bessey (1845–1915).



Western sandcherry

Wild plum



COMMON NAME:	**Wild plum (American plum)**
Species:	*Prunus americana* Marshall
Growth Form:	Shrub or small tree
Life Span:	Perennial
Origin:	Native
Flowering:	April to May
Height:	2–5 m (6.6–16.4 ft)

Vegetative Characteristics

stems:	erect, branching above; young bark purplish; old bark gray-brown and tinged with red or purple; many branchlets thornlike
leaves:	alternate, simple; blades ovate to elliptic (6–10 cm long, 2–4 cm wide); tips pointed to acuminate; margins serrate or biserrate; upper surface dark green, glabrous; lower surface paler with scattered pubescence, especially on the veins
underground:	rhizomes; forming large, dense thickets

Inflorescence Characteristics

type:	umbellate clusters of 2–5 flowers, from old wood, appearing before and with the leaves
flowers:	white to pinkish; petals 5; petals ovate (9–11 mm long); sepals entire or with a few tiny teeth, pubescent inside, glabrous outside, ciliate on the margins; fragrant
fruits:	drupes, subglobose to ovoid (2–2.8 cm long), purple or red, waxy, borne close to the branches; seeds 1
seeds:	stone, oval (1.5–1.8 cm long), cream-colored, ridged on one edge

Habitat

Wild plum is in rangeland and prairie ravines, fence rows, woodlands, stream banks, and roadsides in all soil types.

Uses and Values

Forage. Wild plum furnishes fair to poor forage for cattle but is not frequently eaten. It provides shelter for livestock.

Poisoning. Toxic quantities of hydrocyanic (prussic) acid may be present in the regrowth of leaves after frost or dry periods. While this substance is toxic to livestock, few problems with poisoning have been reported.

Grassland Seeding. Wild plum is not included in grassland seeding mixtures.

Wild plum

Prairie Restoration. It could be added to ravines and other appropriate sites in restorations.

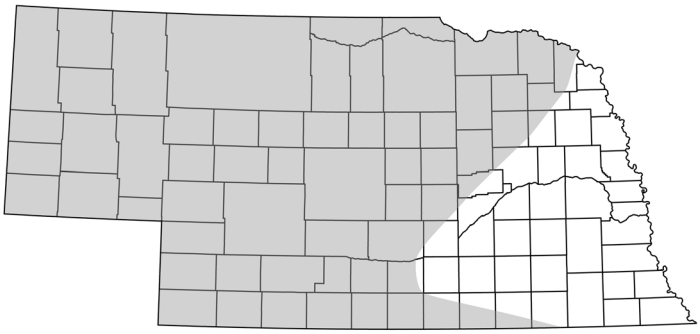
Wildlife. Wild plum is an important source of food and habitat for many types of wildlife.

Ornamental. Wild plum is planted for fruit production and occasionally as a screen planting. Several varieties of wild plum are available from commercial nurseries. Care must be taken because it spreads.

Other

The fruit of wild plum was an important food for Native Americans and pioneers. Even today, it remains a popular fruit for jams and jellies.

Yucca



COMMON NAME:	**Yucca (small soapweed, soapweed, Great Plains yucca)**
Species:	*Yucca glauca* Nutt.
Growth Form:	Shrub
Life Span:	Perennial
Origin:	Native
Flowering:	May to July
Height:	to 1.2 m (3.9 ft)

Vegetative Characteristics

stems:	erect, thick, simple or often clumped
leaves:	closely alternate, radiate from the stem (appearing whorled), simple, evergreen; covering the stem, new leaves appearing in the center, linear (40–70 cm long, 8–15 mm wide), plano-convex; margins entire from which white threads strip and curl, glabrous, waxy, stiff; tip forming a hard, sharp point
underground:	taproot

Inflorescence Characteristics

type:	raceme (occasionally a panicle), mostly exserted above the leaves; flowers 15–50
flowers:	greenish-white to cream-colored perianth, tinged with reddish-purple (rarely mostly reddish-purple), showy, globose; segments 6; outer series 3 ("petals"), elliptic (4.5–5.5 cm long, 3.5 cm wide), tips pointed
fruits:	capsules, cylindrical (5–9 cm long, 3–5 cm in diameter), 3 carpels (each with 2 sections); seeds many, stacked in 6 columns
seeds:	circular to triangular (9–11 mm wide, 8–9 mm in diameter), flat with a small marginal wing, black, semi-glossy

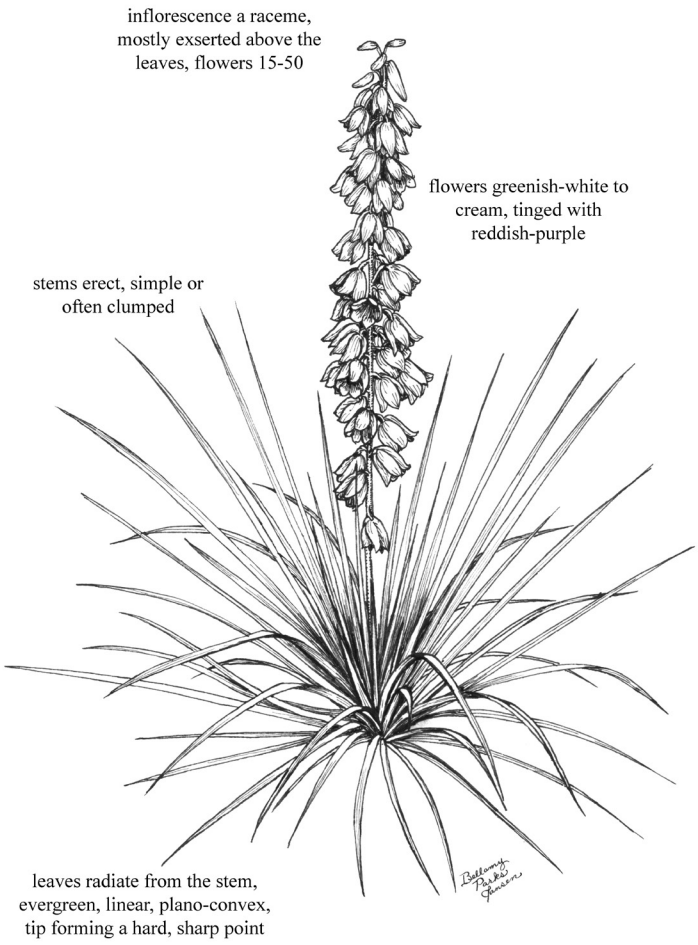
Habitat

Yucca grows in dry soils of rangelands, pastures, and prairies. It is common in the Sandhills.

Uses and Values

Forage. With the exception of the flowers and fruits, yucca is considered poor quality forage for cattle. It increases with summer grazing. Winter browsing by cows is unique during a time when it is one of the only green plants available. Cows drop to their knees, lay their heads sideways, flat to the ground, and chew through the base of the plants to get at the tender parts. Then they stand and eat the plants starting from the base. Plant density may be decreased by several years of intensive winter use by mature cows.

Poisoning. Yucca is not poisonous to animals, but the sharp leaves may cause injury.



Yucca

Grassland Seeding. Yucca is not included in grassland seeding mixtures.

Prairie Restoration. Small numbers of this distinctive plant should be included in prairie restorations.

Wildlife. Big game animals eat the flowers and fruits and occasionally eat the stems and leaves in winter. The evergreen leaves are an important food for rabbits and small mammals in the winter.

Ornamental. Yucca is widely used ornamental in rock gardens and as a specimen planting. It grows best in dry soils and full sunlight. Only very small plants can be transplanted successfully.

Other

Native Americans had many uses for yucca including: young flower stalks were eaten following boiling or roasting; young pods were eaten following peeling and baking or roasting; fibers were extracted from the leaves and then used to make rope, baskets, and sandals; roots were used in making soap to be used especially for removing lice from human hair; fumes from burning roots calmed horses; and the leaf fibers were left attached to the leaf tip and used as a needle and thread. Today, potential medicinal properties of the flowers are being evaluated.

Glossary

A

A- Prefix meaning without (e.g., apetalous means without petals)

Abrupt Changing sharply or quickly, rather than gradually

Absent Not present; never developing

Acaulescent Stemless; without an above-ground stem or apparently so

Achene A one-seeded, indehiscent fruit with a relatively thin wall in which the seed coat is not fused to the ovary wall

Acrid Harsh to the taste or smell; bitter

Acuminate Gradually tapering to a sharp point; compare with acute

Acute Sharply pointed, but less tapering than acuminate; angle less than 90°

Adnate Fused together

Aggressive Spreads quickly; strongly competes with other plants

Alkali, Alkaline A soil with a high pH (8.5 or higher) and high exchangeable sodium content (15% or more), normally interferes with the growth of most species

Alkaloid Any of numerous nitrogen-containing organic bases, many occurring naturally as secondary metabolites in plants which are pharmacologically active, are bitter tasting, and may be toxic to animals

Alternate Located singly at each node; not opposite or whorled

-angled Suffix meaning cornered (e.g., 4-angled means that the plant part has four corners)

Angulate Having angles

Annual Within one year; applied to plants which do not live more than one year

Anther The part of a stamen in which pollen develops

Anthesis The period that flowers are open; the time at which pollen is shed; the time when flowers are fully functioning

Anthocarp A structure in which the perianth or receptacle is united with the fruit

Antidote A remedy to counter the effects of a toxic substance

Antrorse Directed upward or forwards; opposed to retrorse

Apetalous Without petals

Apex The tip or distal end

Apical Relating to the apex or at the tip

Apiculate Ending in an abrupt, sharp point

Appressed Lying against an organ; flatly pressed against a surface

Aquatic Growing in, on, or near water

Arching Curved like an arch

Areole The spine-bearing area on a cactus

Aromatic Fragrant or having an odor; releasing essential oils

Articulate Jointed, provided with conspicuous breaks in continuity; structures often separate at these breaks at maturity

Ascending Growing or angled upward; obliquely upward

Astringent Able to draw together soft tissues; styptic

Attenuate Gradually narrowing to a slender apex or base, with nearly parallel sides

Auricle Earlike lobes at the base of leaf blades

Awn A slender, often stiff, bristle at the end, on the back, or on the edge of an organ; in the Sunflower Family, stout bristles of the pappus

Axil Angle between an organ and its axis of attachment

Axillary Growing in an axil

Axis The central or main longitudinal support upon which parts are attached

B

Barbed Furnished with retrorse projections

Bark Exterior covering of a woody stem or root; tissues lying outside the cambium

Basal Located at or near the base of a structure

Basifixed Attached by the base (compare with dolabriform)

Beak A hard point or projection (frequently the remnants of the style)

Berry A pulpy, indehiscent fruit

Bi- Prefix meaning two

Biennial Living for two years

Bilabiate Two-lipped, especially referring to the corolla

Bilocular Having two compartments or locules in the ovary, anther, or fruit

Bipinnate Twice pinnate

Bipinnatifid Twice pinnately divided part way to the base, but not compound

Bivalved A wall of a dehiscent, dry fruit having two valves (segments)

Blade The flattened part of the leaf

Bloat A digestive disturbance of livestock (especially cattle) marked by abdominal swelling due to a build up of gas, potentially fatal

Blotch A spot or mark in an irregular shape

Blunt Having a point or edge that is not sharp

Bract Reduced leaves (frequently associated with the flowers)

Bracteate Having bracts

Bracteole A bract borne on a secondary axis

Bractlet A small bract

Branch A lateral stem

Branchlet A small branch

Bristle A stiff, slender appendage

Browse Twigs, leaves, and other parts of woody plants consumed by herbivores; the act of consuming portions of woody plants

Bulb An underground stem with fleshy, thick storage leaves or scales (e.g., onion)

Bulblet A small bulb

Bur A rough and prickly covering of a fruit

C

Calcareous A soil containing sufficient calcium carbonate (often with magnesium carbonate) to effervesce when treated with hydrochloric acid

Calyx The sepals of a flower considered collectively, usually green bracts

Campanulate Shaped like a bell

Canescent Pale or gray colored because of a dense, fine pubescence

Capitate Aggregated into a dense cluster; headlike

Capsule A dry, dehiscent fruit of more than one carpel, usually with more than two seeds

Cardioactive Influencing the heart

Caruncle A swollen appendage near the hilum of a seed

Carpel A modified leaf bearing a single ovary

Cathartic Laxative; purgative

Caudex A short, usually woody, vertical stem located just below the soil surface, often branched

Caulescent Having a stem visible above the ground

Cauline Pertaining to the stem or belonging to the stem

-celled Suffix meaning cavity or individual unit

Chaff Bracts subtending a flower (usually small, membranaceous, and dry)

Chasmogamus Flowers pollinated after they open, as in most plants

Cilia Hairs on margins

Ciliate Fringed with hairs on the margin

Clasping One organ or tissue partially or totally wrapped around a second

Clavate Shaped like a club; thickened toward the top

Claw The long, narrow base of a petal or a sepal

Cleft Having deeply divided lobes or divisions

Cleistogamous Applied to flowers or florets that are self-fertilized without opening

Climbing Stems or vines that attach to other surfaces to grow upward

Clone A group of individuals with identical genetic material, usually produced vegetatively and interconnected by roots or other tissue

Cluster A number of similar tissues or organs growing together; a bunch

Coarse Composed of relatively large parts; not finely textured or structured

Colliculose Covered with small, rounded elevations or bumps

Coma A tuft of hairs; an induced state of deep sleep from which it is difficult to awake

Commissure Surface where organs are joined

Compound Composed of several parts united into a single structure

Compressed Flattened laterally

Concave Hollowed inward like the inside of a bowl

Congested Crowded

Conic, Conical Shaped like a cone

Connate Fusion of like parts, such as petals forming a corolla tube

Conspicuous Obvious; easy to notice

Constricted Drawn together; appearing to be tightly held

Contorted Bent; twisted

Contracted Inflorescences that are narrow or dense, frequently spikelike

Convex Rounded on the surface like the bottom or exterior of a bowl

Copious An abundance

Cordate Heart-shaped, with rounded lobes and a notch at the base

Coriaceous Thick and leathery in texture

Corky Having the texture and consistency of cork; spongy but firm

Corm A short, erect, enlarged base of a stem, usually fleshy, underground, and without leaves

Corolla All of the petals considered collectively

Corymb A simple, short, broad, flat-topped inflorescence that has pedicels of different lengths; an indeterminate inflorescence

Corymbiform Shaped like a corymb; corymblike

Corymblike Shaped like a corymb; corymbiform

Corymbose Having the form, but not necessarily the structure, of a corymb

Cotyledon A leaf of the embryo of a seed; the seed leaf

Creeping Continually spreading; a shoot or horizontal stem that roots at the nodes

Crenate Having rounded teeth; scalloped margins

Crenulate Diminutive of crenate; having very small rounded teeth

Crinkled Wrinkled; rippled

Crisp, Crisped Curled or undulate

Crown Persistent base of a herbaceous perennial; the upper portion a shrub or tree

Cucullate Shaped like a hood

Culm The jointed stem of a grass, hollow or solid

Cultivar A named race or form of a species, usually improved or created by breeding and/or selection

Cuneate Wedge-shaped at the base; triangular with the narrow end at the point of attachment

Cyanogenic Capable of producing cyanide

Cyathium An inflorescence with a cuplike involucre bearing unisexual flowers and nectaries (e.g., *Euphorbia*)

Cylindrical Shaped like a cylinder

Cyme A convex or flat- topped flower cluster with the central flower the first to open; a determinate inflorescence

Cymose Resembling a cyme or bearing cymes

Cymule A small, few-flowered cyme

D

Deciduous Not persistent, but falling away in less than one year

Decoction An extract obtained by boiling the plant material

Decumbent Horizontal or reclining for most of the length, with only the tip ascending

Decurrent Extending downward from the point of attachment

Deflexed Bent downward

Dehiscent Opening or splitting apart at maturity along a definite suture

Deltoid, Deltate Triangular; shaped like the Greek letter delta

Dense Crowded

Dentate With pointed, coarse teeth spreading at right angles to the margin

Denticulate Diminutive of dentate

Dermatitis Inflammation of the skin

Determinate An inflorescence in which the central flowers develop first

Dichotomous Forked regularly in equal pairs

Diffuse Open and much-branched; loosely branching

Digitate Several members arising from one point at the summit of a support, like the fingers arising from the hand as a point of origin

Dimorphic Occurring in two forms on the same plant (e.g., two types of leaves or flowers)

Dioecious Unisexual flowers on separate plants; pistillate and staminate flowers on separate plants

Disarticulating Separating at maturity at a node or joint

Discoid Resembling a disk; in the Sunflower Family, a head composed of only disk flowers

Disk An outgrowth of the receptacle that surrounds the base of the ovary or ovaries

Disposed Inclined; slanted

Dissected Deeply divided into numerous slender parts

Distal Remote from the place of attachment

Distichous Conspicuously two-ranked leaves, leaflets, or flowers

Distinct Clearly evident; separate; apart

Disturbed Applied to vegetation or land that has been damaged by cultivation or another cultural practice

Diuretic Compound tending to increase the discharge of urine

Divaricate Widely and stiffly divergent, often at right angles

Divergent Widely spreading

Divided Separated or cut into distinct parts by incisions extending to near the base or midrib

Dolabriform Shaped like a double-headed ax; usually used to describe hairs attached in the middle (compare with basifixed)

Dormancy An inactive state; period during which plants are not active, such as in winter

Dotted Marked with small spots

Droop To hang downward

Drupe A fleshy fruit, indehiscent, usually with a single seed inside a stony endocarp (e.g., a cherry)

Dull Lacking brilliance or luster; not shiny

E

Elliptic, Elliptical, Ellipsoid Shaped like an ellipse; narrowly pointed at the ends and widest in the middle

Elongate Narrow, the length many times the width or thickness

Emarginate Having a shallow notch at the tip

Emergent Growing in water with some of the plant parts standing above the water

Endosperm A starch or oily nutritive tissue of a seed which is absorbed by the embryo during early growth

Entire Whole; with a smooth, continuous margin

Equalateral All sides equal

Erect Upright; not reclining or leaning

Erose Irregularly notched at the tip or margin; appearing gnawed or eroded

Even- Prefix indicating that parts are divisible by the numeral 2

Evergreen Woody plants that retain their leaves throughout the year

Evident Obvious; distinct; easily seen

Exceeding Greater than; larger than

Excurrent Extending beyond the tip

Expectorant Promoting expulsion of sputum from the mucous membranes of the air passages

Exposed Open to view

Exserted Protruding or projecting beyond; not included

Extract To separate or remove; material that has been separated

F

Face One plane of an organ, usually describing the plane that is or was in contact with a similar organ

Farinose Covered with a mealy dust, powder, or scales

Fascicle A small bundle or cluster, such as needles of pine trees in clusters of two to five

Fasciculate Congested in clusters

Fertile Capable of producing seeds; capable of producing high yields

Fetid Having an offensive odor

Fibrous Consisting of or containing mostly fibers; commonly used to describe branching root systems (compare with taproot)

Filament The stalk of a stamen that supports the anther; threadlike

Filiform Threadlike; long and very slender

Firm Resisting distortion when pressure is applied

Flask-shaped Rectangular, longer than broad

Flattened Having the major surfaces essentially parallel and distinctly greater than the minor surfaces

Fleshy Pulpy; succulent

Flexuose Bent alternately in opposite directions; a wavy form

Floccose Covered with long, soft, fine hairs that are loosely spreading and easily rubbed off

Flood Plain A plain bordering a river or creek subject to occasional flooding

Floret Flowers of the Sunflower Family (disk and ray florets)

Floriferous Flower-bearing

Floss A tuft of hairs; coma

Foliage Plant material that is mainly leaves

-foliate Suffix pertaining to or consisting of leaflets (e.g., 3-foliate or trifoliate means that the leaves are made up of three leaflets)

Follicle A dry, dehiscent fruit splitting along one suture; a small closed or nearly closed cavity

Forage Herbage usually consumed by animals

Forb Herbaceous plants other than grasses and grasslike plants

Forked Split into parts that diverge in more than one direction

Fragrant Having a sweet or delicate odor

Fray Unravel; tatter; wear away

Fringed Having a border consisting of hairs or other structures

Fruit Ripened ovary (pistil); the seed bearing organ

Funnelform Shaped like a funnel

Fused United

Fusiform Shaped like a spindle; narrowed at both ends

G

Gastroenteritis Inflammation of the mucous membranes of the stomach and intestines

Geniculate Bent abruptly, like a knee (e.g., plant bases may be bent in this manner)

Germinate Process of initiation of growth from seeds or spores

Glabrate, Glabrescent Nearly glabrous or becoming so with age

Glabrous Without hairs

Gland A protuberance or depression that secretes a fluid such as resin, nectar, or a volatile oil

Glandular Supplied with glands

Glaucous Covered with a waxy coating that gives a blue-green or whitish color; possessing a waxy surface that easily rubs off

Globose, Globular Nearly spherical in shape

Glomerate In a compact or dense cluster

Glomerule A small, rounded, compact cluster

Glycoside, Glucoside Organic compounds that yield a sugar and another substance upon hydrolysis; may be found in plants and may be toxic to animals

Grassland Any place where grasses are the dominant plants

Graze To consume growing and/or standing grass or forb herbage; to place animals in pastures to enable them to consume the herbage

Groove A long, narrow channel or depression; sulcus

Gruel A thin, watery porridge

H

Halfshrub Only the lower portion of the plant is woody

Hastate Shaped like an arrowhead

Hay fever An allergic reaction of the mucous membranes of the upper respiratory tract and eyes characterized by a running nose and sneezing usually caused by pollen; allergic rhinitis

Hayland Areas with natural or seeded plants cut for hay for animal feed one or more times each year

Head A dense cluster of sessile or nearly sessile flowers on a short axis; an inflorescence type also called a capitulum

Heart-shaped Cordate with rounded lobes and a notch at the base

Hemispheric Shaped like one-half of a sphere

Herbaceous Not woody; dying each year or dying back to the crown at ground level

Herbage Above-ground material produced by herbaceous plants; vegetation that is available for consumption by grazing animals

Hilum A scar on a seed at the point of attachment

Hip A false fruit consisting of a fleshy receptacle enclosing numerous achenes found in roses (*Rosa* spp.)

Hirsute With straight, coarse, rather stiff hairs

Hispid With stiff or rigid hairs; bristly hairs, usually with stout bases

Hoary Covered with fine, white or gray pubescence

Hood A spreading to erect petaloid blade with incurved margins

Horizontal Parallel to the plane of the earth or other point of reference

Hyaline Thin and translucent or transparent

Hybrid Offspring of genetically distinct parent plants; product of cross breeding between different races, forms, or species

Hydrocyanic acid A solution of cyanide that is extremely toxic to animals; prussic acid; abbreviated as HCN

Hypanthium A ring or cup around the ovary formed by a fusion of the bases of sepals, stamens, and petals

I

Imbedded Surrounded by or located deeply in other tissue

Imbricate Overlapping (like shingles on a roof)

Immersed Covered with water

Incense An aromatic substance that burns with a pleasant odor

Incised Cut sharply, irregularly, and more or less deeply

Included Not exserted nor protruding

Inconspicuous Not easily seen; not evident

Indehiscent Not opening, staying closed at maturity; not splitting

Indeterminate An inflorescence in which the outer flowers mature first

Indurate Hard

Inedible Not suitable for food

Inflated Enlarged; puffed up or bladdery

Inflorescence Any kind of flower cluster; the mode of arrangement of flowers on an axis subtended by a leaf or portion thereof; the cluster of flowers on an axis subtended by a leaf or portion thereof

Infusion An extract produced by steeping or soaking without boiling

Ingestion Consumption

Inrolled Curved or rolled toward the central axis of the structure

Internerves Spaces between the nerves

Internode The part of a stem between two successive nodes

Interrupt To break the uniformity or continuity; to come between two similar objects or structures

Introduced Not native to North America; exotic

Involucre A whorl or series of closely arranged bracts below a flower, inflorescence, or spikelet cluster, often cuplike

Involute Rolled inward from the edges, the upper surface within

J

Jointed Possessing nodes or articulations

Joints Stem segments (e.g., *Opuntia*)

Juvenile Young; immature

K

Keel The united lower petals of members of the Bean Family

Kidney-shaped Reniform; broader than long with a sinus on one side

L

Lacerate Appearing torn at the edge or irregularly cleft

Lacking Without

Lanceolate A shape much longer than broad; rather narrow, tapering to both ends, widest below the middle

Lateral Belonging to or borne on the side

Latex A milky sap that coagulates after exposure to air

Lax Loose; not rigid

Leaflet One division of a compound leaf

Legume A fruit of members of the Bean Family composed of a single carpel, usually dehiscing along two sutures at maturity; a pod

Lenticel A corky spot on the bark, providing passage for gas exchange

Lenticular Lens-shaped

Lesion Damaged tissue; a wound

Ligulate In the Sunflower Family, referring to flowering heads solely composed of the flat, strap-shaped flowers (ray flowers) on the disk; flowers of the head that have a straplike corolla

Ligule In the Sunflower Family, the strap-shaped corolla of a ray flower

Linear Long and narrow with parallel sides

Lip One of two protruding divisions

Loaf To spend inactive time

Lobe The projecting part of an organ with divisions less than one-half the distance to the base or midvein, usually rounded or obtuse

Locular Having locules or compartments

Locule A cavity of an ovary, fruit, or anther

Lodge To bend over at the base of the plant; fall down

Longitudinal Placed or occurring lengthwise

Loment A jointed fruit, constricted and breaking apart between the seeds

Loose Not arranged tightly together

Lustrous Having a sheen; shiny

M

Maculate Blotched or mottled

Malodorous Having an unpleasant odor

Marbling Mottled or streaked with color

Margin An edge; border

Marsh An area of perpetually wet soils vegetated primarily with forbs, grasses, and grasslike plants

Mat A tangled mass of plants growing close to the soil surface and generally rooting at the nodes

Mature Complete in development and/or natural growth; not juvenile

Meadow Grassland used for hay or pasture, usually relatively flat and often irrigated or with an elevated water table

Mealy Covered with material resembling meal in texture

Membranous Thin, semi-translucent, not green; like a membrane

Mericarp A one-seeded portion of a schizocarp; a portion of a dry dehiscent fruit that splits away at maturity with seed enclosed

-merous A suffix referring to the number of parts

Micro-A prefix meaning small; one-millionth in the metric system

Midvein, Midrib, Midnerve The central or principal vein of a leaf or bract

Minute Very small

Monoecious Plants with staminate (male) and pistillate (female) flowers at different locations on the same plant; all flowers unisexual

Mortality Subject to death; death

Mucilage Gummy or sticky substance obtained from some plants

Mucro A short, sharply pointed tip; a very short awn on some grasses

Mucronate Tipped with a short, slender, sharp point or awn

N

Natant A form of a plant that floats on water

Native Occurring in North America before settlement by Europeans

Nectar guides Lines on the inside of the corolla that provide a visual assist for pollinators entering the flower

Nerve The vascular bundles or veins of leaves, culms, or other organs

Neuter Lacking stamens and pistil

Nitrates Compounds containing NO_3; high concentrations are poisonous to animals

Nodding Inclined somewhat from the vertical; drooping

Node Points along the stem where leaves are borne; a joint of attachment along a stem or inflorescence axis

Notch Gap; a V-shaped indentation

Nut An indehiscent, dry, one-seeded fruit with a hard coat (pericarp)

Nutlet A small, usually one-seeded, hard fruit that is indehiscent; a small nut

O

Ob- A prefix meaning inversely

Obcordate Inversely cordate or heart-shaped with the attachment at the narrow end

Oblanceolate Inversely lanceolate with the broadest portion near the tip

Oblique Having the axis not perpendicular to the base; neither perpendicular nor parallel; for a leaf base, having sides that do not match

Oblong Longer than broad, with sides nearly equal and parallel

Obovate, Obovoid Opposite of ovate with the widest part towards the far end; egg-shaped with the widest part above the middle

Obscure Not easily seen or recognized

Obsolete Not apparent; rudimentary; present only in early development

Obtuse Shape of a tip or base, with an angle greater than 90°

Odd- A number not evenly divisible by two

Odoriferous Producing an unpleasant odor

Opaque Impenetrable by light; dull, without luster

Opposite Growing in pairs on either side of a stem

Orbiculate, Orbicular Nearly circular in outline

Ornamental A plant cultivated for its aesthetic value rather than for agronomic use

Oval Broadly elliptic with rounded ends

Ovary The part of the pistil containing the ovules (seeds)

Ovate, Ovoid Shaped like an egg with the broadest portion towards the base

P

Pad Flattened stem of a cactus

Palatable Acceptable in taste and texture for consumption

Palmate With three or more lobes, nerves, or leaflets arising from a common point

Panicle Inflorescence with a main axis and compound branches

Paniclelike Paniculiform; having the shape of a panicle without being a true panicle

Paniculate Borne in a panicle

Papery Having the texture of writing paper

Papillose Bearing small, pimplelike projections

Pappus A group of hairs, scales, or bristles that crown the summit of the achene in the Sunflower Family; considered to be a modified calyx

Parasite, Parasitic An organism that grows and feeds on a second organism while contributing nothing to the survival of the host

Parch To toast with dry heat

Pasture Fenced area containing standing forage harvested by grazing animals

Pectinate Divided into numerous narrow segments; comblike

Pedicel The stalk of a spikelet or single flower in an inflorescence

Pedicellate, Pedicelled Having a pedicel; borne on a pedicel

Peltate Borne on a stalk that is attached near the middle, rather than on the end; shaped like a shield

Pendulous, Pendant Suspended or hanging downward; drooping

Peduncle Stalk of a solitary flower or inflorescence

Pemmican A concentrated food consisting of pulverized, dried, lean meat mixed with fat and occasionally dried fruit or honey

Perennial Lasting more than two years; applied to plants or plant parts which live more than two years

Perfect Applied to flowers having both functional stamens and pistil(s)

Perianth A floral envelope consisting of the calyx and corolla (when both are present)

Pericarp The fruit wall; wall of a ripened ovary

Persistent Remaining attached

Petal A part or member of the corolla, usually brightly colored

Petaloid Petallike

Petiolate With a petiole

Petiole The stalk of a leaf blade

Petiolule Stalk of a leaflet of a compound leaf

Photosensitivity Hypersensitivity of the skin to sunlight due to the ingestion of photodynamic compounds from certain plants

Phyllary One of the involucral bracts subtending the head in the Sunflower Family

Pilose With long soft, straight hairs

Pinna One primary division of a pinnate leaf

Pinnate Having two rows of lateral divisions along a main axis (like barbs of a feather)

Pinnatifid Deeply cut in a pinnate manner, but not cut entirely to the main axis

Pistillate Unisexual flowers bearing pistils only; plant that has only pistils and is thus strictly female

Pit A small depression in a surface

Pith Soft, spongy tissue located in the center of a stem

Placenta A part of the ovary where the ovules are attached

Plumose, Plume Featherlike; having long, fine hairs

Plump Full in form; well rounded

Pod A fruit of members of the Bean Family composed of a single carpel usually dehiscing along two sutures at maturity; a legume

Pollen Microscopic grains produced by the anthers and that carry the plant sperm and endosperm nuclei for fertilization; wind-borne pollen often causes hay fever

Poultice Ground or chopped plant material, usually heated and applied to a wound or injury

Prairie A virtually treeless landscape in which the main natural vegetative features are a dominance of grasses together with forbs, shrubs, and grasslike plants

Prickle Small spinelike structure produced from the epidermis or bark

Procumbent Prostrate; lying flat on the ground; trailing but not taking root

Prominent Readily noticeable; projecting out beyond the surface

Prostrate Procumbent; lying flat on the ground

Puberulent Pubescent with very short hairs; diminutive of pubescent

Pubescent Covered with short, soft hairs

Pulp The soft, succulent portion of a fruit

Punctate Having dots, usually with small glandular pits

Pungent Having a sharp and penetrating odor; firm- or sharp-pointed

Purgative Tending to cause evacuation of the bowels

Pustulate, Pustular Having small eruptions or blisters

Pustule A small eruption or blister

Pyramidal Shaped like a pyramid

Q

Quadrate Nearly square

R

Raceme An inflorescence in which the spikelets or flowers are pedicelled on the rachis

Racemose, Racemelike Having the shape of a raceme without being a true raceme

Rachis The main axis of an inflorescence; the main axis of a compound leaf

Radiate Spreading from a common center; in the Sunflower Family, a head with disk flowers and a whorl of ray flowers around the edge

Radicle Root, especially applied to the root of the germinating embryo and young seedling

Rangeland Land on which the native vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing and browsing; the primary resource of a ranching operation

-ranked Arranged in rows

Ravine A narrow, steep-sided valley caused by water erosion (larger than a gully)

Ray The ligulate corolla in the Sunflower Family; one of the main branches of an umbel

Recurved Curved downward or backward

Reduced Smaller than normal; not functional

Reflexed Bent or turned downward abruptly

Regular Having structures of the flower, especially the corolla, of similar shape and equally spaced about the center of the flower; radially symmetrical; actinomorphic

Remote Widely spaced

Reniform Shaped like a kidney; broader than long, with a sinus on one side

Resinous Producing any of numerous viscous substances such as resin or amber

Restoration Returning the contour of the land and the vegetation to its original abundance and condition

Reticulate In the form of a network; netted as many leaf veins of forbs and woody plants

Retrorse Pointing backward or downward toward the base

Retuse With a slight notch at a rounded tip

Revolute Rolled under along the margin toward the under surface

Rhizomatous Having rhizomes

Rhizome An underground horizontal stem with nodes, usually rooting at the nodes and involved in vegetative reproduction; a rootstock

Rhombic, Rhomboid Having the shape of a four-sided figure with opposite sides parallel and equal but with two of the angles oblique

Rib A prominent vein or nerve

Ridge Narrow, raised strip

Rigid Firm; not flexible

Robust Healthy; full-sized

Rootstock Underground stem; rhizome

Root sucker A new shoot arising from a bud on a root

Rosette A basal, usually crowded, whorl of leaves

Rotate Shaped like a wheel

Rotund Nearly circular

Rough Not smooth; surface marked by unevenness

Rudimentary, Rudiment Underdeveloped

Rugose Wrinkled, roughened surface

S

Saccate Shaped like a bag or sack

Sagittate Arrowhead-shaped with the lobes turned downward

Saline A nonsodic soil containing sufficient soluble salts to impair its productivity

Salve A healing ointment

Sap Watery, often sugary, fluid of plants

Sapogenic Capable of producing saponins; soaplike

Saponin Any of various glucosides found in plants and marked by the property of producing soapy lather

Scaberulous Minutely roughened

Scabrous Rough to the touch; with short, angled hairs requiring magnification for observation; sand-papery to the touch

Scale Any thin, appressed organ; usually a modified leaf

Scaly Having scales

Scant A small amount

Scape A leafless peduncle arising from the ground or from basal whorl of leaves and bearing one or more flowers (e.g., a dandelion)

Scapose Bearing a flower or flowers on a scape; resembling a scape

Scar A mark on the stem where a leaf, bud, flower, or fruit was formerly attached

Scarious Thin, dry, membranous, not green

Schizocarp A dry fruit consisting of two or more carpels which, when mature, split apart forming one-seeded segments (mericarps)

Scrambling No order, no pattern; sometimes said of stems growing without pattern or order

Secund Directed to one side

Selenium An element naturally occurring in some soils that may be accumulated in some plants; consumption of large quantities of these plants may poison animals

Semi- A prefix meaning one-half; partly

Sepal A member of the calyx; bracts, usually green

Seriate Arranged in a series of rows

Series A group with an order of arrangement; in the Sunflower Family the number of rows of bracts in the involucre

Serrate Saw-toothed margins, with teeth pointing toward the tip

Serrulate Minutely serrate

Sessile Without a pedicel or stalk; attached directly

Setaceous Having bristles or bristlelike

Setose Covered with bristles

Shelterbelt A barrier or trees planted for protection from wind

Shiny Lustrous; possessing a sheen

Showy Attractive, such as a large colorful flower; with a striking appearance

Shrub A low-growing woody plant; bush with one to many trunks

Silica Silicon dioxide occurring in crystalline and amorphous forms

Silicle A short (< 3 times longer than broad), 2-celled capsule of the Mustard Family; a short silique

Silique A long (> 3 times longer than broad), 2-celled capsular fruit of the Mustard Family

Silky With soft, fine, lustrous, long hair; resembling silk in appearance or texture

Simple Undivided; unbranched

Sinuate Strongly wavy margins

Sinus Indentation or notch between two lobes or segments

Sod-forming Creating a dense mat with interwoven root systems

Solitary Alone; one by itself

Sparse Scattered; opposite of dense

Spatulate Shaped like a spatula, being broader above than below

Spicate Spikelike

Spike An unbranched inflorescence in which the spikelets or flowers are sessile on a rachis (central axis)

Spindle Shaped like a rod

Spine A stiff, pointed outgrowth from below the epidermis or bark that is usually woody; a woody, modified leaf or stipule

Spinose, Spiny Having spines

Spinulose Having small spines

Spur Any slender, tubular, hollow projection of a flower (e.g., *Delphinium*)

Stamen The pollen-producing structure of a flower; typically an anther borne at the tip of a filament

Staminate Unisexual flowers bearing stamens only; plant that has only stamens and is thus strictly male

Steep To soak in water at a temperature under the boiling point

Stellate Star-shaped, usually referring to hairs with many branches from the base

Sterile Without functional pistils and thus not producing fruit, may or may not bear stamens

Stiff Not easily bent; rigid

Stigma The portion of the pistil that receives the pollen

Stimulant Ingested material that temporarily accelerates activity; something that excites or irritates

Stipe In general, a stalk or stem that supports an organ

Stipitate Borne on a stipe

Stipules Appendages, usually leaflike, occurring in pairs, one on either side of the petiole base; may be modified to spines; often lacking

Stolon A horizontal, above-ground stem, usually rooting at the nodes and producing new plants

Stoloniferous Bearing stolons

Stone The hard, inner portion of a drupe (technically, the endocarp) that contains the seed

Stout Sturdy, strong, rigid

Striate Marked with slender, longitudinal grooves or lines; appearing striped

Strigose Rough with short, bent, stiff hairs or bristles

Strigulose Minutely strigose

Style The slender, elongated portion of the pistil which bears the stigma at its tip

Sub- A prefix to denote somewhat, nearly, or in less degree

Subtend To underlie; located below; to stand at the base of

Subulate Shaped like an awl

Succulent Having thick, fleshy stems or leaves that store and conserve moisture

Suffused Spread over or through in the manner of fluid or light

Summit Top; apex; tip

Surmounted Placed at the top of

Suture A line or seam marking the union of two parts; the line of dehiscence of a fruit or capsule

Swale A tract of low, marshy ground

Swamp A low land region saturated with water and sometimes covered with water; wetter than a swale and dominated by woody species

Symmetrical All sides of the organ or structure are balanced and alike

T

Tapering Gradually narrowing toward one end

Taproot The primary root of a plant that grows directly downward and gives rise to much smaller lateral branch roots

Tawny Pale brown or dirty yellow

Teeth Pointed lobes or divisions

Tendril A slender, cylindrical, twisting organ able to attach to a support

Tepal Describes a flower part, either a sepal or petal, when only one type exists on the flower and it is difficult to determine which it is

Terete Cylindric and slender; circular in cross-section

Terminal Borne at or belonging to the extremity or summit

Thicket Dense growth of shrubs or small trees

Thresh Remove and separate the seeds from the other plant parts

Throat The inside of a tubular structure below its opening

Thryse An elongated panicle with cymosely arranged secondary axes

Tiller A shoot from an adventitious bud at the base of a plant

Tincture A medicine in an alcohol solution

Tinged Slightly colored

Tomentose A surface covered with matted and tangled hairs

Tooth A pointed projection or division

Trailing Horizontal stems, not climbing

Translucent Semitransparent; transmitting light rays only partially

Transparent Capable of freely transmitting light

Transverse At right angles to the long axis; crosswise; in cross-section

Tri- A prefix meaning three

Triangular Having three angles and three sides

Trichome An epidermal hair or bristle

Trigonous Three-angled, with plane faces between; triangular

Trullate Trowel-shaped with straight margins and the widest point below the middle

Truncate Ending abruptly; appearing to be cut off at the end

Trunk The main stem of a tree or shrub

Tuber A short, thickened portion of an underground stem with numerous buds (e.g., a potato)

Tubercle A small projection from the surface of an organ or structure

Tuberculate Furnished with small projections

Tubular Having the shape of a tube (with little or no change in diameter, such as the corolla of some flowers)

Tuft Cluster; bunch

Tumble To roll over and over as when blown by the wind

Twig A small branch of a tree or shrub

Twining Twisting together; growing in a spiral

U

Ultimate Smallest subdivisions

Umbel A simple flat-topped or rounded inflorescence with branches (pedicels or rays) radiating from a common point

Umbellate Resembling an umbel

Uncinulate Sharply recurved or hooked at the tip

Undulate Strongly wavy in a perpendicular plane

Unilateral Arranged on or directed toward one side

Unisexual Describing flowers or plants with only stamens or only pistils

United Fused together

Upright In a vertical position

Utricle A small one-seeded fruit with a thin wall, dehising by the breakdown of the thin wall

V

Valve One of the units into which a legume or capsule splits

Variegated Having streaks, marks, or patches of varied colors or shades of one color

Vein A single branch of the vascular system of a plant

Velvety Soft and smooth like velvet; covered with soft, straight hairs; velutinous

Venation Pattern of veins

Vertical At right angles to the horizon; upright

Verticel A whorl or level of branching

Verticillaster A false whorl composed of pairs of opposite cymes

Verticellate Whorls; arranged in verticels

Viable Capable of living, developing, or germinating under favorable conditions

Villous, Villose With long, soft macrohairs; similar to pilose, but with a higher density of hairs

Vine A plant with a flexible stem supported by climbing, twining, or creeping along a surface

Virgate Wand-shaped; long, straight, and slender

Viscid Sticky or clammy

Volatile Capable of being readily vaporized

W

Wart A growth or large blister on the epidermis, resembling a wart on an animal

Waste area An abandoned area; an area that is not used

Wavy With small, regular lobes on the margin; undulating surface or margin

Weak Frail; not stout nor rigid; partially or incompletely

Weed A plant that interferes with management objectives for a given area of land at a given point in time; a plant growing out of place

Whorl A cluster of several branches, flowers, or leaves around the axis arising from a common node

Wing A thin projection or border; either of the two side petals in some flowers of the Bean Family

Wiry Being thin and resilient

Woolly Covered with long, entangled soft hairs

Wrinkle With small ridges and/or furrows on a surface

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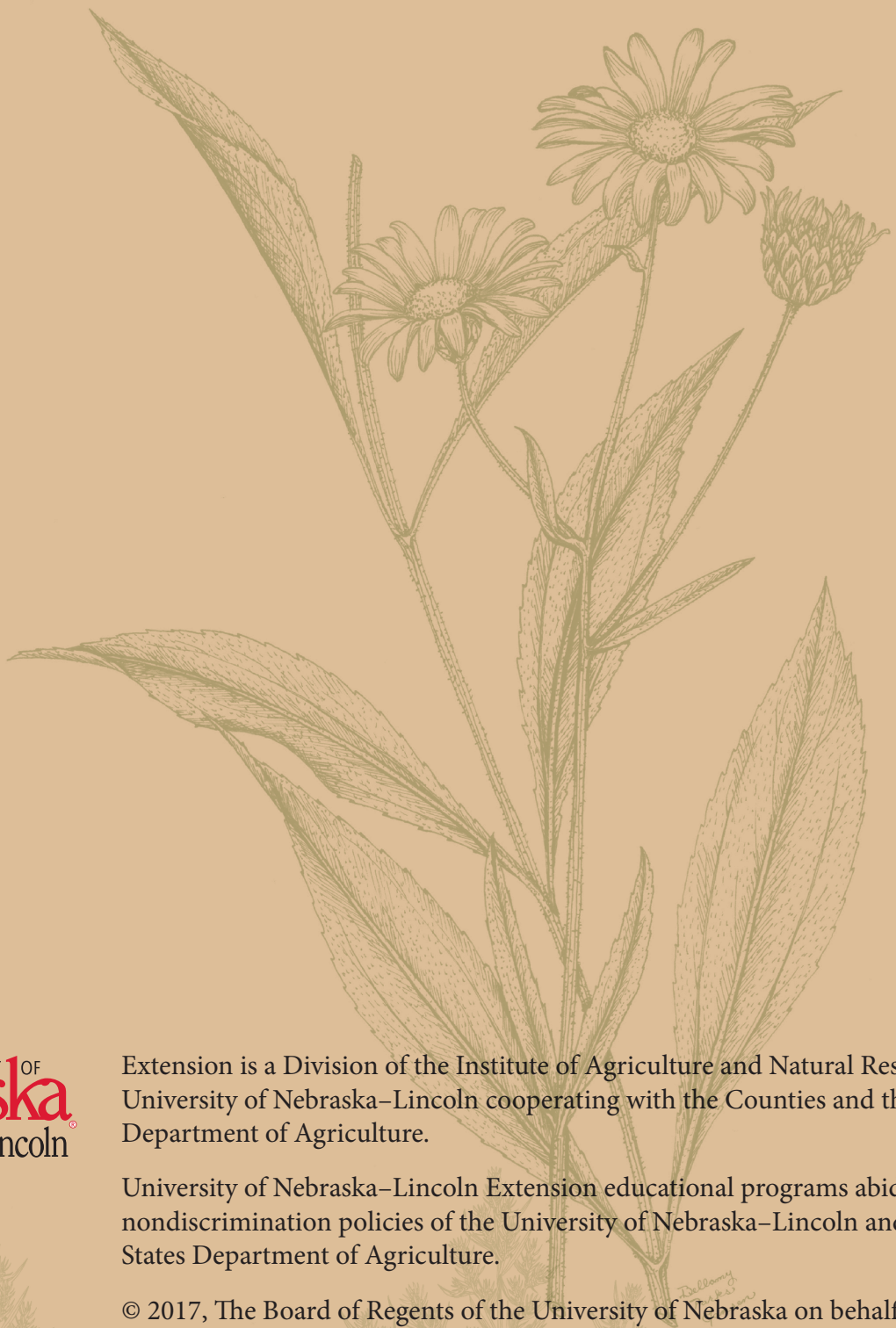

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