EC07-118 Common Forbs and Shrubs of Nebraska: Prairies, Rangelands, Pasturelands

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prairies • rangelands • pasturelands

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# TABLE OF Contents

<table>
<thead>
<tr>
<th>Plant Groups</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts of a Grass-Like Plant</td>
<td>7</td>
</tr>
<tr>
<td>Reproductive Characteristics</td>
<td>7</td>
</tr>
<tr>
<td>Vegetative Characteristics</td>
<td>7</td>
</tr>
<tr>
<td>Forbs</td>
<td></td>
</tr>
<tr>
<td>Perennial Native</td>
<td></td>
</tr>
<tr>
<td>Common yarrow</td>
<td>22</td>
</tr>
<tr>
<td>Western ragweed</td>
<td>23</td>
</tr>
<tr>
<td>Field pussytoes</td>
<td>24</td>
</tr>
<tr>
<td>Hemp dogbane</td>
<td>25</td>
</tr>
<tr>
<td>Tarragon</td>
<td>26</td>
</tr>
<tr>
<td>Cudweed sagewort</td>
<td>27</td>
</tr>
<tr>
<td>Swamp milkweed</td>
<td>28</td>
</tr>
<tr>
<td>Dwarf milkweed</td>
<td>29</td>
</tr>
<tr>
<td>Showy milkweed</td>
<td>30</td>
</tr>
<tr>
<td>Common milkweed</td>
<td>31</td>
</tr>
<tr>
<td>Whorled milkweed</td>
<td>32</td>
</tr>
<tr>
<td>Green milkweed</td>
<td>33</td>
</tr>
<tr>
<td>Heath aster</td>
<td>33</td>
</tr>
<tr>
<td>Twogrooved poisonvetch</td>
<td>34</td>
</tr>
<tr>
<td>Canada milkvetch</td>
<td>35</td>
</tr>
<tr>
<td>Groundplum milkvetch</td>
<td>36</td>
</tr>
<tr>
<td>Missouri milkvetch</td>
<td>37</td>
</tr>
<tr>
<td>Woolly locoweed</td>
<td>38</td>
</tr>
<tr>
<td>Racemed poisonvetch</td>
<td>39</td>
</tr>
<tr>
<td>False boneset</td>
<td>40</td>
</tr>
<tr>
<td>Purple poppymallow</td>
<td>41</td>
</tr>
<tr>
<td>Serrateleaf eveningprimrose</td>
<td>42</td>
</tr>
<tr>
<td>Spotted waterhemlock</td>
<td>42</td>
</tr>
<tr>
<td>Platte thistle</td>
<td>43</td>
</tr>
<tr>
<td>Flodman thistle</td>
<td>44</td>
</tr>
<tr>
<td>Wavyleaf thistle</td>
<td>45</td>
</tr>
<tr>
<td>Silktop dalea</td>
<td>46</td>
</tr>
<tr>
<td>White prairieclover</td>
<td>47</td>
</tr>
<tr>
<td>Nineanther prairieclover</td>
<td>48</td>
</tr>
<tr>
<td>Purple prairieclover</td>
<td>49</td>
</tr>
<tr>
<td>Silky prairieclover</td>
<td>50</td>
</tr>
<tr>
<td>Prairie larkspur</td>
<td>50</td>
</tr>
<tr>
<td>Illinois bundleflower</td>
<td>51</td>
</tr>
<tr>
<td>Purple coneflower</td>
<td>52</td>
</tr>
<tr>
<td>Scarlet gaura</td>
<td>53</td>
</tr>
<tr>
<td>Wild licorice</td>
<td>54</td>
</tr>
<tr>
<td>Sawtooth sunflower</td>
<td>55</td>
</tr>
<tr>
<td>Stiff sunflower</td>
<td>56</td>
</tr>
<tr>
<td>Jerusalem artichoke</td>
<td>57</td>
</tr>
<tr>
<td>Hairy goldenaster</td>
<td>58</td>
</tr>
<tr>
<td>Bush morningglory</td>
<td>59</td>
</tr>
<tr>
<td>Showy peavine</td>
<td>60</td>
</tr>
<tr>
<td>Roundhead lespedeza</td>
<td>60</td>
</tr>
<tr>
<td>Dotted gaufier</td>
<td>61</td>
</tr>
<tr>
<td>Plains puccoon</td>
<td>62</td>
</tr>
<tr>
<td>Cleft gromwell</td>
<td>63</td>
</tr>
<tr>
<td>Nebraska lupine</td>
<td>64</td>
</tr>
<tr>
<td>Rush skeletonplant</td>
<td>65</td>
</tr>
<tr>
<td>Cutleaf ironplant</td>
<td>66</td>
</tr>
<tr>
<td>Wild four-o’clock</td>
<td>66</td>
</tr>
<tr>
<td>Wild bergamot</td>
<td>67</td>
</tr>
<tr>
<td>Stiff goldenrod</td>
<td>68</td>
</tr>
<tr>
<td>Lambert crazyweed</td>
<td>69</td>
</tr>
<tr>
<td>Silverleaf scurfpea</td>
<td>70</td>
</tr>
<tr>
<td>Breadroot scurfpea</td>
<td>71</td>
</tr>
<tr>
<td>White penstemon</td>
<td>72</td>
</tr>
<tr>
<td>Narrow penstemon</td>
<td>73</td>
</tr>
<tr>
<td>Shell-leaf penstemon</td>
<td>74</td>
</tr>
<tr>
<td>Clammy groundcherry</td>
<td>75</td>
</tr>
<tr>
<td>Lanceleaf groundcherry</td>
<td>76</td>
</tr>
<tr>
<td>Lemon scurfpea</td>
<td>77</td>
</tr>
<tr>
<td>Slimflowered scurfpea</td>
<td>78</td>
</tr>
<tr>
<td>Prairie coneflower</td>
<td>79</td>
</tr>
<tr>
<td>Prairie groundsel</td>
<td>80</td>
</tr>
<tr>
<td>Riddell groundsel</td>
<td>80</td>
</tr>
<tr>
<td>Prairie goldenrod</td>
<td>81</td>
</tr>
<tr>
<td>Scarlet globemallow</td>
<td>82</td>
</tr>
<tr>
<td>Slender greenthread</td>
<td>83</td>
</tr>
<tr>
<td>Bracted spiderwort</td>
<td>84</td>
</tr>
<tr>
<td>Hoary vervain</td>
<td>85</td>
</tr>
<tr>
<td>Western ironweed</td>
<td>86</td>
</tr>
<tr>
<td>Death camas</td>
<td>87</td>
</tr>
</tbody>
</table>

| Biennial Native | |
| Curlycup gumweed | 90 |
| Woollywhite hymenopappus | 91 |
| Tenpetal stickleaf | 91 |
| Common eveningprimrose | 92 |
| Fourpoint eveningprimrose | 93 |

| Annual Native | |
| Common ragweed | 96 |
| Giant ragweed | 96 |
| Pricklypoppy | 97 |
| Partridgepea | 98 |
| Rocky Mountain beeplant | 99 |
| Texas croton | 101 |
| Tansymustard | 102 |
| Daisy fleabane | 103 |
| Annual buckwheat | 104 |
| Snow-on-the-mountain | 105 |
| Common sunflower | 106 |
| Prairie sunflower | 107 |
| Marshelder | 108 |
| American deervetch | 108 |
| Low lupine | 109 |
| Woolly plantain | 110 |
| Smoothseed wildbean | 111 |
| Prostrate vervain | 112 |

| Perennial Introduced | |
| Russian knapweed | 116 |
| Chicory | 116 |
| Canada thistle | 117 |
| Leafy spurge | 118 |
| Dandelion | 119 |
| White clover | 120 |

| Biennial Introduced | |
| Musk thistle | 124 |
| Spotted knapweed | 125 |
| Bull thistle | 125 |
| Poison hemlock | 126 |
| Yellow sweetclover | 127 |
| Western salsify | 128 |
| Common mullein | 129 |

| Annual Introduced | |
| Marijuana | 132 |
| Lambsquarters | 132 |
| Kochia | 133 |
| Pepperweed | 134 |
| Black medic | 135 |
| Russian thistle | 136 |
| Tumbling mustard | 136 |
| Hairy vetch | 137 |
Cacti

Perennial Native
Ball cactus .................................. 140
Brittle cactus ................................ 140
Bigroot pricklypear ....................... 141
Plains pricklypear .......................... 142

Shrubs

Perennial Native
Leadplant .................................... 146
False indigo .................................. 147
Sand sagebrush ............................ 148
Fringed sagewort ........................... 148
New Jersey tea .............................. 149
Broom snakeweed .......................... 150
Wild plum .................................... 151
Western sandcherry ...................... 152
Chokecherry ................................. 153
Skunkbrush sumac .......................... 154
Smooth sumac .............................. 155
Prairie wildrose ............................ 156
Common snowberry ....................... 156
Western snowberry ....................... 157
Buckbrush .................................... 158
Poison ivy ..................................... 159
Small soapweed ............................. 160

Glossary ..................................... 162

Selected References ..................... 171

Index ........................................ 173

List of Figures

Figure 1. Nebraska map of hardiness zones .................................................... 7
Figure 2. Comparison of plant groups ............................................................ 8
Figure 3. Example of a forb and shrub with labeled parts ............................... 9
Figure 4. Flower types ........................................ 10
Figure 5. Types of inflorescences or arrangements of flowers ........................ 11
Figure 6. Simple flower with labeled parts .................................................... 12
Figure 7. Head consisting of ray and disk flowers with labeled parts ............. 13
Figure 8. Examples of forb, shrub and succulent fruits ............................... 14
Figure 9. Leaf arrangements ............ 15
Figure 10. Types of simple and compound leaves ........................................ 16
Figure 11. Leaf shapes ................................ 17
Figure 12. Leaf margins ................................ 17
Figure 13. Leaf attachments ................ 18
Figure 14. Two types of forbs: caulescent and acaulescent .......................... 18
Figure 15. Growth habits of plants ................................................................. 19
Figure 16. Modified stems ........................................ 19
Figure 17. Types of underground plant parts .............................................. 20
Introduction

Grasslands, both natural and seeded, comprise over half of Nebraska’s total land area. Rangeland covers more than 23 million acres and seeded perennial pastures total about 2 million acres. Hayland, primarily alfalfa, occupies nearly 2 million acres. Additional grazing and haying occurs on forestland and other areas. Therefore, perennial forage-producing vegetation covers more than 27 million acres. This resource is worth more than one billion dollars annually to Nebraska’s economy. In addition, land seeded to permanent cover in the Conservation Reserve Program totals more than 1 million acres. This perennial vegetation is not only the “backbone” of Nebraska’s beef cattle industry but is also essential for wildlife habitat, to protect soils from wind and water erosion, to serve as a “germplasm bank,” to help clean the environment, and to serve as a source of aesthetics for many. Native species are becoming increasingly important in the horticulture, landscaping and nursery businesses. Use of native plants, rather than introduced species, in large-scale plantings reduces the potential for invasive species and helps to maintain ecological integrity.

Knowledge of the components that make up Nebraska’s native grasslands, one of our most important basic renewable natural resources, is the first step in understanding the resource. The second step is acquiring knowledge of the important vegetative types in Nebraska. These are called ecological sites in the profession of range management. Ecological sites differ in vegetation, soil characteristics, grazing potential for livestock and habitat for wildlife. The reader is referred to the companion publication Common Grasses of Nebraska, EC170, for a discussion of ecological sites and the identification, distribution, uses, and values of nearly 100 grass and grass-like plants.

This publication discusses the identification, distribution, use, and value of 117 forbs, 17 shrubs, and 4 species of cacti. These species are some of the most common on the prairies, rangeland, and pastureland 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 Great Plains Flora (see Selected References), although there are a few exceptions where the names have been updated since publication of that book. All scientific, or botanical, names consist of three parts. Consider as an example the scientific name of the first forb in this manual, common yarrow:

\[
\text{Achillea millefolium} \quad \text{L.}
\]

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. 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 Achillea millefolium L. is Achillea lanulosa Nutt.

**Common Names**

Common names are less complicated and much easier to learn than scientific names. They may be 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 United States 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**

Grassland plants may be classified as grasses, grasslike plants, forbs, shrubs and cacti. These can easily be distinguished by certain characteristics (Figure 2). Grasses and grasslike plants are detailed in Common Grasses of Nebraska, EC170.

**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 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.

**Plant Morphology**

Figures 3-17 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.

**Distribution and Habitat**

The distribution of each species in Nebraska is presented geographically and some descriptions include the soils in which the plants grow. The most common locations are noted, but it must be assumed that some plants of a species may be found outside of the listed geographic region, as well as on different soils and in other habitats.

**Uses and Values**

**Forage**

Forage value is presented in general terms for different classes of livestock. Palatability and forage quality and quantity 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**

Over 40 percent 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. 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.

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Poisoning often does not result in death or easily recognized physical malformations in cattle. In Nebraska greater losses occur from more difficult to recognize effects such as lowered gains and abortions.

The solution for managing poisonous plants is four-fold:

1. Be able to identify or recognize the poisonous plant.
2. Know when it is dangerous and for which animals.
3. Know which types of animals are affected.
4. Maintain a good cover of suitable forage plants so 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 Nebraska Poisonous Range Plants, EC198 and several other 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. Some will not perform well when they are brought into a managed landscape, especially when the fertility of the soil is improved and when over-watering occurs. Hardiness zones are provided for perennial and biennial species. (See Figure 1 for a map of hardiness zones.)

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 use any of the plants for these purposes.

Figure 1. Nebraska hardiness zones. (Adapted from USDA Hardiness Zone Map.)
<table>
<thead>
<tr>
<th></th>
<th>Grasses</th>
<th>Grasslikes</th>
<th>Forbs</th>
<th>Shrubs</th>
<th>Cacti</th>
</tr>
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<tbody>
<tr>
<td><strong>Stems</strong></td>
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<td>solid, not jointed</td>
<td>solid or pithy</td>
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<td>fleshy</td>
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<td></td>
<td>hollow or pithy</td>
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</tr>
<tr>
<td><strong>Flowers</strong></td>
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<td>female flower</td>
<td>small flowers</td>
<td>showy or small</td>
<td>showy</td>
</tr>
<tr>
<td></td>
<td>floret</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Examples</strong></td>
<td>Western wheatgrass</td>
<td>Threadleaf sedge</td>
<td>American bulrush</td>
<td>Scarlet globemallow</td>
<td>Prairie wildrose</td>
</tr>
</tbody>
</table>
Figure 3. Example of a forb and shrub with labeled parts. Both forbs and shrubs may have simple or compound leaves.
5-PETALED LEGUME

SINGLE-PETALED LEGUME

APETALOUS
(without petals)

SIMPLE
(See Figure 6)

HEAD
(ray and disk flowers)
(See Figure 7)

Figure 4. Flower types.
Figure 5. Types of inflorescences or arrangements of flowers (see Glossary for descriptions).
Figure 6. Simple flower with labeled parts (see Glossary for descriptions of the parts).
Figure 7. Head consisting of ray and disk flowers with labeled parts (see Glossary for description of the parts).
Figure 8. Examples of forb, shrub and succulent fruits (see Glossary for descriptions of the parts).
Figure 9. Leaf arrangements.
Figure 10. Types of simple and compound leaves.
Figure 11. Leaf shapes (see Glossary for descriptions).

Figure 12. Leaf margins (see Glossary for descriptions).
Figure 13. Leaf attachments (see Glossary for descriptions).

Figure 14. Two types of forbs: caulescent, having a stem above the ground, and acaulescent, appearing stemless.
Figure 15. Growth habits of plants (see Glossary for descriptions).

Figure 16. Modified stems.
Figure 17. Types of underground plant parts (see Glossary for descriptions).
Common yarrow
Western ragweed
Field pussytoes
Hemp dogbane
Tarragon
Cudweed sagewort
Swamp milkweed
Dwarf milkweed
Showy milkweed
Common milkweed
Whorled milkweed
Green milkweed
Heath aster
Twogrooved poisonvetch
Canada milkvetch
Groundplum milkvetch
Missouri milkvetch
Woolly locoweed
Racemed poisonvetch
False boneset
Purple poppymallow
Serrateleaf eveningprimrose
Spotted waterhemlock
Platte thistle
Flodman thistle
Wavyleaf thistle
Silktop dalea
White prairieclover
Nineanther prairieclover
Purple prairieclover
Silky prairieclover
Prairie larkspur
Illinois bundleflower
Purple coneflower
Scarlet gaura
Wild licorice
Sawtooth sunflower
Stiff sunflower
Jerusalem artichoke
Hairy goldenaster
Bush morningglory
Showy peavine
Roundhead lespedeza
Dotted gayfeather
Plains puccoon
Cleft gromwell
Nebraska lupine
Rush gromwell
Cutleaf ironplant
Wild four-o’clock
Wild bergamot
Stiff goldenrod
Lambert crazyweed
Silver scurfpea
Breadroot scurfpea
White penstemon
Narrow penstemon
Shell-leaf penstemon
Clammy groundcherry
Lanceleaf groundcherry
Lemon scurfpea
Slimflowered scurfpea
Prairie coneflower
Prairie groundsel
Riddell groundsel
Prairie goldenrod
Scarlet globemallow
Slender greenthread
Bracted spiderwort
Hoary vervain
Western ironweed
Death camas
Common Name: **Common yarrow**  
(western yarrow, wooly 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: 0.2-1.0 m (0.6-3.1 ft)

**Inflorescence Characteristics**

- **type:** heads numerous (5-7 mm tall) in compound corymbs; corymbs flat to round-topped; involucre with 1 series of bracts; ray florets 5 to 20; disk florets 10 to 40
- **flowers:** white (rarely pink or pinkish white) ray florets (2-4 mm long); disk florets 5-7 mm long
- **fruits:** achene, oblong (about 2 mm long), flat, chaff-like with no pappus, gray, with a narrow wing; seeds 1
- **seeds:** small

**Vegetative Characteristics**

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

**Distribution and Habitat**

Common yarrow grows throughout Nebraska in dry to moist soils of rangeland, prairies, open woodland, 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 as 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 not generally considered to be a poisonous plant because 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 of common yarrow are available from nurseries. Some cultivars are compact, mat-forming and as short as 20 em (8 inches). The fern-like 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. Depending on the cultivar, common yarrow is hardy to zone 3.

**Other**

Teas made from common yarrow were used extensively by Native Americans to relieve ear and tooth pain and headaches; as 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.*
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 (0.9-3.1 ft)

Inflorescence Characteristics
- type: staminate heads in terminal racemes; pistillate heads in axillary clusters, below staminate flowers; staminate involucre with 1 series of 5 to 12 bracts; disk florets several; pistillate involucre with 1 series of 4 to 6 bracts
- flowers: greenish-yellow staminate flowers (2.5 mm wide), oblique; greenish-yellow pistillate flowers (2.5 mm long), obovoid
- fruits: achene (3 mm long); bur-like, formed by the involucre; pappus absent; seeds 1
- seeds: small

Vegetative Characteristics
- 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; sessile or very short with a winged petiole
- stems: erect, simple below, branching above, variably pubescent with ascending hairs
- underground: rhizomes, creeping

Distribution and Habitat
Western ragweed is found throughout Nebraska on rangeland, 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 an herbicide, such as 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.

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. It is hardy to zone 3.

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.
Common Name: Field pussytoes
(catsfoot, catspaw, everlasting pussytoes)

Species: Antennaria neglecta Greene
Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering: March to June
Height: 0.05-0.2 m (2-7 in)

Inflorescence Characteristics

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| 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 (staminate florets sometimes pink to red); numerous, discoid, elongate; staminate flowers club-shaped, flattened, corolla tubular; female flowers like the staminate flowers only the corolla tube is more slender and the pappus longer |
| fruits | achene (1-2 mm long), terete, elliptic, minutely hairy, tan to brown; seeds 1 |
| seeds | small |

Vegetative Characteristics

---
| leaves | alternate, simple; cauline 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 |
| stems | mat-forming or in clones, stoloniferous; flowering stem white tomentose |
| underground | taproot, shallow |

Distribution and Habitat

Field pussytoes grows throughout Nebraska in all types of soil on rangeland, prairies, open woodland and pastures. It thrives on poor soils where little else can grow and serves as a soil binder.

Uses and Values

Forage. Field 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 reduced competition from the heavily utilized forage plants. Sheep sometimes eat the flowers.

Grassland Seeding. Field 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 field pussytoes when taller and more palatable vegetation is not available.

Ornamental. The slow-growing, mat-forming growth and dark green foliage of field pussytoes make it an attractive rock garden plant. Native plants have 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. It is hardy to zone 3.

Other

Native Americans used field 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.
Common Name: Hemp dogbane

Species: *Apocynum cannabinum* L.
Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering: May to September
Height: 0.3-1 m (0.9-3.1 ft)

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
- fruits: follicle, 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)

Vegetative Characteristics
- 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 wax, glabrous or nearly so above, may be sparsely hairy below; short-petioled on the primary axis and nearly sessile on the branches
- stems: erect, opposite branching on the upper half; surfaces reddish-brown, glabrous or nearly so; contain a white milky juice
- underground: rhizomes, long, extensive

Distribution and Habitat
Hemp dogbane grows throughout Nebraska in pastures, rangeland, open woods, fence rows, roadsides, and waste areas. It grows best in moist soils.

Uses and Values
- Forage. It is unpalatable to livestock when green. Cattle will eat hemp dogbane in hay. It spreads rapidly on abused rangeland.
- 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 infrequently graze the foliage.
- Ornamental. It is not commonly used as an ornamental. It can spread rapidly from rhizomes. It is hardy to zone 4.

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 in Nebraska. Likewise, it has become a serious weed in parts of Europe and Asia.
Common Name: Tarragon
(green sagewort, silky wormwood)

Species: Artemisia dracunculus L.
Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering: August to September
Height: 0.5-1.0 m (1.6-3.1 ft)

Inflorescence Characteristics
- type: heads numerous in panicles with many racemose branches; panicles open;
  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: achene (about 1 mm long); those of the outer florets ellipsoid, green, and glabrous; seeds 1
- seeds: small

Vegetative Characteristics
- leaves: alternate to semi-fascicled, simple; blades linear to lanceolate (2-8 cm long, 1-6 mm wide); margins entire or cleft into 1 to 3 lobes at the base; bright green; surfaces glabrous; partially deciduous in autumn; aromatic
- stems: erect, mostly clustered (sometimes arising singly from a rhizome); surfaces glabrous or with scattered, short to long soft hairs; dull red to brown above
- underground: rhizomes

Distribution and Habitat
Tarragon is scattered throughout Nebraska on dry, sandy to moist, silty soils on rangeland, pastures and roadsides.

Uses and Values
Forage. Tarragon 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. Tarragon contains volatile oils (up to 0.3 percent by weight) that may cause livestock skin irritation and decrease rumen activity. The oils may cause dermatitis in humans; tarragon pollen causes hay fever in late summer and early autumn.

Grassland Seeding. It is not used in grassland seedings.

Prairie Restoration. Tarragon is seldom used in prairie restorations, but small amounts could be added to increase plant diversity. It can be propagated from seed or crown divisions, and it can spread rapidly.

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

Ornamental. Tarragon 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 tarragon is said to have better flavor than the hardier Nebraska varieties which are hardy to zone 3.

Other
Some Native Americans chewed the leaves 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 tarragon leaves were an effective bedbug repellant.
Common Name: Cudweed sagewort
(Louisiana wormwood, gray sagewort, white sagebrush, mugwort wormwood)

Species: Artemisia ludoviciana Nutt.
Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering: August to October
Height: 0.3-0.7 m (0.9-1.6 ft)

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

Vegetative Characteristics
- leaves: alternate, simple; blades elliptic to lanceolate (3-11 cm long, up to 1.5 cm wide), reduced above; margins entire to irregularly toothed; surfaces densely woolly; sessile; aromatic
- stems: erect, seldom branching, woolly to nearly glabrous; aromatic
- underground: rhizomes

Distribution and Habitat
Cudweed sagewort is common throughout Nebraska on rangeland, pastures, roadsides, open woodland, and disturbed sites in all types of soil.

Uses and Values
Forage. Forage value of cudweed sagewort is rated as fair for cattle and fair to good for sheep.
Poisoning. Cudweed sagewort contains volatile oils that may cause skin irritation and reduce rumen activity in cattle. 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 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. It is hardy to zone 4.

Other
The 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. Others burned cudweed sagewort to drive away mosquitoes and other insects.
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 (0.9-6.2 ft)

Inflorescence Characteristics
- Type: umbellate cyme, terminating stems and branches; flowers 8 to 40
- Flowers: pink to rose-purple and rarely white
corolla (6-10 mm tall); corolla lobes elliptic to oblanceolate (5-6 mm long),
reflexed; calyx lobes lanceolate to ovate (1.2-2.4 mm long), green to purple
- Fruits: follicle, spindle-shaped (5-9 cm long,
about 1 cm thick); glabrous to sparsely pubescent; seeds many; pedicels straight
or curved
- Seeds: ovate (6-9 mm long); floss silky and white
(1.5-3 cm long)

Vegetative Characteristics
- 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
- Stems: erect, usually solitary, sometimes
clustered, simple to branching above; two
lines of downy hairs on upper branches;
contain a milky juice
- Underground: fibrous roots, coarse; rhizomes short

Distribution and Habitat
Swamp milkweed grows throughout Nebraska in
marshes and wet areas in pastures, rangeland, roadsides
and waste areas. It may be common along ditches, streams
and rivers.

Uses and Values
- Forage. It is rarely grazed by livestock because it
contains a bitter juice which is high in alkaloids. Swamp
milkweed increases with improper grazing.
- Poisoning. Swamp milkweed contains cardioactive glyco-
sides and resins; however, only a 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.

Swp milkweed

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

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

Ornamental. It is commonly used in butterfly gardens,
around stormwater basins and in water gardens. The fol-
llices are used in dry flower arrangements, and the flowers
are used in fresh arrangements. It is hardy to zone 3.

Other
The Lakota pulverized the root 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. In the 1800s it was listed as a pharma-
ceutical plant.
**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: 0.05-0.4 m (2 in-1.3 ft) |

**Inflorescence Characteristics**
- **type:** umbels 1 to 5, terminal and axillary to the uppermost leaves; flowers 2 to 20
- **flowers:** green to purple (5-8 mm tall); corolla lobes oblong to elliptic (2-4 mm long), reflexed, glabrous; calyx lobes triangular to ovate-lanceolate (2-5 mm long), villous
- **fruits:** follicle (4-8 cm long, 6-8 mm wide), slenderly spindle-shaped, ascending to erect; seeds many; pedicellate
- **seeds:** ovate (4-6 mm long); floss white to tan (1.2-2.6 mm long)

**Vegetative Characteristics**
- **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
- **stems:** erect to ascending, 1 to numerous, simple to branched from base, puberulent in lines from leaf buds; contain a milky juice
- **underground:** taproot or rhizomes

**Distribution and Habitat**
Dwarf milkweed grows throughout Nebraska, but it is most common in the west and central parts of the state, in dry sandy, clayey, or rocky soils of rangeland, prairie hillsides and uplands. It is uncommon in the Sandhills.

**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 percent of the animal’s body weight of dwarf milkweed may be 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 rarely is a problem.

**Poisoning.** Ingestion of 1-2 percent of the animal's body weight of dwarf milkweed may be 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 rarely is a problem.

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Common Name: **Showy milkweed**  
(silkweed)

<table>
<thead>
<tr>
<th>Species:</th>
<th><em>Asclepias speciosa</em> Torr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>June to August</td>
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<tr>
<td>Height:</td>
<td>0.3-1.0 m (0.9-3.1 ft)</td>
</tr>
</tbody>
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**Inflorescence Characteristics**
- **type:** umbels 1 to 4, terminal and axillary to the upper leaves; flowers 10 to 40; borne on peduncles (1-4 cm long)
- **flowers:** purplish-rose corolla (9-15 mm long), reflexed to spreading, star-shaped; hood (9-15 mm long) and horns often whitish-pink to pink contrasting with the darker corolla; calyx lobes green to purple (4-6.5 mm long), ovate, reflexed, densely tomentose; fragrant
- **fruits:** follicle (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)

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

**Distribution and Habitat**
Showy milkweed is found primarily in the western two-thirds of Nebraska in dry to moist sandy to rocky soils of rangeland, prairies, roadsides, floodplains, lakesides, disturbed sites and cultivated fields.

**Uses and Values**

**Forage.** Forage of showy milkweed is considered to be 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 considered to be 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 catalogs 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. It is hardy to zone 3. Showy milkweed and common milkweed (*Asclepias syriaca*) are more apt to become a problem weed 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.
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 (1.6-6.2 ft)

Inflorescence Characteristics
- type: umbels 1 to several (5-8 cm in diameter), terminating stems and branches; flowers many
- flowers: pink or rose to purple corolla (1.1-1.8 cm tall), rarely white or greenish-white; corolla 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: follicle (7-10 cm long, 2-4 cm wide), broadly or narrowly spindle-shaped; 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)

Vegetative Characteristics
- leaves: opposite, simple; blades oblong to broadly ovate (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; contain a milky juice
- stems: erect, mostly simple; pubescence soft and fine; contain a milky juice
- underground: fibrous roots, shallow; rhizomes

Distribution and Habitat
Common milkweed grows throughout Nebraska, except in the southwest and southern Panhandle, in pastures, rangeland, prairies, roadsides and waste areas.

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.

Prairie Restoration. A few plants can be added to prairie restorations to increase biodiversity, but it usually appears on its 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. The mature follicles are used in dry flower arrangements. Common milkweed spreads readily and is hardy to zone 3.

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

Common 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 (0.9-2.8 ft)

Inflorescence Characteristics
- **type:** umbels 1 to many, axillary or terminating branches; 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); unpleasant fragrance
- **fruits:** follicle (7-10 cm long, 5-8 mm wide), spindle-shaped; without tubercles
- **seeds:** elliptic (about 5 mm long); floss white (2.5 cm long)

Vegetative Characteristics
- **leaves:** whorled (3-4 per node), simple; blades linear (2.8-7.8 cm long, 0.5-2.5 mm wide), tips pointed; margins entire, revolute; midrib white below; sessile; contain a milky juice
- **stems:** erect, unbranched, line of minute hairs extending down from each leaf node; contain a milky juice
- **underground:** rhizomes; producing extensive fibrous roots

Distribution and Habitat
Whorled milkweed grows throughout Nebraska in sandy, clayey, or rocky soils of rangeland, 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 milkweeds; consumption of more than two percent of the animal's body weight can be lethal. The poisonous principle is the same as for other milkweeds and 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 and is hardy to zone 4. Unwanted stems are easy to pull or dig out to prevent aggressive spreading. The mature pencil-thin follicles are 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.
Common Name: **Green milkweed**  
(greencomet milkweed)

<table>
<thead>
<tr>
<th>Species: Asclepias viridiflora Raf.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form: Forb</td>
</tr>
<tr>
<td>Life Span: Perennial</td>
</tr>
<tr>
<td>Origin: Native</td>
</tr>
<tr>
<td>Flowering: May to August</td>
</tr>
<tr>
<td>Height: 0.1-0.6 m (0.3-1.9 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**
- type: umbels 1 to 3, terminal and axillary to the upper leaves; flowers 20 to 80
- flowers: green to purple (9.5-12.5 mm tall); petals reflexed (5.7-6.5 mm long), puberlent; hoods (4-6 mm long) with a small tooth near the base of each margin; horns absent; calyx lobes lanceolate (2-3 mm long), puberlent; fragrance none
- fruits: follicle (7-15 cm long, 1.5-2 cm thick), broadly spindle-shaped, erect; without tubercles
- seeds: obovate (6-7.5 mm long); floss tan (3-5 cm long)

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

**Distribution and Habitat**
Green milkweed grows throughout Nebraska in sandy to rocky soils of rangeland 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 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.** Green milkweed can be added to prairie restorations to increase biodiversity, but it can rapidly spread.

**Wildlife.** It attracts butterflies and other insects, but 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. It is hardy to zone 3.

**Other**
The Lakota gave 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.

Common Name: **Heath aster**  
(white aster)

<table>
<thead>
<tr>
<th>Species: Aster ericoides L. [=Symphyotrichum ericoides (L.) G.L. Nesom]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form: Forb</td>
</tr>
<tr>
<td>Life Span: Perennial</td>
</tr>
<tr>
<td>Origin: Native</td>
</tr>
<tr>
<td>Flowering: September to October</td>
</tr>
<tr>
<td>Height: 0.2-1.0 m (0.6-3.1 ft)</td>
</tr>
</tbody>
</table>

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Inflorescence Characteristics

- **type:** heads numerous (8-17 mm in diameter) on recurved branches, in a panicle-like inflorescence, foliaceous; involucre (2.5-4.5 mm tall) bracts strongly imbricate, margins bristle-tipped; ray florets 10 to 18; disk florets 14 or fewer
- **flowers:** white (to pinkish) ray flowers (5-8 mm long); yellow disk flowers
- **fruits:** achene (1-2 mm long), purplish-brown, multi-ribbed, puberlent with a pappus of white bristles; seeds 1
- **seeds:** small (1-1.5 mm long), silky

Vegetative Characteristics

- **leaves:** alternate, simple; basal and cauline leaves largely deciduous prior to flowering; persisting leaves linear (5-20 mm long, 1-5 mm wide), progressing into bracts; margins entire; surfaces rough, hairy
- **stems:** erect to ascending or prostrate, slender, clustered with appressed hairs above; stolons sometimes present
- **underground:** rhizomes

Distribution and Habitat

Heath aster grows throughout Nebraska on upland rangeland, prairies, pastures and roadsides. It is uncommon in the Sandhills.

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 rangeland.

**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 fall. It is hardy to zone 3.

Other

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

Common Name: **Twogrooved poisonvetch** (twogrooved milkvetch, twogrooved locoweed)

<table>
<thead>
<tr>
<th>Species</th>
<th>Astragalus bisulcatus (Hook.) A. Gray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering</td>
<td>June to August</td>
</tr>
<tr>
<td>Height</td>
<td>0.2-0.8 m (0.6-2.5 ft)</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics

- **type:** raceme (3-12 cm long), dense to lax, axillary; flowers many; peduncles 1-12 cm long
- **flowers:** purple, white, or white with purple (1-1.7 cm long); typical 5-petaled legume flower; pedicels 1-3 mm long
- **fruits:** legume (7-20 mm long, 2-5 mm wide), with two deep grooves; many seeds
kidney-shaped (3-3.5 mm long), yellow to brown or black, smooth

**Vegetative Characteristics**

leaves: alternate, odd-pinnately compound (4-13 cm long), leaflets 13 to 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

stems: ascending to erect, few to many from a caudex, forming a clump, pubescent

underground: taproot

**Distribution and Habitat**

Twogrooved poisonvetch is found in the Panhandle and northeast Nebraska where it can be locally abundant in dry, alkaline soils of rangeland and roadsides. It grows only in soils containing selenium.

**Uses and Values**

**Forage.** Twogrooved poisonvetch is a poisonous plant with poor forage quality. Generally, it is not grazed when other forage is available. It increases with improper grazing.

**Poisoning.** Twogrooved poisonvetch accumulates selenium from the soil in its tissues. Animals eating these plants are said to acquire "alkali disease," characterized in the early stage by 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 do not eat the foliage of twogrooved poisonvetch, but it does attract nectar-seeking insects.

**Ornamental.** It is rarely used as an ornamental due to its unpleasant odor. It is hardy to zone 3.

**Other**

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

**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 (0.3-4.6 ft)

**Inflorescence Characteristics**

- **type:** raceme (3-20 cm long), dense; axillary, flowers many; peduncle 4-10 cm long
- **flowers:** yellowish-white to greenish-white, sometimes tinged with purple (1.1-1.7 cm long); typical 5-petaled legume flower
- **fruits:** legume (1-1.8 cm long, 5-6 mm wide), numerous, ascending or erect; with a beak
- **seeds:** kidney- to heart-shaped (2-2.5 mm long), brownish-yellow, smooth

**Vegetative Characteristics**

- **leaves:** alternate, odd-pinnately compound (5-35 cm long); leaflets 13 to 35; leaflets elliptic to narrowly lanceolate (1-4 cm long, 5-15 mm wide), margins entire, both surfaces pubescent but pubescence is more abundant on the lower surface; petiolules short
Distribution and Habitat
Canada milkvetch grows throughout Nebraska on
moist rangeland, prairies, roadides, open woodland 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 im-
proper grazing. Horses have been reported to selectively
graze the legumes.

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 rab-
bits eat the herbage. Wild turkeys, upland gamebirds and
small mammals eat the seed.

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 at-
tractive. It grows best in well-drained soils in full sunlight.
Seeds and potted plants are available from nurseries. It is
hardy to zone 3.

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.

<table>
<thead>
<tr>
<th>Common Name:</th>
<th>Groundplum milkvetch</th>
</tr>
</thead>
<tbody>
<tr>
<td>(buffalo bean, ground plum)</td>
<td></td>
</tr>
</tbody>
</table>

| Species:         | Astragalus crassicarpus Nutt.                         |
| Growth Form:     | Forb                                                     |
| Life Span:       | Perennial                                               |
| Origin:          | Native                                                   |
| Flowering:       | April to June                                           |
| Height:          | 0.1-0.6 m (0.3-1.9 ft)                                  |

Inflorescence Characteristics

| type:            | raceme (1-8 cm long), shorter than or equaling the subtending leaves, axillary; flowers 5 to 25; flowers ascending or spreading |
| flowers:         | purple to blue or pinkish-white, rarely greenish-white to yellowish-white (1.5-2.5 cm long); typical 5-petaled legume flower |
| fruits:          | legume (1.5-4 cm long, 2 cm in diameter), thick, with a beak; 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 |

Vegetative Characteristics

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

Distribution and Habitat
Groundplum milkvetch can be found throughout
Nebraska on rangeland and prairie hillsides and uplands. It
grows in all types of soils but is most common in sandy or rocky areas.
Uses and Values

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

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 the biodiversity.

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

Ornamental. Groundplum milkvetch is occasionally grown as an ornamental novelty. Seeds should not be collected from native prairies where it is uncommon. It should be planted in well-drained soils in full sun. It is not easily moved because it is relatively intolerant of root disturbance. Groundplum milkvetch is hardy to zone 3.

Other

Pioneers ate raw or cooked legumes and made them into pickles. Possibly for a ceremonial reason, the Pawnee placed groundplum milkvetch legumes in the water in which they soaked their corn seed 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.

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 (0.3-0.9 ft) |

Inflorescence Characteristics

type: racemes, axillary, elevated above the leaves, flowers 3 to 15; peduncles 10-15 cm long
flowers: purplish-pink (rarely white or deep purple), drying blue; typical 5-petaled legume flower (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: legume, ellipsoid or obovlong-cylindrical (1.5-2.5 cm long, excluding the beak, and 4-10 mm wide), nearly circular in cross-section, dull and reddish in color; becoming leather-like with age; beak 4 mm long; seeds several to many
seeds: kidney-shaped (2-3 mm long), brown, surfaces pitted

Vegetative Characteristics

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

Distribution and Habitat

Missouri milkvetch grows in the western two-thirds of Nebraska where it can be locally common on rangeland, ravines, hillsides and roadsides.

Uses and Values

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

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

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 and bighorn sheep graze Missouri milkvetch. Small mammals and birds eat its seeds.

Ornamental. Drought tolerance of this plant makes it appropriate for rock gardens. It is attractive because of its open habit of showy purple flowers. It is hardy to zone 3.

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

Common Name: Woolly locoweed (woolly milkvetch)

Species: Astragalus mollissimus Torr.
Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering: April to June
Height: 0.02–0.25 m (1 in–0.8 ft)

Inflorescence Characteristics
Type: raceme (4–10 cm long), terminal; flowers 10 to 40; peduncles 5–20 cm long
Flowers: purple to reddish-purple (rarely yellow or white), drying blue (1.7–2.2 cm long); typical 5-petaled legume flower

Fruits: legume, ascending or spreading (1.4–2.5 cm long, 4–9 mm wide), glabrous; with a beak; seeds many
Seeds: kidney- to heart-shaped (2–3 mm long), brown, smooth to rough

Vegetative Characteristics
Leaves: alternate, odd-pinnately compound (5–22 cm long), ascending or arching; leaflets 15 to 35; leaflets usually obovate to oblanceolate (5–25 mm long, 2–15 mm wide); margins entire; both surfaces densely pubescent
Stems: ascending to prostrate, 1 to several, stout, pubescent
Underground: taproot

Distribution and Habitat
Woolly locoweed grows in the Panhandle and southwest and southern Nebraska on dry prairies, rangeland 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 it if other forage is unavailable. Its forage quality is poor, and it increases with improper grazing.

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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 accumulative. 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 it is added to increase biodiversity.

Wildlife. Generally, wildlife will not eat woolly locoweed. Occasionally, pronghorn suffer from eating the flowers and legumes, but they seldom die from poisoning. Wild turkeys eat the legumes 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. It is hardy to zone 3.

**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 (0.6-2.2 ft) |

**Inflorescence Characteristics**

- **type:** racemes (4-10 cm long), axillary, flowers 12 to 70; peduncles stout (3-11 cm long)
- **flowers:** outer petals white or cream and sometimes tinged with pink or purple; inner petals purple, light purple, or tipped with purple; typical 5-petaled legume flower (1.2-2 cm long)
- **fruits:** legume (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

**Vegetative Characteristics**

- **leaves:** alternate, odd-pinnately compound (4-15 cm long), leaflets 9 to 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
- **stems:** erect to ascending, few to several from a short caudex; usually branched above; pubescent
- **underground:** taproot

**Distribution and Habitat**

Racemed poisonvetch is found in the western three-fourths of Nebraska in dry, sandy soils of prairie uplands, rangeland 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 percent 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.

---

Racemed poisonvetch
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. It is hardy to zone 3.

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

<table>
<thead>
<tr>
<th>Common Name: False boneset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species: Brickellia eupatorioides (L.) Shinners (=Kuhnia eupatorioides L.)</td>
</tr>
<tr>
<td>Growth Form: Forb</td>
</tr>
<tr>
<td>Life Span: Perennial</td>
</tr>
<tr>
<td>Origin: Native</td>
</tr>
<tr>
<td>Flowering: August to October</td>
</tr>
<tr>
<td>Height: 0.3-1.0 m (0.9-3.1 ft)</td>
</tr>
</tbody>
</table>

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

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

Distribution and Habitat
False boneset is common throughout Nebraska in all types of soil, but it is most abundant in dry sandy soils of rangeland, 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.

Grassland Seeding. It is not used in grassland seedings.

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

Wildlife. Pronghorn 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. It is hardy to zone 4. Dried inflorescences are sometimes used in autumn flower arrangements.

Other
Some Native Americans applied a poultice of false boneset leaves to reduce swelling. Pioneers made a tea to induce perspiration and as a bitter tonic for the stomach.
Common Name: Purple poppymallow

Species: Callirhoe involucrata (Torr. & A. Gray) A. Gray

Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering: May to October
Height: 0.1-0.8 m (0.3-2.5 ft)

Inflorescence Characteristics
- type: mostly solitary flowers in leaf axils; involucre bracts 3; bracts linear to lanceolate or oblanceolate (6-15 mm long)
- 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: schizocarp of a ring of carpels (3-5 mm tall, 9-12 mm in diameter), carpels 15 to 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

Vegetative Characteristics
- leaves: alternate, simple; blades round to heart-shaped (2-7 cm long, 3-9 cm wide), palmately 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
- stems: trailing to ascending, rooting from the nodes; few to several per plant.
- underground: taproot, turnip-shaped, deep

Distribution and Habitat
Purple poppymallow grows throughout Nebraska, except in the Panhandle, in prairies, pastures, rangeland, roadsides and disturbed ground.

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

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. Purple poppymallow's trailing habit 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. It is hardy to zone 3.

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. The roots were eaten.
Common Name: Serrateleaf eveningprimrose
(plains eveningprimrose, halfshrub sundrops)

Species: *Calylophus serrulatus* (Nutt.) Raven
(*=Oenothera serrulata* Nutt.)

Growth Form: Forb (or halfshrub)

Life Span: Perennial

Origin: Native

Flowering: May to August

Height: 0.1-0.7 m (0.3-2.2 ft)

**Inflorescence Characteristics**

- type: flowers solitary, axillary
- flowers: yellow fading to pinkish, showy; petals 4 (5-14 mm long, 15-30 mm 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: capsule (1-3 cm long, 1-3 mm wide); seeds many
- seeds: truncate (1-2 mm long)

**Vegetative Characteristics**

- 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
- stems: erect to decumbent, few to many from a much-branched caudex, highly branched, slightly woody, stout, somewhat hairy
- underground: taproot and caudex, woody

**Distribution and Habitat**

Serrateleaf eveningprimrose grows throughout Nebraska in sandy, rocky, or gravelly soils of rangeland, 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. It decreases with improper grazing on rangeland.

**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.

---

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: 0.5-2.0 m (1.6-6.2 ft)

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 name of dwarf sundrops or bush sundrops. It is hardy to zone 4.

Other

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 halfshrub. Its leaves fold in the summer so that only its leaf edges point toward the mid-day sun, which results in less water loss from the leaf surfaces.

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**Inflorescence Characteristics**

- **type:** compound umbels (4-13 cm wide), terminating stems and branches; rays 8 to 28
- **flowers:** white, petals rounded (1-1.5 mm long), subtended by 1 or 2 linear bracts
- **fruits:** schizocarp, oval to orbicular (2.2-4.5 mm long), glabrous; dividing into 2 mericarps, each with seeds 1
- **seeds:** obovate to oblanceolate (2-3.5 mm long), flat on one side and rounded on the other; straw-colored with dark blotches

**Vegetative Characteristics**

- **leaves:** alternate, 2 or 3 (sometimes 4 or 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
- **stems:** erect, stout, glabrous, covered with a wax that rubs off easily, with purple stripes and spots; lower portion enlarged, chambered, and contains a yellow oil
- **underground:** fleshy, chambered tuber containing a yellow oil

**Distribution and Habitat**

Spotted waterhemlock grows throughout Nebraska, especially in the eastern portion, in wet locations along streams, lakes, ponds or in road ditches.

**Uses and Values**

- **Forage.** Spotted waterhemlock increases with improper grazing on wet rangeland 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 percent 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 cut, the plant oozes this 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. Wildlife do not eat the foliage.

**Other**

It 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.

---

**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 (1.3-2.5 ft)

**Inflorescence Characteristics**

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

seeds: small

Vegetative Characteristics
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 upward (3-7 cm long, 5-25 mm wide); uppermost blades only shallowly lobed to subentire; margins spiny, upper surface green and cobweb-like with tanged, slender, and loose hairs; lower surface densely tomentose, white; decurrent leaf bases forming spiny wings on the stems

stems: erect, simple or branched above; surfaces tomentose

underground: taproot, deep, slender to stout

Distribution and Habitat
Platte thistle grows throughout Nebraska, except in the extreme southwest and southeast, in sandy and gravelly soils of rangeland, pastures, roadsides, waste areas and disturbed sites.

Uses and Values
Forage. Platte thistle increases with improper grazing on rangeland and has no forage value for livestock or wildlife. 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, although 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. The pappus is used by birds and small mammals to line nests. Ornamental. Platte thistle is sometimes grown in butterfly gardens and is hardy through zone 3.

Other
The 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.

<table>
<thead>
<tr>
<th>Common Name: Flodman thistle (prairie thistle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species: Cirsium flodmanii (Rydb.) Arthur</td>
</tr>
<tr>
<td>Growth Form: Forb</td>
</tr>
<tr>
<td>Life Span: Perennial</td>
</tr>
<tr>
<td>Origin: Native</td>
</tr>
<tr>
<td>Flowering: June to September</td>
</tr>
<tr>
<td>Height: 0.3-1.0 m (0.9-3.1 ft)</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics
type: heads; solitary, terminal on the branches, discoid, flowers many; involucre (2-3 cm tall, 1.5-2.5 cm wide) with six to seven 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: achene (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

Vegetative Characteristics
leaves: alternate, simple; highly variable; rosette leaves elliptic to oblanceolate (12-22 cm long, 3-7 cm wide), petiole winged; cauline 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 erect, usually branched above; surfaces white tomentose

Distribution and Habitat
Flodman thistle is common throughout Nebraska on moist meadows and ditches and on dryer, open sites on pastures, rangeland and disturbed areas.

Uses and Values
Forage. Flodman thistle increases with improper grazing on rangeland and has no forage value for domestic livestock; however, horses occasionally eat the heads.

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 rarely because of negative feelings about thistles.

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

Ornamental. Flodman thistle is occasionally grown in butterfly gardens and seed is available commercially. Commercial sources of seeds are available. It is hardy to zone 3.

Other
The 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.

Towards a Thistle Identification Manual

Common Name: Wavyleaf thistle
(gray thistle)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Cirsium undulatum (Nutt.) Spreng.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>June to August</td>
</tr>
<tr>
<td>Height:</td>
<td>0.4-1.0 m (1.3-3.1 ft)</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics
- type: heads (2-4 cm tall, 2-3.5 cm wide); heads discoid, flowers many; solitary, terminal on the branches; involucre with six to eight 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: achene (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 tan to brown

Vegetative Characteristics
- 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, ovate to lanceolate, shallowly lobed; sessile and clasping
- stems: erect; sparingly branched above; densely tomentose
- underground: taproot, deep

Distribution and Habitat
Wavyleaf thistle grows throughout Nebraska and is common in the western three-fourths of the state. It is most abundant on Sandhills dunes and abused rangeland, 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.

**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. Songbirds and small mammals eat the seeds and line their nests with the pappus attached to the achenes.

**Ornamental.** Wavyleaf thistle is sometimes grown in cultivated beds in full sun. It is hardy to zone 3. 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.

---

**Common Name:** Silktop dalea  
(golden prairielclove, golden dalea)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Dalea aurea Nutt. ex Pursh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>June to September</td>
</tr>
<tr>
<td>Height:</td>
<td>0.2-0.7 m (0.6 to 2.2 ft)</td>
</tr>
</tbody>
</table>

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

**Vegetative Characteristics**
- leaves: alternate, odd-pinnately compound (1.5–4 cm long); leaflets 3 to 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
- stems: erect or ascending from a short caudex; simple or branched above, silky-pubescent
- underground: taproot, deep

**Distribution and Habitat**

Silktop dalea is infrequent to locally abundant in the western three-fourths of Nebraska on prairies, rangeland, open woods, ravines and brushy hillsides. It is most abundant on calcareous soils.

**Uses and Values**

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

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

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

**Wildlife.** Silktop dalea is readily eaten by deer, elk,
Silktop dalea

pronghorn and bighorn sheep. Wild turkeys eat its leaves and songbirds, upland gamebirds and small mammals eat its seeds. 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 and is hardy to zone 4.

Other

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

Common Name: White prairieclover

Species: Dalea candida Michx. ex Willd. [= Petalostemon candidus (Willd.) Michx.]

Growth Form: Forb

Life Span: Perennial

Origin: Native

Flowering: May to September

Height: 0.3-1 m (0.9-3.1 ft)

Inflorescence Characteristics

Type: spike (2-8 cm long, 7-9 mm wide),
terminal, densely 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: legume (2.5-4.5 mm long), glabrous, thin-walled, glandular; seeds 1

Seeds: asymmetrically kidney-shaped (1.5-2 mm long), brown, smooth

Vegetative Characteristics

Leaves: alternate, odd-pinnately compound (2-6 cm long); leaflets 5 to 13 (commonly 7); leaflets lanceolate to linear (1-3 cm long, 2-6 mm wide), often folding along the midrib; tips acute to obtuse; margins entire, glabrous, glandular dotted on lower surface

Stems: erect, one to several from a woody caudex, simple or branched above, glabrous

Underground: taproot, deep

Distribution and Habitat

White prairieclover grows throughout Nebraska on dry
prairies, upland rangeland and open woodland 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 continued heavy grazing.

**Grassland Seeding.** It can be added to grassland seedings to help stabilize the soil and add 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. It is hardy to zone 4.

**Other**

Lakota Indians 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.

**Common Name:** Nineanther prairieclover
(slender dalea, nineanther dalea, bigtop dalea, plume dalea)

<table>
<thead>
<tr>
<th>Species:</th>
<th><em>Dalea enneandra</em> Nutt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>June to September</td>
</tr>
<tr>
<td>Height:</td>
<td>0.4-1 m (1.3-3.1 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

| type:             | spike (3-10 cm long); terminal, loose;    |
|                  | flowers 5 to 25                           |
| flowers:         | white (9-12 mm long), petals 5; bracts 5  |
|                  | (3.5-4.5 mm long), pubescent              |
| fruits:          | legume (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                   |

**Distribution and Habitat**

Nineanther prairieclover is found throughout Nebraska on dry rangeland, stream valleys and roadsides. It is most common in calcareous, rocky or sandy soils of dry hillsides in the western three-fourths of the state.

**Uses and Values**

**Forage.** Nineanther prairie clover is a legume and produces good quality forage that is palatable to all classes of livestock. It retains its forage value in dry hay, but decreases with continued heavy grazing.

**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 and attracts butterflies.

Ornamental. Nineanther prairieclover has limited application in landscapes. It is hardy to zone 3.

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 spine to a nineanther prairieclover stem.

**Common Name:** Purple prairieclover
(violet prairieclover)

| Species: | Dalea purpurea Vent. [=Petalostemon purpureus (Vent.) Rydb.] |
| Growth Form: | Forb |
| Life Span: | Perennial |
| Origin: | Native |
| Flowering: | May to August |
| Height: | 0.2-0.9 m (0.6-2.8 ft) |

**Inflorescence Characteristics**
- type: spike (1-7 cm long, 7-14 mm wide), terminal, numerous, oblong-cylindrical, flowers many
- flowers: purple or reddish-purple (6 mm long); petals 5 (4 joined and 1 separate)
- fruits: legume (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

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

**Distribution and Habitat**
Purple prairieclover is common throughout Nebraska on upland rangeland and dry prairies. It grows in all types of soils.

**Uses and Values**

**Forage.** Purple prairieclover produces excellent forage for all classes of livestock and can be an important component of prairie hay. It is high in protein and highly palatable. Although rare, consumption of large quantities of purple prairieclover by cattle may cause bloat. It decreases with continued heavy grazing.

**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 are 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 much color to the restoration.

**Wildlife.** Purple prairieclover is grazed by pronghorn, deer, elk and bighorn sheep. Wild turkeys eat the foliage. Pocket gophers eat the taproots. Songbirds and upland gamebirds 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 is a heavy bloomer and is hardy to zone 3.

**Other**
Some Native Americans ate fresh and boiled purple prairieclover leaves. Bruised leaves were steeped in water and applied to fresh, open wounds. The Ponca and Comanche chewed the roots for their pleasant flavor and made tea from the leaves. Pawnee used the stems to make brooms.
Common Name: **Silky prairieclover**  
(hairy prairieclover)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species:</strong></td>
<td><em>Dalea villosa</em> (Nutt.) Spreng. (=<em>Petalostemon villosus</em> Nutt.)</td>
</tr>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Perennial</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>June to August</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.2-0.6 m (0.6-1.9 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

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

**Vegetative Characteristics**

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

**Distribution and Habitat**

Silky prairieclover grows throughout Nebraska, except in the extreme southeast, on sandy rangeland, sandy woodland and on the fringes of blowouts. It is most common in the Sandhills.

**Uses and Values**

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

---

Common Name: **Prairie larkspur**  
(plains larkspur)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species:</strong></td>
<td><em>Delphinium virescens</em> Nutt.</td>
</tr>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Perennial</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>May to June</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.3-1.2 m (0.9-3.7 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- type: raceme (10-25 cm long), spike-like, terminal, flowers 5 to 30; pedicels up to 1.3 cm long in flower and up 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 (1.1-2.0 cm long)

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 and is hardy to zone 4.

Other

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

**leaves:** alternate, simple; blades round (2–7 cm long), basal and cauline, six to numerous; upper leaves sessile, palmately segmented, divisions lanceolate to linear; both surfaces pubescent

**stems:** erect, branched to unbranched, pubescent

**underground:** fibrous roots, with tuber-like divisions

**Distribution and Habitat**

Prairie larkspur grows throughout Nebraska on rangeland, pastures and prairies in all types of soil.

**Uses and Values**

**Forage.** Palatability is good for both cattle and sheep. Forage quality for cattle is poor because it is highly poisonous. Prairie larkspur increases on heavily grazed rangeland.

**Poisoning.** Prairie larkspur contains several alkaloids and 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. Plant toxicity greatly decreases after seed dispersal, but seeds remain poisonous. Sheep and horses are less likely than cattle to be poisoned by prairie larkspur. Unlike most poisonous plants, it is 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 and is sometimes included in packaged restoration mixtures. Also, it can be started from crown cuttings.

**Wildlife.** Pronghorn have been observed grazing prairie larkspur and apparently are not poisoned. It attracts hummingbirds, and bumblebees help 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. Prairie larkspur is hardy to zone 3.

**Other**

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

---

**Common Name:** Illinois bundleflower

(prairie bundleflower)

**Species:** Desmanthus illinoensis (Michx.) MacM.

**Growth Form:** Forb

**Life Span:** Perennial

**Origin:** Native

**Flowering:** June to August

**Height:** 0.5–2 m (1.6–6.2 ft)

**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 become separate; calyx tube lobes 5 (1 mm long)

**fruits:** legumes (1–2.5 cm long, 4–7 mm wide), thin, strongly curved, reddish-brown, glabrous; in a globose cluster; seeds few to several

**seeds:** diamond-shaped (3–5 mm long), variable, yellowish-red to brown
**Vegetative Characteristics**

leaves: alternate, bipinnately compound (5-10 cm long); 6 to 16 pairs of pinnae (2-4 cm long); 15 to 30 pairs of leaflets; leaflets linear to oblong (2-5 mm long), margins entire, glabrous to pubescent; midvein prominent

stems: erect or ascending from a caudex, clustered, slightly grooved, glabrous or nearly so underground: taproot and caudex

**Distribution and Habitat**

Illinois bundleflower grows throughout Nebraska, except in the extreme northwest, in dry or moist soils of rangeland, prairies, open woods, stream banks, wasteland 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 one of the most important native legumes.

**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.

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

**Wildlife.** Illinois bundleflower is eaten by deer and elk and its seeds are eaten by quail, songbirds and small mammals. It attracts insects.

**Ornamental.** Illinois bundleflower is rather tall, and its flowers are not showy. Its ornamental value is its unique and interesting fruits. It will self-sow under favorable conditions. 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. Illinois bundleflower is hardy to zone 4.

**Other**

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

<table>
<thead>
<tr>
<th>Common Name:</th>
<th>Purple coneflower</th>
</tr>
</thead>
<tbody>
<tr>
<td>(blacksamson, echinacea)</td>
<td></td>
</tr>
<tr>
<td><strong>Species:</strong></td>
<td><em>Echinacea angustifolia</em> DC.</td>
</tr>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Perennial</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>June to July</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.1-0.6 m (0.3-1.9 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

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

**Vegetative Characteristics**

leaves: alternate, simple; blades elliptic to oblong (5-30 cm long, 1-4 cm wide); basal leaves petiolate; cauline leaves sessile; 3 prominent veins; margins entire, ciliate; both surfaces with rough appressed hairs; tapering to a winged petiole

stems: erect, usually unbranched, with spreading hairs above, glabrous below; single on plants in poor soils, multiple stems on more fertile soils

underground: rhizomes; deep taproot (1.5-2 m long), woody

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**Distribution and Habitat**

Purple coneflower grows throughout Nebraska where it may be locally common on dry uplands to rocky sites of prairies, rangeland and open woodland. It is not common in the Sandhills or in the southern Panhandle.

**Uses and Values**

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

**Grassland Seeding.** Usually, it 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. It is hardy to zone 3.

**Other**

The roots of purple coneflower were used by Native Americans as 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 treat distemper in horses. 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.

**Common Name:** Scarlet gaura  
(scarlet beeblossom)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Gaura coccinea Nutt. ex Pursh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>June to September</td>
</tr>
<tr>
<td>Height:</td>
<td>0.2-0.5 m (0.6-1.6 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- **type:** raceme (5-40 cm long), spike-like; 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:** capsule (4-8 mm long, 1-3 mm thick), cylindrical, sessile, lower half abruptly constricted; seeds 1 to 4
- **seeds:** reddish-brown (1.5-2.5 mm long)

**Vegetative Characteristics**

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

Scarlet gaura may be found throughout Nebraska on dry upland areas of rangeland, prairies and 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.

**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 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 and is hardy to zone 4.

**Other**

Due to the extensive rhizomes, scarlet gaura will form large colonies. This plant is highly variable in hairiness, size and flower color. Two varieties are recognized: the densely pubescent *var. coccinea* and the near glabrous *var. glabera* (Lehm.) Torr. and A. Gray. The 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.

---

**Common Name:** Wild licorice

(American licorice)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Glycyrrhiza lepidota Pursh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to August</td>
</tr>
<tr>
<td>Height:</td>
<td>0.3-1.2 m (0.9-3.7 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- Type: raceme (2.5-5 cm long), shorter than the subtending leaves, spike-like, erect, dense, flowers many; axillary; peduncle stout
- Flowers: yellowish-white (8-15 mm long); typical 5-petaled legume flower; calyx tubular to bell-shaped (4.5-6.5 mm long); teeth 5
- Fruits: legume (1-3 cm long), obleng to ellipsoid, reddish-brown at maturity, covered with hooked prickles; seeds 3 to 5
- Seeds: kidney-shaped (2.5-4 mm long), olive green to grayish-brown, plump, smooth

**Vegetative Characteristics**

- Leaves: alternate, odd-pinnately compound; leaflets 7 to 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
- Stems: erect to ascending, 1 to several, little branched, lined or ridged when dry, glabrous to minutely pubescent
- Underground: rhizomes, forming large colonies; aromatic

**Distribution and Habitat**

Wild licorice grows throughout Nebraska on moist rangeland, prairies, meadows and waste areas. 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. The legumes are burlike and become entangled in wool of sheep causing dockage when sold. It increases with improper grazing.

**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.
Wild licorice

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. It is hardy to zone 3.

Other

Wild licorice is closely related to the European species Glycyrrhiza glabra L., producing licorice flavoring. The roots contain 2-6 percent 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.

Inflorescence Characteristics

type: head (4.5-9 cm wide, 2.5-3.5 cm tall), numerous in loose panicle clusters, showy; involucre with several series of imbricate bracts; bracts linear-lanceolate, loose, spreading, pubescence appressed; ray flowers 10 to 20; disk flowers numerous; disk 1.5-2.6 cm in diameter

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

fruits: achene (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

Vegetative Characteristics

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

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

underground: fibrous roots; rhizomes extensive, tough, woody

Distribution and Habitat

Sawtooth sunflower grows in the eastern two-thirds of Nebraska in wet prairies, hay meadows, rangeland, road-sides and margins of wetlands. It is mostly absent in the Panhandle and southwest.

Uses and Values

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

Grassland Seeding. It can be added to damp 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
**Sawtooth sunflower**

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 spread aggressively. It is hardy to zone 4.

**Other**

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

---

**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: | 0.3-2.0 m (0.9-6.2 ft) |

**Inflorescence Characteristics**

- **type:** head (5-8 cm wide), showy, 1 to many, terminal; ray florets 10 to 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:** achene (5-6 mm long), glabrous to hairy; pappus awns 2; seeds 1
- **seeds:** flattened (2-4 mm long), tan

**Vegetative Characteristics**

- **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 sessile; margins entire to serrate; surfaces rough and leathery; light green to grayish-green
- **stems:** erect, simple to few-branched, green to reddish-purple, scabrous
- **underground:** fibrous roots, extensive tuber-bearing rhizomes; tubers small

**Distribution and Habitat**

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

**Uses and Values**

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

**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 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. It is hardy to zone 4.

**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.

**Inflorescence Characteristics**
- **type:** heads (4-8.6 cm wide), 1 to many, terminal on upper branches; involucral bracts linear to lanceolate, imbricate, multi-serrate, equaling or exceeding the disk; ray florets 10 to 15; 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:** achene (4-8 mm long), oblong to deltoid, flattened, dark brown; pappus of 2 deciduous awns; seeds 1
- **seeds:** flattened (3-6 mm long), tan

**Vegetative Characteristics**
- **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
- **stems:** erect, branching above; surfaces scabrous to hisute or sometimes glabrous underground: tuber-bearing rhizomes, well developed; forming large colonies

**Distribution and Habitat**

Jerusalem artichoke is most common in the eastern two-thirds of Nebraska in prairies, rangeland, edges of hay meadows and roadsides. It is mostly absent in the Panhandle and southwest.

**Uses and Values**

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

**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 and 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. It is hardy to zone 3.
Jerusalem artichoke

Other

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.

Common Name: Hairy goldaster  
(goldaster, false goldenaster)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Genus: Heterotheca villosa (Pursh) Shinners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>July to September</td>
</tr>
<tr>
<td>Height:</td>
<td>0.2-0.5 m (0.6-1.6 ft)</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics

<table>
<thead>
<tr>
<th>type:</th>
<th>corymbiform to paniculate clusters; heads 3 to 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>flowers:</td>
<td>yellow ray florets (8-12 mm long), 10 to 30 per head; yellow disk florets (5-8 mm long), tubular, hairy; bracts in a series of 4 to 9, imbricate, hirsute, and with a conspicuous green stripe</td>
</tr>
<tr>
<td>fruits:</td>
<td>achene, flattened; pappus in 2 series, 1 of bristles, 1 of scales; seeds 1</td>
</tr>
<tr>
<td>seeds:</td>
<td>small</td>
</tr>
</tbody>
</table>

Vegetative Characteristics

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

Distribution and Habitat

Hairy goldaster grows throughout Nebraska, except in the southeastern portion of the state, in dry sandy or rocky soils of rangeland 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.

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

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in areas with well-drained soils that receive full sunlight. It is self-sowing and hardy to zone 3.

**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.

**Common Name:** Bush morningglory  
*(bigroot morningglory)*

**Species:** *Ipomoea leptophylla* Torr.  
**Growth Form:** Forb  
**Life Span:** Perennial  
**Origin:** Native  
**Flowering:** May to September  
**Height:** 0.3-1.5 m (0.9-4.6 ft)

**Inflorescence Characteristics**
- **type:** cyme, axillary; flowers 1 to 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)  
- **fruits:** capsule (1-1.5 cm long), ovoid, glabrous; seeds 1 to 4  
- **seeds:** oblong to elliptic (7-12 mm long), brown; covered with short, dense pubescence

**Vegetative Characteristics**
- **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)  
- **stems:** decumbent to erect, glabrous  
- **underground:** taproot, may be greatly enlarged (to more than 1.5 m long and 25 cm wide at top), tapering

**Distribution and Habitat**  
Bush morningglory grows primarily in the western three-fourths of Nebraska in all soil types on rangeland and prairies. It is most abundant in the Sandhills.

**Uses and Values**
- **Forage.** Bush morningglory has good forage value for livestock. It decreases with continued heavy grazing.  
- **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 local 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.  
- **Ornamental.** Bush morningglory can be used as a specimen planting in full sunlight, especially in sandy soils. The plant may become large (more than 1 meter 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. It is hardy to zone 4.

**Other**
Young roots were served as food for some Native Americans who boiled either 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 Name:** Showy peavine  
(manystem pea, hoary vetchling)

<table>
<thead>
<tr>
<th>Species:</th>
<th><em>Lathyrus polymorphus</em> Nutt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
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<tr>
<td>Life Span:</td>
<td>Perennial</td>
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<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to June</td>
</tr>
<tr>
<td>Height:</td>
<td>0.1-0.5 m (0.3-1.6 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- **type:** raceme, axillary; flowers 2 to 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); typical 5-petaled legume flower; fragrant
- **fruits:** legume (2-6 cm long, 5-10 mm wide), leathery; seeds few
- **seeds:** nearly spherical (5-6 mm long), dark green to brown, smooth

**Vegetative Characteristics**

- **leaves:** alternate, even pinnately compound, leaflets 4 to 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; midrib extended to a bristle; lacking tendrils
- **stems:** erect or ascending, glabrous to pubescent underground: rhizomes and a branching caudex

**Distribution and Habitat**

Showy peavine grows throughout Nebraska, except in the extreme eastern portions, on dry, sandy rangeland 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.

---

**Common Name:** Roundhead lespedeza  
(roundhead bushclover)

<table>
<thead>
<tr>
<th>Species:</th>
<th><em>Lespedeza capitata</em> Michx.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>June to August</td>
</tr>
<tr>
<td>Height:</td>
<td>0.6-2 m (1.9-6.2 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- **type:** raceme (1.2-2.5 cm long), globose to short-ovoid, axillary, flowers 10 to 45, numerous, crowded
- **flowers:** cream to white, sometimes with a purple spot on the banner petal (8-12 mm long), typical 5-petaled legume flower; calyx tube persistent (0.5-1 mm long), reddish brown
- **fruits:** legume (4-7 mm long), elliptic to oblong, pubescent; seeds 1
- **seeds:** smooth, shiny

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**Vegetative Characteristics**

leaves: alternate, pinnately 3-foliate; leaflets elliptic to lanceolate (2.4-4.5 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 erect, rigid, simple or branched above, silvery pubescent

stems: underground: taproot, branching caudex

**Distribution and Habitat**

Roundhead lespedeza is found primarily in the eastern half of Nebraska on rangeland, prairies, 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.

**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, globe-like inflorescence which turns brown in the fall. It adds a rich bronze color to dried flower arrangements. It is hardy to zone 4.

**Other**

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 counter irritants for rheumatism and neuralgia. Young shoots can be added to salads.

**Common Name:** Dotted gayfeather (blazing star, button snakeroot)

<table>
<thead>
<tr>
<th>Species:</th>
<th><em>Liatris punctata</em> Hook.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Perennial</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>July to October</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.1-0.8 m</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

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

**Vegetative Characteristics**

- **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
- **stems:** erect to decumbent or ascending, single to clustered; green-striate, glabrous beneath a taproot with lateral roots
Distribution and Habitat
Dotted gayfeather grows throughout Nebraska, especially in dry, upland soils of prairies and rangeland. It is most abundant in sandy soils.

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 continued heavy grazing.

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

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


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 corm-like rootstock can be divided in either spring or fall. It is sometimes used in fresh flower arrangements. Its bright colors remain after drying, making it useful in dry flower arrangements. Dotted gayfeather is hardy to zone 3 and 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. It was used by Native Americans in the Great Plains to treat diarrhea. They also mixed the corm-like rootstock 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.

Common Name: Plains pucoon
(gromwell, pucoon, Carolina pucoon)

| Species: | Lithospermum caroliniense (Walt. ex J.E. Gmel.) MacM. |
| Growth Form: | Forb |
| Life Span: | Perennial |
| Origin: | Native |
| Flowering: | May to June |
| Height: | 0.2-0.5 m (0.6-1.6 ft) |

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

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

Distribution and Habitat
Plains pucoon is found primarily in the Nebraska Sandhills on rangeland or open sandy prairies.

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

Grassland Seeding. Plains pucoon 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 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. It is hardy to zone 4.

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.

Common Name: Cleft gromwell
(narrowleaf gromwell, narrowleaf puccoon, fringed 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)

Inflorescence Characteristics
- Type: Raceme-like; 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; tubes (2-3 cm long) exceeding the calyx; later flowers cleistogamous, corollas may be present (2-6 mm long) or absent
- Fruits: Nutlet, more or less ovoid (3-4 mm long), white to buff, keeled, glossy, usually pitted, constricted at the base; seeds 1 small, enclosed in the nutlet

Vegetative Characteristics
- Leaves: Alternate, simple; basal leaves spatulate, deciduous at flowering; cauline 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
- Stems: Erect, few to several, branched above; strigose
- Underground: Taproot, thick, woody
Distribution and Habitat
Cleft gromwell grows throughout Nebraska on range­land, 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.

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 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', a cultivar released by the University of Nebraska, should be planted in full sun to light shade and is suitable for xeriscaping. This species is a short-lived perennial that reseeds itself. It is hardy to zone 3.

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.

Common Name: Nebraska lupine
(Platte lupine)

Species: Lupinus platensis S. Wats. (=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)

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; typical 5-petaled legume flower (1.2-1.4 cm long); calyx tube asymmetrical (2-3 mm long)
- fruits: legume (2-4 cm long), densely pubescent; seeds 3 to 8

Nebraska lupine

seeds: nearly circular (5-6 mm long, 4-6 mm wide), flat, yellowish-brown to black, smooth

Vegetative Characteristics

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

Distribution and Habitat
Nebraska lupine grows in the western third of Nebraska 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 legumes and seeds contain alkaloids. Losses have occurred when domestic livestock, especially sheep, ate the legumes. Symptoms are labored breathing, followed by coma, and then death from respiratory paralysis. Ingestion of only 0.25 percent 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 blue 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. It is hardy to zone 4.

**Other**

Nebraska lupine has been reported to cause poisoning in children after eating a few seeds. It is one of three species of native *Lupinus* in Nebraska.

| Common Name: | Rush skeletonplant  
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>(rush skeletonweed, skeletonweed)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Species:</th>
<th>Lygodesmia juncea (Pursh) D. Don ex Hook.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
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<tr>
<td>Life Span:</td>
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<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>June to September</td>
</tr>
<tr>
<td>Height:</td>
<td>0.1-0.7 m (0.3-2.2 ft)</td>
</tr>
</tbody>
</table>

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

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

**Distribution and Habitat**

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

**Uses and Values**

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

**Poisoning.** Rush skeletonplant 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. Rush skeletonplant is hardy to zone 1.

**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*).
Common Name: Cutleaf ironplant
(ironplant, lacy tansyaster)

Species: *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 (0.9-2.5 ft)

Inflorescence Characteristics

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

Vegetative Characteristics

- **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 pinnatifid with each lobe terminating in a bristle; surfaces glabrous to tomentose; sessile
- **stems:** erect or ascending, few to many, simple to branched above, glabrous to glandulartomentose on upper one-third
- **underground:** woody crown, surmounting a deep taproot (up to 1 m long)

Distribution and Habitat

Cutleaf ironplant grows primarily in central and western Nebraska on rangeland, pastures, prairies and along roadsides.

Uses and Values

**Forage.** Cutleaf ironplant has little forage value 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.

**Wildlife.** It is occasionally 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. It is hardy to zone 3.

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.

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 (0.9-4.1 ft)

Inflorescence Characteristics

- **type:** clusters, often appearing as a small panicle, 3 to 5 flowers in each cluster
- **flowers:** pink or reddish purple (rarely white)
fruits: calyx bell-shaped (about 2 mm long at flowering); sepals 5, united, petal-like; involucral bracts 5-6 mm long at flowering, enlarging to 8-16 mm in fruit anthocarp, cylindrical-obovoid to narrowly elliptic (4-6 mm long), hard, ribs 5, to warty or wrinkled, grayish-brown to black; seeds 1; obovoid (3-4 mm long), brown to yellow

Vegetative Characteristics
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 mid stem blades petiolate (1-8 cm long); upper leaves commonly sessile erect or ascending, branching above or below, glabrous to sparsely pubescent; nodes thickened
stems: erect or ascending, branching above or below, glabrous to sparsely pubescent; nodes thickened
underground: taproot, large, thick, fleshy; branching caudex above

Distribution and Habitat
Wild four-o’clock grows throughout Nebraska in prairies, pastures, rangeland, waste areas and disturbed sites. It commonly grows in poor soil.

Uses and Values
Forage. It produces poor to fair forage for livestock and increases with improper grazing.

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. It is hardy to zone 3.

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 mid stem 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.

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 (0.0-3.7 ft) |

Inflorescence Characteristics

| type: | cluster, solitary, terminal, compact (1.5-3 cm wide, excluding corollas); flowers 20 to 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: | nutlet (1.5-2 mm long), oblong, brown to black; seeds 1 |
| seeds: | small |
Vegetative Characteristics
leaves: opposite, simple; blades ovate to lanceolate (3-10 cm long, 1-3.5 cm wide); margins entire to serrate; surfaces glandular, sparsely pubescent; petiole 2-20 mm long
stems: erect, simple or branched above, pubescent above, glabrous below; square in cross-section
underground: rhizomes, slender, creeping

Distribution and 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, pastures, woodlands and roadsides throughout Nebraska. Variety menthifolia (Graham) Fernald (longest petioles less than 8 mm long) is found on moist sites in northwestern 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.

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 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. It is hardy to zone 3.

Other
Historically, this species had a number of medical uses. 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, yields a good tea.

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: 0.2-1.5 m (0.6-4.6 ft)

Inflorescence Characteristics
type: corymbiform, flat-topped to rounded; heads (6-10 mm in diameter) numerous, rounded; ray florets 4 to 17; disk florets 10 to 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: achene, plump, ribbed, glabrous or with a few short hairs; seeds 1
seeds: small
Vegetative Characteristics
leaves: alternate, simple; blades elliptic to oblong or lanceolate to broadly ovate (5-25 cm long, 2-10 cm wide), upper leaves reduced; margins entire or serrulate; long petioles below, upper leaves sessile
stems: erect to ascending, 1 to 3, rigid; usually simple up to the inflorescence
underground: rhizomes, short

Distribution and Habitat
Stiff goldenrod grows throughout Nebraska on rangeland and prairies, especially 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 commonly eaten in the early stages of growth. It increases with continued heavy grazing.
- Grassland Seeding. Stiff goldenrod is rarely used in grassland seeding mixtures.
- Prairie Restoration. It should be added to prairie restorations.

Wildlife. It provides fair to good forage for deer and pronghorn. Birds and small mammals eat the fruit. 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 prefers wet mesic to dry sites and is easy to grow. It is hardy to zone 3.

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

Common Name: Lambert Crazyweed
(Lambert locoweed, stemless loco, whitepoint locoweed, loco)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Oxytropis lambertii Pursh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to August</td>
</tr>
<tr>
<td>Height:</td>
<td>0.1-0.3 m (0.3-0.9 ft)</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics
- type: raceme (4-12 cm long), terminal; flowers 5 to 25
- flowers: purple to rose or blue, white not uncommon (1.2-2.5 cm long); typical 5-petaled legume flower; 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: legume (to 3 cm long), oblong to cylindrical, pubescent, with a beak (3-7 mm long); seeds many
- seeds: kidney-shaped to nearly circular (2 mm long), brown, smooth

Vegetative Characteristics
leaves: alternate, odd-pinnately compound (4-20 cm long); leaflets 7 to 19; leaflets linear to narrowly oblong (0.5-4 cm long, 2-7 mm wide); margins entire; both surfaces pubescent
stems: none, leaves arising directly from the base
underground: taproot
Distribution and Habitat
Lambert crazyweed grows throughout Nebraska on dry upland rangeland.

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 percent of their body weight of Lambert crazyweed. Death occurs with ingestion of three times their body weight. Horses need to only consume 30 percent 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.

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 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. It is hardy to zone 3.

Other
Loco means “crazy” or “foolish” in Spanish.

Common Name: Silverleaf scurfpea

Species: 
Pediomelum argophyllum (Pursh) J. Grimes (=Psoralea argophylla Pursh)

Growth Form: Forb

Life Span: Perennial

Origin: Native

Flowering: June to September

Height: 0.2-0.8 m (0.6-2.5 ft)

Inflorescence Characteristics

- type: spike-like (2-8 cm long), axillary; 1 to 8 whorls each with 2 to 8 flowers
- flowers: dark blue to purple, fading to yellow or brown (6-10 mm long); typical 5-petaled legume flower; calyx tube bell-shaped (2-5 mm long), silky; sessile
- fruits: legume (6-9 mm long), ovoid, silky; seeds 1
- seeds: orbicular to kidney-shaped (4-5 mm long), olive to black, smooth

Vegetative Characteristics

- leaves: alternate, 5-foliate (sometimes 4-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 micro; margins entire; both surfaces densely white-silky, but less pubescent and more green above; petioles shorter than or equaling the leaves (1-3 cm long)
- stems: erect or ascending, much branched, densely white silky
- underground: woody taproot and creeping rhizomes

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Distribution and Habitat
Silverleaf scurfpea grows throughout Nebraska on prairie hills, dry rangelands 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 give silverleaf scurfpea the appearance of a small shrub. It is hardy to zone 3.

Other
The plants break off near the soil surface in early fall and scatter seeds as they are tumbled by the wind. Native Americans used silverleaf scurfpea to treat fevers and wounds and 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. This plant was first described and collected by Lewis and Clark.

Common Name: Breadroot scurfpea
(prairie turnip, Indian turnip, Indian breadroot)

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)

Inflorescence Characteristics
type: raceme-like (2-8 cm long), terminal, dense
flowers: blue to purple (rarely tinged with white), fading to yellow and brown (1.5-2 cm long); typical 5-petaled legume flower
fruits: legume (4-14 mm long), thin, papery; seeds 1 or 2: orbicular to kidney-shaped (4-6 mm long, 3-4.5 mm wide), plump to slightly flattened, gray to brown

Vegetative Characteristics
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; margin entire; upper surfaces glabrous; lower surfaces pubescent (sometimes with glandular dots)
stems: erect to ascending, usually solitary (sometimes up to 3), densely pubescent
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
Distribution and Habitat

Breadroot scurfpea grows throughout Nebraska on dry rangeland, prairies and open woodlands. It does not occur 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.

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 kinds 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. It is hardy to zone 4.

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- to 7-foliate, and its flowers are smaller (less than 1.5 cm long).

<table>
<thead>
<tr>
<th>Common Name:</th>
<th>White penstemon (white beardtongue)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species:</td>
<td>Penstemon albidos Nutt.</td>
</tr>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>April to July</td>
</tr>
<tr>
<td>Height:</td>
<td>0.1-0.5 m (0.3-1.6 ft)</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics

- type: panicle (4-25 cm long), compact, compound; bracts lanceolate, acute 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 (lips) and 3 lower lobes; calyx of 5 sepals; sepals lanceolate to lance-ovate (4-8 mm long), glandular to pubescent
- fruits: capsule (8-12 mm long); seeds many black to dark brown (2-3 mm long), angular

Vegetative Characteristics

- leaves: opposite, simple; basal blades oblanceolate to obovate (2.8-5.5 cm long, 1.7-19 mm wide), tips pointed, petioled; cauline leaves lanceolate (2.5-6.5 cm long, 1.7-19 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 erupt to ascending, 1 to few, puberulent below, glandular-pubescent above
- stems: underground: taproot; short-branched caudex
**Distribution and Habitat**

White penstemon grows throughout Nebraska, except in the extreme southeast, in dry sandy to gravelly soils of rangeland and prairie hillsides.

**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 heavy grazing.

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

**Grassland Seeding.** White penstemon is not used in grassland seedings because of inadequate seed availability.

**Prairie Restoration.** It should be included in restorations on adapted sites. Seeds can be planted in the fall 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. They are drought-tolerant and make excellent additions to native plant and rock gardens, although they have a relatively short life span. They grow best in well-drained soils in full sun. White penstemon is hardy to zone 3.

<table>
<thead>
<tr>
<th>Common Name:</th>
<th>Narrow penstemon (narrow beardtongue, narrowleaf penstemon)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species:</strong></td>
<td><em>Penstemon angustifolius</em> Nutt. ex Pursh</td>
</tr>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Perennial</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>May to June</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.1-0.5 m (0.3-1.6 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- **type:** panicle (4-25 cm long), compact; bracts lanceolate (rarely ovate), acute or acuminate
- **flowers:** lavender to blue or pink corolla (1.4-2 cm long), tubular, glabrous, strongly bilabiate with 2 upper lobes (lips) and 3 lower lobes; calyx of 5 sepals (4-8 mm long); sepals lanceolate to lance-ovate, glabrous
d- **fruits:** capsule (9-14 mm long); seeds many
- **seeds:** angular (2.5-3.5 mm long), dark brown to black

**Vegetative Characteristics**

- **leaves:** opposite, simple; basal blades linear to spatulate (4-9 cm long, 2-18 mm wide), tips pointed; petioles winged; cauline leaves linear to lanceolate (3-11 cm long, 2-24 mm wide), thick; margins entire; surfaces glabrous, usually glaucous; sessile to clasping
- **stems:** erect or ascending, 1 to few, glabrous, glaucous
- **underground:** taproot; caudex, short-branching

**Distribution and Habitat**

Narrow penstemon grows in the northern, western and Sandhills regions of Nebraska on open gravelly to sandy soils of rangeland, 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 a problem.

**Grassland Seeding.** If seeds are available, narrow penstemon can be included in grassland seedings.

**Prairie Restoration.** Narrow penstemon should be included in prairie restorations to increase diversity. Seeds
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. It is hardy to zone 4.

**Other**

The Lakota used the blossoms to make a blue paint for moccasins. It is sometimes confused with blowout penstemon (*Penstemon haydenii* S. Wats.), the only endangered plant species in Nebraska. Blowout penstemon grows only on bare sand in and around blowouts in the Sandhills, while narrow penstemon is more widely distributed and grows in close association with other vegetation throughout rangeland and in roadsides. Blowout penstemon flowers are fragrant while narrow penstemon flowers are not.

---

| Common Name: | Shell-leaf penstemon
| --- | (large beartongue, largeflower penstemon) |
| **Species:** | *Penstemon grandiflorus* Nutt. |
| **Growth Form:** | Forb |
| **Life Span:** | Perennial |
| **Origin:** | Native |
| **Flowering:** | April to July |
| **Height:** | 0.3-1.0 m (0.9-3.1 ft) |

**Inflorescence Characteristics**

- **type:** panicle (10-40 cm long), compact; bracts prominent, nearly orbicular, heart-shaped, clasping
- **flowers:** lavender to blue or pink corolla (3.5-4.8 cm long), inflated, glabrous, bilabiate with 2 upper lobes (lips) reflexed or spreading and 3 lower lobes projecting or spreading; calyx of 5 sepals (7-12 mm long); sepals lanceolate to lance-ovate, glabrous
- **fruits:** capsule (1.6-2.0 cm long); many seeds
- **seeds:** angular (2.5-4 mm long), brown to dark brown

**Vegetative Characteristics**

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

**Distribution and Habitat**

Shell-leaf penstemon grows throughout Nebraska, except in the southwest and southern Panhandle, 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 rangeland.

**Poisoning.** It has the potential to accumulate selenium, but it is seldom abundant enough to be considered 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. It is hardy to zone 4.

Other

The 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. Shell-leaf penstemon is sometimes confused with blowout penstemon (*Penstemon haydenii* S. Wats.), the only endangered plant species in Nebraska. Blowout penstemon grows only on bare sand in and around blowouts in the Sandhills. Shell-leaf penstemon is more widely distributed and grows in close association with other vegetation throughout rangeland and in roadsides. Shell-leaf penstemon has broad leaves, while blowout penstemon has narrow, linear to lanceolate leaves. Blowout penstemon flowers are fragrant while shell-leaf penstemon flowers are not.

**Forbs**

<table>
<thead>
<tr>
<th>Common Name: Clammy groundcherry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species:</strong> Physalis heterophylla Nees</td>
</tr>
<tr>
<td><strong>Growth Form:</strong> Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong> Perennial</td>
</tr>
<tr>
<td><strong>Origin:</strong> Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong> May to October</td>
</tr>
<tr>
<td><strong>Height:</strong> 0.1-0.9 m (0.3-2.8 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

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

**Vegetative Characteristics**

- **leaves:** alternate, simple; blades ovate to rhombic, usually less than two times as long as broad (5-10 cm long, 3.5-6 cm wide); margins entire to dentate, rounded at the base; both surfaces pubescent with short to long glandular hairs; petiolate
- **stems:** erect, simple to branched, with pubescence similar to that found on the leaves
- **underground:** deep caudex; rhizomes

**Distribution and Habitat**

Clammy groundcherry grows throughout Nebraska on rangeland, prairies, woodlands, fields, roadsides, and disturbed sites. It is especially abundant in the Sandhills.

**Uses and Values**

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

**Poisoning.** It has the potential to poison, but it has not been reported to cause livestock poisonings. 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.
Clammy groundcherry

Ornamental. The inflated, papery calyx resembles a Japanese lantern and is occasionally used in both fresh and dried floral arrangements. While this plant typically is considered to be a weed, seeds are occasionally available through seed exchanges. It is hardy to zone 3.

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 three to five ripe fruits to stimulate their appetite.

Species: Physalis virginiana P. Miller
Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering: May to September
Height: 0.3-0.6 m (0.9-1.9 ft)

Inflorescence Characteristics

- type: single flowers, axillary
- flowers: yellow corolla, dark spotted at throat, funnel-shaped; calyx tube 3-6 mm long, lobes 5, papery, conical; pedicellate; anthers yellow (2-3 mm long)
- fruits: berry (1-1.5 cm in diameter), globose; enclosed in the calyx; calyx longer than wide with a sunken base; seeds many ovate to elliptic 1.7-2.2 mm long), yellow, pitted

Vegetative Characteristics

- leaves: alternate, simple; blades lanceolate to elliptic (2.5 cm long), usually more than two times as long as wide, narrowing to the base; margins entire or toothed; both surfaces with sparse to dense minute pubescence; petioles 3-20 mm long
- stems: erect; branches ascending, hirsute with reflexed hairs
- underground: deep caudex, rhizomes

Distribution and Habitat

Virginia groundcherry grows throughout Nebraska in open woodland, rangeland, pastures, roadsides and disturbed sites in all soil types. It is most abundant in the eastern half of the state.

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**Uses and Values**

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

**Poisoning.** Lanceleaf groundcherry fruits are poisonous when green and are suspected of poisoning sheep. They are not poisonous when ripe.

**Grassland Seeding.** It is not used in grassland seedings.

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

**Wildlife.** Lanceleaf 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. It is hardy to zone 3.

**Other**

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

**Common Name:** Lemon 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 (0.3-1.9 ft)

**Inflorescence Characteristics**

**Type:** raceme-like (1-3 cm long), flowers in clusters, axillary; peduncles 2-5 cm long, scarcely projecting above the foliage

**Flowers:** white or violet-tinged (5-7 mm long), typical 5-petaled legume flower; 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:** legume (4-6 mm long), globose, short-beaked, glandular-dotted; seeds 1

**Seeds:** nearly round in outline (3-5 mm long, 3-4.5 mm wide), slightly flattened, reddish-brown

**Distribution and Habitat**

Lemon scurfpea grows throughout Nebraska on dry rangeland. It is most common in the western two-thirds of the state, especially in and near blowouts in the Sandhills.

**Uses and Values**

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

**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. It is hardy to zone 3.

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 lemon-like fragrance. The roots can be eaten raw or cooked. Native Americans dried the roots and ground them into a powder before using them in soups and breads.

Common Name: Slimflowered scurfpea
(wild alfalfa)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Psoralidium tenuiflorum (Pursh) Rydb. (=Psoralea tenuiflora Pursh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to July</td>
</tr>
<tr>
<td>Height:</td>
<td>0.3-1 m (0.9-3.1 ft)</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics

Type: raceme-like (2-8 cm long), flowers in clusters, axillary, 1 to 4 flowers at each node, loose; peduncles longer than the leaves

Flowers: blue to purple (rarely white); typical 5-petaled legume flower (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: legume (5-9 mm long), obovate or oblong, flattened, 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

Vegetative Characteristics

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

Stems: erect, much-branched, pubescent (especially when young), glandular-dotted

Underground: taproot (rarely with rhizomes)

Distribution and Habitat
Slimflower scurfpea grows throughout Nebraska on dry rangeland 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.

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. It is hardy to zone 3.
Other

The 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. A similar species, manyflowered scurfpea [Psoralidium floribundum (Pursh) Rydb.], grows primarily in southeastern Nebraska. Manyflowered scurfpea has larger flowers (6-8 mm long), 2 to 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 or a variety of Psoralidium tenuiflorum.

Common Name: Prairie coneflower
(upright prairieconeflower, Mexican hat)

Species: Ratibida columnifera (Nutt.) Woot. & Standl. [= Ratibida columnaris (Sims) D. Don]
Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering: June to September
Height: 0.2-1 m (0.6-3.1 ft)

Inflorescence Characteristics

Type: heads (1-5 cm long), terminal, on a long peduncle; ray florets 4 to 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: achene (1.5-3 mm long), oblong, ciliate on inner edge, minutely winged; seeds 1 small

Vegetative Characteristics

Leaves: alternate, simple; pinnatifid to partly bipinnatifid (up to 15 cm long, 6 cm wide); segments linear to oblong, often very unequal; surfaces strigose, glandular dotted
Stems: erect or ascending, branched above
Underground: taproot

Distribution and Habitat

Prairie coneflower grows throughout Nebraska on rangeland, roadsides and open wasteland in all types of soil.

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 important.

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 bloom during the year it is planted.

Wildlife. Prairie coneflower is grazed by deer, elk, big-horn 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. It grows best on well-drained soils that are neutral to alkaline. Mexican hat is one of the common names used in horticulture. It is hardy to zone 4.

Other

The 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. Other tribes made tea from the flowers and leaves.
Common Name: **Prairie groundsel**
(prairie ragwort)

- **Species:** *Senecio plattensis* Nutt.
- **Growth Form:** Forb
- **Life Span:** Perennial (occasionally biennial)
- **Origin:** Native
- **Flowering:** May to June
- **Height:** 0.2-0.7 m (0.6-2.2 ft)

**Inflorescence Characteristics**
- **Type:** corymbiform, heads 5 to 20; involucre with 1 series of bracts; bracts 13 to 21 (5-6 mm long), tips acuminate; ray florets 8 to 13 (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, pappus of barbed capillary bristles (to 5 mm long); seeds 1
- **Seeds:** small

**Vegetative Characteristics**
- **Leaves:** alternate, simple; basal leaves elliptic or ovate to oblanceolate (1-10 cm long, 0.4-5 cm wide), margins crenate or serrate to dentate; cauline leaves progressively smaller upward; lower and middle leaves pinnatisect; upper leaves irregularly dissected; both surfaces pubescent
- **Stems:** erect, single (rarely 2 or 3), often bear loose patterns of cotton-like hair
- **Underground:** taproot, sometimes with stolons

**Distribution and Habitat**
Prairie groundsel grows throughout Nebraska on dry rangeland, prairies and roadsides in all types of soil.

**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 available, 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 with lupines in plantings. It is hardy to zone 3.

---

Common Name: **Riddell groundsel**
(Riddell ragwort)

- **Species:** *Senecio riddellii* Torr. & A. Gray
- **Growth Form:** Forb
- **Life Span:** Perennial
- **Origin:** Native
- **Flowering:** August to October
- **Height:** 0.3-1 m (0.9-3.1 ft)
Inflorescence Characteristics

type: corymbiform, heads 5 to 22; involucre with 1 series of bracts (7-12 mm long); ray florets 8 (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: achene (4-5 mm long); gray, short-pubescent; seeds 1.

Vegetative Characteristics

leaves: alternate, simple; blades pinnately divided into linear filiform segments (4-10 cm long, 1-5 mm wide); segment margins entire; surfaces glabrous.

stems: ascending, numerous, from a woody base.

underground: taproot.

Distribution and Habitat

Riddell groundsel grows in the western two-thirds of Nebraska on dry and open rangeland. 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 delay of up to six months usually occurs between when the plant is consumed and the first signs of poisoning become evident. Signs 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 sudden 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 delay in symptoms, 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. It is hardy to zone 3.

Common Name: Prairie goldenrod

*Solidago missouriensis* Nutt.

Species: *Solidago missouriensis* Nutt.

Growth Form: Forb

Life Span: Perennial

Origin: Native

Flowering: July to October

Height: 0.2–1 m (0.6–3.1 ft)

Inflorescence Characteristics

type: panicle with recurved branches, generally 1-sided; ray florets 7 to 13; disk florets 8 to 18; involucre bracts in several series (3-5 mm tall); bracts pointed to obtuse.

flowers: yellow ray and disk florets.

fruits: achene (1-2 mm long), glabrous or sparsely pubescent; seeds 1.

Vegetative Characteristics

leaves: alternate, simple; blades oblanceolate to linear, lower leaves largest, gradually reducing in size from plant base to top; margins entire or slightly toothed.

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surfaces glabrous; 3 prominent midveins on the lower surface

stems: ascending, arising singly or clustered; glabrous; sometimes forming dense colonies

underground: rhizomes or a spreading caudex

Distribution and Habitat
Prairie goldenrod is found throughout Nebraska on rangeland, roadsides, prairies and open wooded areas in all types of soil.

Uses and Values
Forage. Prairie goldenrod provides poor forage for cattle and sheep, but 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.

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. It is hardy to zone 3.

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. Late or giant goldenrod (Solidago gigantea Ait.) was declared the Nebraska State Flower by legislative action and signed into law by Governor Silas A. Holcomb on April 4, 1895. It has a paniculate inflorescence. Eight goldenrod species grow in Nebraska.

<table>
<thead>
<tr>
<th>Common Name: Scarlet globemallow (red falsemallow)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species: Sphaeralcea coccinea (Nutt.) Rydb.</td>
</tr>
<tr>
<td>Growth Form: Forb</td>
</tr>
<tr>
<td>Life Span: Perennial</td>
</tr>
<tr>
<td>Origin: Native</td>
</tr>
<tr>
<td>Flowering: May to August</td>
</tr>
<tr>
<td>Height: 0.1-0.3 m (0.3-0.9 ft)</td>
</tr>
</tbody>
</table>

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: schizocarp, differentiated into an upper smooth and seedless dehiscent portion and a roughened indehiscent base; carpels 10 or more, kidney-shaped (3-4 mm long), covered with stellate pubescence; seeds 1 per carpel
- seeds: small (2-3 mm long), enclosed in each carpel

Vegetative Characteristics

- leaves: alternate, simple; blades suborbicular to ovate (1-6 cm long, usually wider than long), deeply cleft into 3 to 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
decumbent or ascending, infrequently erect, simple to clustered, branching; surfaces densely pubescent.

Distribution and Habitat
Scarlet globemallow grows throughout Nebraska, except in the extreme southeast, on rangeland, roadsides and waste places.

Uses and Values
Forage. Scarlet globemallow produces 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.

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, and 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 does best in full sun and in dry soils. It persists in prolonged dry periods by shedding its leaves to reduce its moisture requirements. It is hardy to zone 3.

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.

Common Name: Slender greenthread
Species: Thelesperma megapotamicum (Spreng.) Kuntze
Growth Form: Forb
Life Span: Perennial
Origin: Native
Flowering: June to September
Height: 0.3-0.7 m (0.9-2.2 ft)

Inflorescence Characteristics
- heads (7-14 mm wide), radiate or discoid, solitary on a naked peduncle; involucre bell-shaped; outer bracts 7 to 9, much shorter than the inner bracts, lanceolate; inner bracts 4-8 mm long; disk florets many; ray florets rarely present
- yellow disk florets, petals with reddish-brown veins, deeply and irregularly lobed
- achene (4-8 mm long), slightly flattened; seeds 1
- small

Vegetative Characteristics
- 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
- erect, single or clustered from a branching crown
- taproot and rhizomes
**Distribution and Habitat**

Slender greenthread grows in the Panhandle, Sandhills and southern Nebraska on rangeland and open woodland, 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.

**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 prefers well-drained soils and is hardy to zone 4.

**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.

---

**Common Name:** Bracted spiderwort  
*(common spiderwort, longbract spiderwort)*

<table>
<thead>
<tr>
<th><strong>Species:</strong></th>
<th>Tradescantia bracteata Small ex Britt.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Perennial</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>May to July</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.2-0.4 m (0.6-1.3 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- **type:** cymose-umbellate, flowers 3 to 25, subtended by leafy bracts (6-30 cm long), terminal and often also axillary
- **flowers:** rose-purple to dark lavender, petals 3; petals broadly ovate, much exceeding the sepals (more than 1.5 cm long); pedicels densely glandular pubescent
- **fruits:** ovary 3-locular, oblong (2-4 mm long), compressed; seeds 1-2 per locule; seeds: ellipsoid, somewhat flattened, small, gray, pitted

**Vegetative Characteristics**

- **leaves:** alternate, simple; blades linear to lanceolate (7-32 cm long 6-16 mm wide), arched; margins entire; uppermost margins ciliate; surfaces glabrous to sparingly pilose
- **stems:** erect, rarely branching, subsucculent
- **underground:** fibrous roots

**Distribution and Habitat**

With the exception of the Sandhills, bracted spiderwort grows throughout Nebraska on rangeland, meadows and roadsides.

**Uses and Values**

**Forage.** Bracted 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.

**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 attracts butterflies and other beneficial insects.

**Ornamental.** Bracted 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. Bracted spiderwort grows best in well-drained soils in full to partial sun and is hardy to zone 4.
Bracted spiderwort

The Lakota ate the young stems and leaves as a pot herb. The flowers provided a blue jelly-like paint that was commonly used on moccasins. When the stems are broken, a stringy mucilaginous substance resembling spider web material appears. 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. Prairie spiderwort (Tradescantia occidentalis (Britt.) Smyth) is common in the Sandhills. It differs from bracted spiderwort by having smaller flowers (usually less than 1.5 cm long) and pedicels that are glabrous or sparsely pubescent. It flowers from May to August.

**Other**

**Inflorescence Characteristics**
- **type**: spikes (5-30 cm long), terminal, stiff, erect, 1 to several on stems and branches; flowers many, 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**: schizocarp; cells 4; seeds 1 (nutlet) per cell
- **seeds**: nutlets (2-3 mm long), netted above, grayish-brown

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

**Common Name:** Hoary vervain
- *Verbena stricta* Vent.
- (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 (0.6-4.6 ft)
**Distribution and Habitat**

Hoary vervain grows throughout Nebraska on abused rangeland, degraded pastures, 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 rangeland, especially on overflow ecological sites.
- **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 and is self-seeding. It grows best in full sun and needs little supplemental water. Hoary vervain is hardy to zone 3.

**Other**

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

---

**Common Name:** Western ironweed  
(Baldwin ironweed)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Vernonia baldwinii Torr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>July to September</td>
</tr>
<tr>
<td>Height:</td>
<td>0.7-1.6 m (2.2-5 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- **type:** corymbiform, loose, irregular; heads numerous (4-6 mm across), discoid; florets 16 to 35; involucral bracts green with purple margins, acuminate (to 6 mm long, 1-3 mm wide), dotted with glands
- **flowers:** purple disk florets
- **fruits:** achene; minutely pubescent or glabrous; pappus brown to brownish-purple (5-6 mm long); seeds 1
- **seeds:** small

**Vegetative Characteristics**

- **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

---

Western ironweed grows in the eastern two-thirds of Nebraska on dry to damp prairies, disturbed or heavily grazed pastures and rangeland. 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 rangeland.
- **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.

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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 is a good companion plant. Western ironweed aggressively spreads by rhizomes. It is hardy to zone 4.

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.

Common Name: Death camas (meadow deathcamas)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Zigadenus venenosus S. Wats.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to June</td>
</tr>
<tr>
<td>Height:</td>
<td>0.1-0.4 m</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics
- **type:** raceme, dense; flowers several to many
- **flowers:** cream or white, bell-shaped; segments 6 in 2 whorls; inner segments clawed; outer segments ovate (4-6 mm long); pedicels 5-20 mm long
- **fruits:** capsule (6-16 mm long); lobes 3; seeds several
- **seeds:** light to dark brown (3-6 mm long), rough

Vegetative Characteristics
- **leaves:** basal, simple; blades narrowlinear (grass-like), flat to folded (up to 30 cm long, 2-6 mm when folded); margins entire; sheathing the stem
- **stems:** erect, moderately stout, single, not branching, glabrous
- **underground:** bulb, fibrous roots

Distribution and Habitat
Death camas grows in the Nebraska Panhandle on dry rangeland to wet 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. It is hardy to zone 4.

**Other**
Humans have become ill and died after 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 grass-like leaves and is odorless. Some Native Americans beat the bulbs into a pulp and applied it as a wet dressing to sprains and bruises.
biennial native

Curlycup gumweed
Woollywhite hymenopappus
Tenpetal stickleaf
Common eveningprimrose
Fourpoint eveningprimrose
Common Name: **Curlycup gumweed**  
(rosinweed, tarweed, curlytop gumweed)

<table>
<thead>
<tr>
<th>Species:</th>
<th><em>Grindelia squarrosa</em> (Pursh) Dunal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Biennial (sometimes a short-lived perennial)</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>July to October</td>
</tr>
<tr>
<td>Height:</td>
<td>0.1-1.0 m (0.3-3.1 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**
- type: heads (0.5-2.5 cm tall, 0.7-3 cm wide), solitary or several to numerous in loose corymbs; involucre (7-9 mm tall) with 5 to 6 series of bracts; bracts imbricate, tips squarrose and resinous; ray florets 12 to 37, pistillate; disk flowers numerous; resinous-sticky; inflorescence darkens with drying
- flowers: yellow ray florets (7-15 mm long); disk florets perfect or staminate
- fruits: achene (2-3 mm long), oblong, 4-angled or ribbed, glabrous; pappus of 2 to 9 bristles, shorter than the disk florets; seeds 1
- seeds: gray, flattened, curved, with longitudinal lines

**Vegetative Characteristics**
- 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; resinous; sessile to clasping
- stems: erect, 1 to several
- underground: taproot

**Distribution and Habitat**
Curlycup gumweed grows throughout Nebraska on rangeland, pastures, disturbed sites and along roadsides in all types of soils.

**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 eat the heads in the absence of other forage.

**Poisoning.** It may accumulate selenium and become toxic to livestock. However, a problem seldom develops because its resinous coating makes it unpalatable.

**Grassland Seeding.** It is not used in grassland seedings.

**Prairie Restoration.** Curlycup gumweed is considered to be a weed and should not be 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. It is hardy to zone 2.

**Other**
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 available today is said to be useful for asthmatic and bronchial conditions and as an expectorant and antispasmodic.
**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: | 0.4-1.0 m (1.3-3.1 ft) |

**Inflorescence Characteristics**

- **type:** paniculate cyme of discoid heads; heads 12 to many (1.1-1.5 cm in diameter); disk florets 20 to 50
- **flowers:** white disk florets (2.5-3 mm long), bell-shaped; bracts yellow (5-8 mm long, 2-4 mm wide), glandular with matted hairs; ray florets absent
- **fruits:** achene (3.5-4.5 mm long), black to brown, 4- to 5-angled, pubescent on the angles; pappus of 16 to 18 scales (1-1.5 mm long); seeds 1
- **seeds:** small

**Vegetative Characteristics**

- **leaves:** alternate, simple; forming a rosette below, blades (7-11 cm long, 3.5 cm wide in outline) bipinnately dissected into linear segments (3.5-4.5 cm long and 0.5-1 cm wide); cauline leaves reduced upwards; surfaces minutely glandular
- **stems:** erect, single, branched above, tomentose to glabrous
- **underground:** taproot

**Distribution and Habitat**

Woollywhite hymenopappus is found throughout most of Nebraska, but it is absent in the southeast. It 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.** Forage quality of woollywhite hymenopappus is poor for livestock.
- **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.

**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 (0.9-3.1 ft) |

**Inflorescence Characteristics**

- **type:** solitary flowers or cymose groups of flowers, terminating branches
- **flowers:** white to cream, showy (8-15 cm in diameter); petals usually 10; petals oblanceolate to spatulate (5-7 cm long, 1-2 cm wide), pointed, overlapping
fruits: capsule, 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

Vegetative Characteristics
leaves: alternate, simple; blades lanceolate to oblanceolate (5-15 cm long, 1.5-4 cm wide); margins entire or irregular to serrate; surfaces covered with retrorsely barbed hairs; lower blades short petiolate, sessile above
stems: erect to ascending, 1 to few, coarse, branched above; bark grayish-white, peeling
underground: taproot, thick

Distribution and Habitat
Tenpetal stickleaf grows in western, southwestern, south central, and northern Nebraska on dry rocky hill-sides, sparsely vegetated banks, roadsides and disturbed sites. Generally, it does not grow in sandy soils.

Uses and Values
Forage. Tenpetal stickleaf is seldom eaten by livestock or wildlife and, therefore, has little or no forage 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.
Wildlife. Songbirds, 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. It is hardy to zone 4.

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. The retrorsely barbed hairs on leaf surfaces cause them to stick to clothing and hair. Broken leaves may stick to wool, reducing its value. 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 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.

<table>
<thead>
<tr>
<th>Common Name:</th>
<th>Common eveningprimrose (hoary eveningprimrose)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species:</td>
<td>Oenothera biennis L.</td>
</tr>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Biennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>July to October</td>
</tr>
<tr>
<td>Height:</td>
<td>0.5-2 m (1.6-6.2 ft)</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics
type: spike, terminal, lengthening with maturity; flowers several to many
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 capsule (1.4-3.5 cm long, 3.5-6 mm wide), cylindric, tapering upwards, strigose; seeds many prismatic (1.3-1.6 mm long), reddish-brown, ridged, occasionally winged

**Inflorescence Characteristics**
- **Type:** spike (10-30 cm long), dense, terminating stems, lengthening with maturity
- **Flowers:** yellow; corolla tube slender (2-4 cm long); petals 4, rhombic-ovate (1-2.5 cm long); sepals 4, lanceolate (1-2 cm long), sparsely pubescent; fragrant
- **Fruits:** capsule, cylindrical (1.4-3.5 cm long, 3.5-6 mm wide near the base), tapering upwards, strigose; seeds many
- **Seeds:** ellipsoid (1.1-1.5 mm long), reddish-brown

**Uses and Values**

**Forage.** Common eveningprimrose has little or no forage value for livestock.

**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.

**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. It is hardy to zone 4.

**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 hiccoughs, 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 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 (0.9-3.7 ft) |

**Distribution and Habitat**
Common evening primrose grows throughout Nebraska on disturbed sites, meadows, hillsides, woodlands and along streams. It does not grow on Sandhills dunes.
**Vegetative Characteristics**

leaves: alternate, simple; rosette blades ob lanceolate (3-8 cm long, 3-18 mm wide), margins dentate to nearly pinnatifid, petioles often as long as the blades; cauline blades lance-ovate to oblong-lanceolate (2-9 cm long, 3-22 mm wide), crowded, margins denticulate to nearly entire, surfaces pubescent, petioles becoming short or absent near the top

stems: erect, simple or branched, pubescent

underground: taproot

**Distribution and Habitat**

Fourpoint eveningprimrose grows throughout Nebraska, except in the southeast, 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 seldom grazed.

**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 game birds 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 autumn in areas receiving full sun. It does not transplant well but readily self-seeds. It is hardy to zone 3.

**Other**

The fragrant flowers open around sunset and close during the morning.
annual native

Common ragweed
Giant ragweed
Pricklypoppy
Partridgepea
Rocky Mountain beeplant
Horseweed
Texas croton
Tansymustard
Daisy fleabane
Annual buckwheat
Snow-on-the-mountain
Common sunflower
Prairie sunflower
Marshelder
American deervetch
Low lupine
Woolly plantain
Smoothseed wildbean
Prostrate vervain
**Common Name:** Common ragweed  
(_Ambrosia artemisiifolia_ L.  
_annual ragweed, short ragweed_)

<table>
<thead>
<tr>
<th><strong>Species:</strong></th>
<th><em>Ambrosia artemisiifolia</em> L.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>July to October</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.3-1.0 m (0.9-3.1 ft)</td>
</tr>
</tbody>
</table>

**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:** bur-like (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)

**Vegetative Characteristics**
- **leaves:** alternate upper leaves, simple; blades ovate (4-10 cm long, up to 7 cm wide), once or twice pinnatifid, sessile; opposite lower leaves, blades simple; more pinnatifidations than in upper leaves, petiole winged (1-3 cm long); both surfaces green, upper surface sometimes sparsely pubescent
- **stems:** erect, branching above, coarsely pubescent
- **underground:** taproot, shallow

**Distribution and Habitat**
Common ragweed grows throughout Nebraska on disturbed sites, waste places, pastures, rangelands and prairies in all types of soil.

**Uses and Values**

**Forage.** Common ragweed is unpalatable to livestock and has little or no forage value.

**Poisoning.** Common ragweed contains volatile oils and may cause skin irritation. When ingested, it is reported to cause nausea in cattle. This species is a major contributor to the autumn hay fever season. It will accumulate nitrates during a drought, but it is seldom eaten because of its unpalatability. Treatment with an herbicide, such as 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 songbirds 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**
The Lakota applied a tea prepared from the leaves to reduce swelling. The Otoe used the leaves to treat nausea.

---

**Common Name:** Giant ragweed  
(_Ambrosia trifida_ L.  
_horseweed_)

<table>
<thead>
<tr>
<th><strong>Species:</strong></th>
<th><em>Ambrosia trifida</em> L.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>August to September</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>1-4 m (3.1-12.4 ft)</td>
</tr>
</tbody>
</table>

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**Inflorescence Characteristics**

- **type:** 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:** bur-like (5-9 mm long), formed by the floral bracts, enclosing the achene, single short beak (1 mm long); seeds 1
- **seeds:** small

**Vegetative Characteristics**

- **leaves:** mostly opposite, simple; blades ovate to orbiculate (1-2 cm long); lobes 3 to 5 (usually 3); upper leaves often unlobed; margins serrate, surfaces scabrous; petiolate
- **stems:** erect, branching above; surfaces coarse and sometimes pubescent or reddish
- **underground:** taproot

**Distribution and Habitat**

Giant ragweed grows throughout Nebraska in abused areas in pastures, rangeland, winter feeding grounds, fence-rows, waste places and roadsides. It is most abundant in moist soils.

**Uses and Values**

**Forage.** Giant ragweed is unpalatable to livestock, except horses. Generally, it is considered to be a weed.

**Poisoning.** It may accumulate nitrates, especially after being sprayed with the herbicide 2,4-D. It is a common cause of hay fever in August and September.

**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.

---

**Common Name:** **Pricklypoppy**

(annual pricklypoppy, crested 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 (1.3-3.7 ft)

**Inflorescence Characteristics**

- **type:** solitary or few-flowered, terminal
- **flowers:** white (rarely lavender), showy (5-12 cm in diameter); petals 6, ovate (2.5-5 cm long, 1-1.5 cm wide); sepals elliptic, prickly, waxy, recurved; stamens yellow
- **fruits:** capsule, elliptic (2.5-5 cm long, 1-1.5 cm wide), spiny; seeds many
- **seeds:** globose (2 mm long), dark brown, shiny, with a 2-horned crest on one side
Vegetative Characteristics
leaves: alternate, simple; lower blades ob lanceolate (7-20 cm long, 3-10 cm wide), deeply lobed, undulate, petioles winged; cauline 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
stems: erect, 1 to few, usually unbranched, waxy, prickly, contains a bright yellow latex
underground: taproot, deep

Distribution and Habitat
Pricklypoppy grows throughout Nebraska, but it is most common in the central and western parts of the state. It is found primarily in sandy soils of prairies, rangeland, flood plains and roadsides.

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 by 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.
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 sap to remove warts. The Lakota used the sap to dye arrows yellow. Whole plants were boiled and the liquid applied to soothe sunburn and poison ivy.

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 (0.6-3.7 ft)

Inflorescence Characteristics
type: raceme (sometimes solitary flowers), axillary; flowers 2 to 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: legume, linear (3-6 cm long, 5-6 mm wide), straight or slightly curved, flattened; seeds mostly 9 to 15
seeds: rectangular to rhomboidal (3.5-4.5 mm long), flattened, brownish-black, with longitudinal rows of minute black dots or pits
**Vegetative Characteristics**

leaves: alternate, even-pinnately compound (3-11 cm long); leaflets 12 to 36, oblong (5-20 mm long, 2-4.5 mm wide), asymmetrical; tips blunt or abruptly pointed; sparsely hairy on the margins; saucer-shaped gland below the first pair of leaves, reddish-brown

stems: erect or ascending, branching freely from the base; surfaces glabrous or minutely pubescent

underground: taproot

**Distribution and Habitat**

Partridgepea grows in the eastern half of Nebraska 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.

---

**Common Name:** Rocky Mountain beeplant (bee spiderflower)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Cleome serrulata Pursh</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>June to August</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.2-1.5 m (0.6-4.6 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- **type:** raceme, terminal; flowers many
- **flowers:** pink to purple (rarely white), petals 4, lanceolate to elliptic (8-15 mm long); calyx (3-4 mm long) with 4 triangular lobes; lobes fused for one-half to two-thirds of their length; stigmas and anthers long-exserted
- **fruits:** capsule, linear-cylindrical (2-8 cm long, 3-10 mm wide), pointed on each end; seeds several
- **seeds:** ovate (3-3.5 mm long), flattened, winged, tan to brownish-black, mottled, grooved on each side

**Vegetative Characteristics**

- **leaves:** alternate, 3-foliate; leaflets lanceolate (2-6 cm long, 5-15 mm wide), tips gradually tapering; margins entire; surfaces glabrous or with kinky hair; petioles 1-5 cm long
- **stems:** erect, branched; surfaces glabrous to waxy
- **underground:** taproot
Distribution and Habitat

Rocky Mountain beeplant grows throughout Nebraska in sandy to rocky soils on floodplains 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.

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 songbirds.

Ornamental. Rocky Mountain beeplant 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 and 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 present-day South Dakota. Many different kinds of bees are attracted to the flowers, hence the name “beeplant.”

Common Name: Horseweed
(marestail, Canada horseweed, horseweed fleabane)

Species: Cynara canadensis (L.) Cronq. (=Erigeron canadensis L.)

Growth Form: Forb
Life Span: Annual
Origin: Native
Flowering: June to September
Height: 0.3-1.5 m (0.9-4.6 ft)

Inflorescence Characteristics

- type: panicle of heads, terminal; involucre with 1 or 2 series of bracts (3-4 mm tall), imbricate; ray florets numerous; disk florets 2 to 50
- flowers: white to pinkish ray florets (2-3 mm long); yellow disk florets, equaling or exceeding the pappus
- fruits: achene, obovate to oblong (1-1.5 mm long), straw-colored; with a pappus of tan to white bristles; seeds 1 small

Vegetative Characteristics

- 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
- stems: erect, simple, unbranching below and branching at inflorescence, coarsely hirsute
- underground: taproot
**Distribution and Habitat**
Horseweed grows throughout Nebraska on rangeland, prairies, open cultivated fields, gardens, waste ground and disturbed sites.

**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.
- **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 dot-like glands.
**Texas croton**

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; preparations from the plant have been used as a cathartic and to treat rheumatism, paralysis and earache.

---

**Inflorescence Characteristics**

- **type:** raceme, terminal, elongating with maturity
- **flowers:** bright yellow to whitish; petals 4, ovate to spatulate (1-3.5 mm long), clawed; sepals 4, oblong to ovate (1-2.5 mm long), margins membranous and sometimes rose-colored
- **fruits:** silique, club-shaped (4-20 mm long, 1-2 mm wide); cells 2; seeds several per cell oblong to ellipsoid (about 1 mm long), 3-angled, flattened, dull red to light brown; grooved on one side
- **seeds:**

**Vegetative Characteristics**

- **leaves:** alternate, usually bipinnately compound (1-9 cm long); upper blades reduced and usually pinnate; segments narrow, linear to broadly ovate; surfaces with whitish or greyish pubescence
- **stems:** erect to ascending, simple or branched, often branched above; surfaces sometimes glandular
- **underground:** taproot

---

**Common Name:** Tansymustard

(western tansymustard)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Descurainia pinnata (Walt.) Britt.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>April to June</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.1-0.9 m (0.3-2.8 ft)</td>
</tr>
</tbody>
</table>

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**Disturbance**

land and water

**Uses**

and tractors

**Other**

native and exotic weeds

and birds

menopausal symptoms

---

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**Distribution and Habitat**

Tansymustard grows throughout Nebraska on range­land, waste places, disturbed sites, fields and roadsides. It is most common in dry, sandy soils.

**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 in 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.

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**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 (1.3-2.2 ft)

**Inflorescence Characteristics**

*type:* heads several to numerous (5-11 mm in diameter), in clusters, terminating branches; involucre 2-5 mm tall, bracts nearly equal or outer ones shorter; ray florets 50 to 100; disk florets numerous

*flowers:* white ray florets, occasionally bluish after drying (6 mm long); yellow disk florets (1.5-2.5 mm long)

*fruits:* achene (1 mm long), hairy, 2-ribbed; pappus of ray florets setose only; pappus of disk florets double, inner series of 10 to 18 fragile bristles (1-2 mm long), outer series of setose scales; seeds 1 small

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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 a weed.

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 and has more leaves and serrated cauline leaf blades.

Common Name: Annual buckwheat
(animal eriogonum, wild buckwheat, umbrella plant)

| Species: | Eriogonum annuum Nutt. |
| Growth Form: | Forb |
| Life Span: | Annual |
| Origin: | Native |
| Flowering: | July to September |
| Height: | 0.1-1.0 m (0.3-3.1 ft) |

Inflorescence Characteristics

type: cyme, compound, top flattened, terminal or terminating branches; involucres erect (2.5-3 mm tall), turbinate

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: achene, pear-shaped (1.5-2 mm long), tip sharply pointed, glabrous; seeds 1

seeds: small

Vegetative Characteristics

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

stems: erect, 1 to few; usually unbranched, but sometimes with many ascending branches; surfaces densely woolly

underground: taproot

Distribution and Habitat

Annual buckwheat grows throughout Nebraska, except in the extreme southeast. It is especially abundant in dry, sandy soils.

Uses and Values

Forage. Annual buckwheat increases on poorly managed rangeland and has little or no forage value for cattle. Forage value for sheep is fair to poor.

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. They require 30 to 60 days of stratification and should be planted in full sun.

**Historical.** Lakota Native Americans mixed the flowers with brains, liver or gall, and spleen and applied it to 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.

---

**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 (0.9-3.1 ft)

**Inflorescence Characteristics**

- **Type:** umbel-like cyathiums with 35 to 60 staminate flowers surrounding a single pistillate flower; floral bracts showy, margins white to pinkish (4 mm long), villous
- **Flowers:** white to pale green (2-4 mm long), unisexual; staminate flowers 2-4 mm long; pistillate flowers with forked styles
- **Fruits:** capsule (4-6 mm long), pubescent; seeds
- **Seeds:** ovate to globose (3-4 mm long), light to dark gray, covered with small bumps

**Vegetative Characteristics**

- **Leaves:** alternate, simple; blades oblong to ovate or elliptical (3-10 cm long); margins entire; glabrous to pubescent; sessile; contain milky juice
- **Stems:** erect, usually unbranched below the inflorescence, glabrous to pubescent; contain milky juice
- **Underground:** taproot, shallow

**Distribution and Habitat**

Snow-on-the-mountain grows throughout Nebraska, but it is most abundant in the central and eastern parts of the state. It grows on roadsides, floodplains, prairies, rangeland, pastures and disturbed sites.

---

**Uses and Values**

**Forage.** Snow-on-the-mountain has no forage value for livestock and is considered to be poisonous.

**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 of its bitter taste, plants are infrequently eaten. 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 popularity in the United States. Caution should be taken because it is self-seeding and can spread rapidly.

**Other**

Lakota crushed the leaves in warm water and applied the liquid to reduce swelling. The latex was reported to have been used for branding in the 1800s.
**Common Name:** Common sunflower  
(annual sunflower, wild sunflower)

<table>
<thead>
<tr>
<th>Species:</th>
<th><em>Helianthus annuus</em> L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Annual</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>July to September</td>
</tr>
<tr>
<td>Height:</td>
<td>0.6-4 m (1.9-12.4 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**
- **type:** heads (2-12 cm wide), terminal, 1 to many; involucral bracts more than 4 mm wide, teeth 3, outer bracts hairy to nearly glabrous, margins ciliate; ray florets 17 or more; disk florets numerous
- **flowers:** yellow ray florets (2-4.5 cm long); reddish-brown to purple disk florets (7-9 mm long)
- **fruits:** achene (3-5 mm long), flattened, variously colored, glabrous or nearly so; pappus of 2 awns; seeds 1
- **seeds:** tan, flattened

**Vegetative Characteristics**
- **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; petioles long
- **stems:** erect, coarse, branched above
- **underground:** taproot

**Distribution and Habitat**
Common sunflower grows throughout Nebraska in rangeland, pastures, fields, roadsides, waste ground and disturbed sites.

**Uses and Values**
**Forage.** Common sunflower has little or no forage value for livestock when it is mature, although its forage value is fair to good when young. Cattle, horses and especially sheep graze the heads.

**Poisoning.** Common sunflower can accumulate 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 game birds 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 flowers are attractive. They are easy to grow, but the plants can 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.

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**Common Name:** Prairie sunflower  
(plains sunflower)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species:</strong></td>
<td>Helianthus petiolaris Nutt.</td>
</tr>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>June to September</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.5-1.2 m (1.6-3.7 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**
- **Type:** head, (5-9 cm wide), showy, solitary on long naked peduncles at branch tips; ray florets 15 or more; disk florets numerous yellow ray florets (1.8-3.5 cm long); reddish-brown to purple disk florets, center disk flowers densely white hairy at tip
- **Fruits:** achene (3.5-4.5 mm long), pubescent, flattened, seeds 1
- **Seeds:** tan, flattened

**Vegetative Characteristics**
- **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 pubescent; petioles long
- **Stems:** erect, simple to branched above, hairy to glabrous
- **Underground:** taproot

**Distribution and Habitat**
Plains sunflower grows throughout Nebraska, although it is less common in the southeast, in sandy soils of range-land, pastures, prairies, roadsides, fields, wasteland and disturbed sites.

**Uses and Values**
- **Forage.** Plains sunflower has little or no forage value for livestock when it is mature but fair to good value when the plants are young. Livestock frequently eat the heads. It increases on abused rangeland.
- **Poisoning.** Plains sunflower can accumulate levels of nitrate that are toxic to domestic livestock.
- **Grassland Seedings.** It is not included in grassland seeding mixtures and 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.
**Common Name:** Marshelder  
(big marshelder, giant sumpweed, horseweed)

<table>
<thead>
<tr>
<th>Species</th>
<th>Iva xanthifolia Nutt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span</td>
<td>Annual</td>
</tr>
<tr>
<td>Origin</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering</td>
<td>July to September</td>
</tr>
<tr>
<td>Height</td>
<td>0.5-2.5 m (1.6-8.1 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**
- **type:** heads (3-6 mm in diameter), numerous in large, dense, paniculate clusters, often drooping; terminal and axillary from upper leaves, not exceeding the leaves; involucre (1.5-3 mm tall) with 5 bracts; bracts flat; outer florets 5, pistillate; inner florets 8 to 20, staminate
- **flowers:** yellow to white disk florets, very small
- **fruits:** achene, ovate (2-3.5 mm long), somewhat flattened, surface ridged, dark brown; seeds 1
- **seeds:** small

**Vegetative Characteristics**
- **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
- **stems:** erect, coarsely branching, branching upward; surfaces usually glabrous below; becoming somewhat pubescent above
- **underground:** taproot

**Distribution and Habitat**
Marshelder grows throughout Nebraska in sandy, damp or drying soils in stream beds, flood plains and waste areas. It is common on severely abused rangeland, 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.** Marshelder provides escape cover for wildlife and its seeds are eaten by birds and small mammals.

**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 four times the size of those produced today, indicating that it may have been an ancient domesticated crop.

**Common Name:** American deervetch  
(prairie trefoil, spanish clover)

<table>
<thead>
<tr>
<th>Species</th>
<th>Lotus purshianus F.E. &amp; E.G. Clem. ex Otley [=Lotus unifoliatus (Hook.) Benth. and Lotus americanus (Nutt.) Bisch.]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span</td>
<td>Annual</td>
</tr>
<tr>
<td>Origin</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering</td>
<td>May to October</td>
</tr>
<tr>
<td>Height</td>
<td>0.2-0.8 m (0.6-2.5 m)</td>
</tr>
</tbody>
</table>

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**Inflorescence Characteristics**

- **type:** solitary flowers (rarely paired), axillary, closely subtended by a bract
- **flowers:** white with pink veins (rarely yellowish-white), 1 petal sometimes streaked with red; typical 5-petaled legume flower; banner mostly 5-7 mm long
- **fruits:** legume linear (2-3.5 cm long), glabrous; seeds 4 to 9
- **seeds:** mottled (2.5-3 mm long), plump

**Vegetative Characteristics**

- **leaves:** alternate, 3-foliate; leaflets ovate to lanceolate (1-2 cm long, 2-9 mm wide), margins entire, both surfaces pubescent
- **stems:** erect, branching on the upper one-third, pubescent to nearly glabrous (especially at maturity)
- **underground:** taproot

**Distribution and Habitat**

American deervetch grows throughout Nebraska, except for the southern Panhandle and southwest. It often occurs as scattered patches on rangeland and abandoned cultivated land. 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.

**Grassland Seeding.** It is not used in grassland seedings.

**Prairie Restoration.** American deervetch is infrequently used in prairie restorations because it is an annual.

**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.

---

**Common Name:** Low lupine (rusty lupine)

**Species:** *Lupinus pusillus* Pursh
**Growth Form:** Forb
**Life Span:** Annual
**Origin:** Native
**Flowering:** May to August
**Height:** up to 0.2 m (0.7 ft)

**Inflorescence Characteristics**

- **type:** raceme (3-7 cm long), usually equaling or exceeding the leaves, terminal; peduncles 1-3 cm long
- **flowers:** purple to blue (sometimes white) and tinged with pink, keel petal sometimes purple-spotted at the tip, typical 5-petaled legume flower (8-12 mm long)
- **fruits:** legume (2-2.5 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

**Vegetative Characteristics**

- **leaves:** alternate, palmately compound; leaflets 5 to 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
Common Name: Woolly plantain
(woolly Indian wheat)

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: 0.05-0.3 m (2-12 inches)

Inflorescence Characteristics

type: spike (1-15 cm long), dense, terminal; 1 to 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

fruits: capsule (3-4 mm long), breaking apart at the middle; seeds 2

seeds: brownish- to reddish-tan (2.5-3 mm long)

Vegetative Characteristics

leaves: alternate, simple; winter rosette blades oblanceolate (0.5-3 cm long); principal blades linear to oblanceolate (2-20 cm long, 0.5-15 mm wide), veins 1 to 3; margins entire; both surfaces covered with woolly pubescence

stems: nearly acaulescent from a branched caudex; woolly

underground: taproot, fine

Distribution and Habitat

Woolly plantain grows throughout Nebraska on rangeland, waste places, pastures and roadsides in all types of soil. It is especially abundant in sandy soils on improperly grazed rangeland.

Uses and Values

Forage. Woolly plantain furnishes little forage for livestock. Its quality is fair, but the plants are so small that few are eaten. Abundance is generally an indicator of deteriorated rangeland vegetation. The plant becomes more important as a forage source in the drier western and southwestern states.

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 autumn, and its pollen can cause summer hay fever. Two varieties grow in Nebraska. The subtending bracts do not exceed the flowers in var. patagonica, the most abundant variety. The subtending bracts of var. spinulosa (Decne.) 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.

Common Name: Smoothseed wildbean
(Small wildbean, slickseed bean, stickseed fuzzybean)

| Species: | Straphostyles leiosperma (Torr. & A. Gray) Piper |
| Growth Form: | Forb |
| Life Span: | Annual |
| Origin: | Native |
| Flowering: | May to October |
| Height: | Twining vine 0.2-2 m (0.6-6.2 ft) long |

Inflorescence Characteristics
- type: heads, few-flowered (or solitary), axillary; peduncles slender (2-10 cm long)
- flowers: light rose to purple or rarely green (5-8 mm long); typical 5-petaled legume flower
- fruits: legume (2-5 cm long), subterete, elongate, pubescent; seeds several
- seeds: gray to brown (2.5-4 mm long), sometimes mottled with purple or black, easily detached scurfy pubescence

Vegetative Characteristics
- leaves: leaves on lower 1 to 4 nodes opposite and simple, others alternate and simple; principal blades pinnately 3-foliate; leaflets narrowly ovate to lanceolate (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
- stems: twining, 1 to several branches at the base, pubescent
- underground: taproot

Distribution and Habitat
Smoothseed wildbean may be locally common to scattered throughout Nebraska in dry or moist sandy soils of rangeland, woodland 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.

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.

**Fruits:** schizocarp, readily separating into 4 nutlets

**Seeds:** nutlets linear to oblong (2-2.5 mm long), yellow to reddish-brown

**Vegetative Characteristics**

- **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; petiole winged
- **Stems:** prostrate or decumbent, several from the base, diffusely branched, rooting at the nodes; pubescent
- **Underground:** taproot

**Distribution and Habitat**

Prostrate vervain grows throughout Nebraska on improperly grazed rangeland, pastures, and waste places in all soil types. It often grows in compacted soils of road-sides and trails. It is sometimes found as a lawn weed along driveways, sidewalks and other dry areas.

**Common Name:** Prostrate vervain  
(bracted vervain, bigbract verbena, carpet vervain)

<table>
<thead>
<tr>
<th><strong>Species:</strong></th>
<th>Verbena bracteata Cav. ex Lag. &amp; Rodrig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Annual (rarely short-lived perennial)</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Native</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>May to September</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.1-0.7 m long (0.3-2.2 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- **Type:** spike (2-22 cm long), dense, terminal, often ascending; flowers many
- **Flowers:** blue to lavender or purple, corolla lobes 5 (4-6 mm long)
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 healthy rangeland.

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.
perennial introduced

Russian knapweed
Chicory
Canada thistle
Leafy spurge
Dandelion
White clover
**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 (0.6-1.3 ft)

**Inflorescence Characteristics**
- **Type:** heads, ovate (1.5-2 cm long), 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:** achene (3-3.5 mm long), whitish, slightly ridged; pappus of bristles (6-11 mm long); seeds 1
- **Seeds:** small

**Vegetative Characteristics**
- **Leaves:** alternate, simple; basal blades deeply lobed or pinnatifid (5-10 cm long, 1-2.5 cm wide); upper blades linear to oblanceolate (1-4 cm long), tips gradually pointed, margins entire or denticulate; sessile
- **Stems:** erect, openly branched, surfaces finely tomentose; usually many in dense colonies
- **Underground:** rhizomes, deep, spreading, black; producing many adventitious shoots

**Distribution and Habitat**
Russian knapweed is scattered across the state, but is most abundant in the north and northwest growing on rangeland, 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.
- **Wildlife.** Deer, pronghorn and elk may lightly graze the plants.
- **Ornamental.** This plant is classified as a noxious weed in some states surrounding Nebraska and should not be planted. It is hardy to zone 3. 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.

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**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 (0.9-4.6 ft)

**Inflorescence Characteristics**
- **Type:** heads (2.5-3 cm in diameter), numerous; axillary clusters of 1 to 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 to 10 bracts, margins minutely spiny; sessile to short-pedunculate
- **Flowers:** sky blue (rarely white or pink) ray florets (1-1.8 cm); 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 bristle-like scales; seeds 1 small

**Vegetative Characteristics**

leaves: alternate, simple; blades mainly basal (8-35 cm long, 2-12 cm wide), irregularly toothed to deeply lobed; long petiole; upper blades oblong to lanceolate (3-7 cm long), entire to dentate; sessile, bases clasping and extending into a pair of ear-like projections

stems: erect to ascending, branching above, branches rigid, becoming woody and reddish, hollow; contain a milky latex

underground: taproot, simple or much-branched, deep, heavy, thick; contains a milky latex

**Distribution and Habitat**

Chicory grows across Nebraska in pastures, meadows, roadsides, lawns and waste places. While it is not present on Sandhills dunes, it can be 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.

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. It is hardy to zone 4.

**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. It is grown as a root crop in the Panhandle.

<table>
<thead>
<tr>
<th>Common Name:</th>
<th>Canada thistle</th>
</tr>
</thead>
<tbody>
<tr>
<td>(field thistle, creeping thistle)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Species:</th>
<th>Cirsium arvense (L.) Scop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Introduced (from Eurasia and North Africa)</td>
</tr>
<tr>
<td>Flowering:</td>
<td>June to August</td>
</tr>
<tr>
<td>Height:</td>
<td>0.3-1.2 m (0.9-3.7 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

type: dioecious; heads in corymb-like clusters; staminate heads globose; pistillate heads flask-shaped; involucre (1-2 cm tall, 5-8 mm 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); staminate florets (1.2-1.5 cm long), pappus longer than the corolla; pistillate florets (1.8-2.5 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

**Vegetative Characteristics**

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, sessile to petiolate, clasping or not; upper stem blades similar except reduced upwards, less lobed, and sessile
Canada thistle

stems: erect, branching above, glabrous above, pubescent below, hollow; forming dense colonies
underground: rhizomes, fleshy, extensive, creeping

Distribution and Habitat
Canada thistle grows throughout Nebraska, except in the extreme southeast, on rangeland, pastures, ditch banks, roadways and disturbed sites. It can be especially abundant in deep and moist soil.

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 seldom grazed by livestock.
Wildlife. Canada thistle fruits are eaten by songbirds.
Ornamental. This aggressive weed should not be planted. It is hardy to zone 2.

Other
Canada thistle is an aggressive, noxious weed and is the target of an extensive control program. This species is dioecious (male and female flowers on different plants), thus large patches may not produce 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.

<table>
<thead>
<tr>
<th>Common Name:</th>
<th>Leafy spurge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species:</td>
<td><em>Euphorbia esula</em> L.</td>
</tr>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Introduced (from Eurasia)</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to September</td>
</tr>
<tr>
<td>Height:</td>
<td>0.3–0.9 m (0.9–2.8 ft)</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics
- type: umbel of cyathia; each cyathium with 12 to 25 staminate flowers surrounding 1 pistillate flower, subtended by 2 bracts; bracts heart-shaped (1–1.4 cm long); yellowish
- flowers: greenish-yellow (1.5–3 mm long), unisexual, male flowers with a single stamen, female flowers with a single pistil
- fruits: capsule (2.5–3.5 mm long); cells 3, each cell with seeds 1
- seeds: ovoid to cylindrical (2.2–3 mm long), gray to brown, smooth, mottled

Vegetative Characteristics
- leaves: alternate, simple; blades oblanceolate to oblong (3–10 cm long, 3–10 mm wide), wider above the middle, 1 prominent vein, drooping; margins entire; surfaces glabrous; contain a milky latex
- stems: erect, branched above, glabrous, contain a milky latex
- underground: roots deep, woody, spreading, brown; with numerous pinkish, scaly adventitious shoot buds.

Distribution and Habitat
Leafy spurge grows throughout Nebraska along irrigation ditches, roadways, fields, woodlands, shelterbelts, disturbed sites, 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; 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 should not be planted as an ornamental. It is hardy to zone 3.

Other Leafy spurge is a noxious weed in Nebraska and is the target of a vigorous control program. This plant very 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 cyparissii 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 road sides. Its leaves are only 1-3 cm long, and the plants are shorter than leafy spurge.

<table>
<thead>
<tr>
<th>Common Name: Dandelion (common dandelion)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species:</strong> Taraxacum officinale G.H. Weber ex Wiggers</td>
</tr>
<tr>
<td><strong>Growth Form:</strong> Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong> Perennial</td>
</tr>
<tr>
<td><strong>Origin:</strong> Introduced (from Eurasia)</td>
</tr>
<tr>
<td><strong>Flowering:</strong> April to October</td>
</tr>
<tr>
<td><strong>Height:</strong> 0.05-0.3 m (1-11 in)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**
- **type:** head (1-3 cm wide), solitary, on a hollow scape; involucre 1.5-2.5 mm tall, with two series of bracts; outer bracts reflexed; ray florets numerous
- **flowers:** yellow ray florets (1-1.5 mm long), perfect achene; body slightly flattened (3-4 mm long); pappus of white bristles; seeds 1 small

**Vegetative Characteristics**
- **leaves:** crowded in a basal rosette, simple; blades oblanceolate (5-30 cm long, 2-15 cm wide), variously lobed (terminal lobe usually the largest); usually lightly pubescent, especially the lower surface and on the midvein, sometimes glabrous; contain a milky juice
- **stems:** scape, hollow, one to few, glabrous to slightly pubescent; contain a milky juice
- **underground:** taproot, deep

**Distribution and Habitat**
Dandelion is common throughout Nebraska on rangeland, pastures, meadows, lawns and waste places in all soil types.

**Uses and Values**
**Forage.** Dandelion is readily eaten by all types of livestock because it is relatively succulent. Forage quality is fair. Generally, it does not occur in enough quantity to be an important forage source, except on some subirrigated meadows and other wet sites. It becomes most abundant on abused pastures and rangeland, but it also may be present in lesser amounts on well managed lands.

**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.
**Dandelion**

*Ornamental.* Dandelion is a weed and should not be planted. It is hardy to zone 1.

**Other**

Young leaves have been boiled and eaten as spring greens, roots have been used to treat heartburn and as a mild laxative, and 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 were native to North America, but most originated in Eurasia.

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**Common Name:** **White clover**  
(ladino clover, Dutch clover)

<table>
<thead>
<tr>
<th><strong>Species:</strong></th>
<th><em>Trifolium repens</em> L.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Form:</strong></td>
<td>Forb</td>
</tr>
<tr>
<td><strong>Life Span:</strong></td>
<td>Perennial</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>Introduced (from Europe)</td>
</tr>
<tr>
<td><strong>Flowering:</strong></td>
<td>May to October</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td>0.05-0.4 m (1-16 in)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- **type:** cluster (1-3 cm in diameter), axillary, globose; flowers 20 to 90
- **flowers:** white or tinged with pink (7-12 mm long), typical 5-petaled legume flower; calyx tube cylindrical (2-3 mm long); teeth 2-3 mm long
- **fruits:** legume, oblong to linear (4-6 mm. long); seeds 2 to 4
- **seeds:** heart- to kidney-shaped (1-1.4 mm long), yellow, smooth

**Vegetative Characteristics**

- **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
- **stems:** creeping, rooting at the nodes, mat-forming; surfaces glabrous to slightly pubescent
- **underground:** taproot and fibrous roots

**Distribution and Habitat**

White clover grows throughout Nebraska 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 Nebraska lawns.
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 livestock losses have not been attributed to hydrocyanic poisoning from white clover.

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 may be seeded with turf-grasses. It is hardy to zone 2.

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.
**FORBS**

biennial introduced

- Musk thistle
- Spotted knapweed
- Bull thistle
- Poison hemlock
- Yellow sweetclover
- Western salsify
- Common mullein
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)

Inflorescence Characteristics
- type: head, globose (3-7 cm in diameter), solitary, terminal, nodding; 1 or 2 heads on upper branches, 2 to 9 heads on lower branches; outer (1.5-4.5 cm long, 5-7 mm wide) and 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: achene (3-4 mm long), yellowish-brown, one edge straight and the other curved; pappus of white bristles (2 cm long);
- seeds: small

Vegetative Characteristics
- 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); veins extending past margins as spines; upper stem blades (1-15 cm long) like rosette blades except clasping the stem
- stems: erect, highly branched, with spiny wings (0.5-2.0 cm wide), glabrous to pubescent
- underground: taproot fleshy, stout

Distribution and Habitat
Musk thistle is widespread throughout Nebraska, but it is reduced to isolated pockets in the Sandhills. It is abundant to sparse on pastures, rangeland, open woodlands and fertile lowlands.

Uses and Values
Forage. Musk thistle is a serious weed of pasture and rangeland and has no forage value for livestock. These plants will form dense stands, serving as a barrier to the grazing of other forage plants.

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. It is hardy to zone 3.

Other
Musk thistle is classified as a noxious weed in Nebraska and should be 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 are pubescent on the lower side. The peduncles of plumeless thistle are winged, and the heads rarely nod.
Common Name: Spotted knapweed

Species: Centaurea biebersteinii DC. [=Centaurea maculosa auct. non Lam., Centaurea strobe L. ssp. micranthos (Gugler) Hayek]

Growth Form: Forb
Life Span: Biennial
Origin: Introduced (Eurasia)
Flowering: June to September
Height: 0.3-1.2 m (0.9-3.7 ft)

Inflorescence Characteristics
- type: head (8-25 mm in diameter) in panicles and cymes, solitary at ends of branches; involucre pale (1-1.5 cm tall); bracts ovate with firm points and 5 to 7 pairs of cilia (comb-like), tips dark; innermost bracts entire or fringed, no spine at the bract tip
- flowers: pink to purple or rarely white disk florets; marginal florets enlarged, falsely radiate (about 1.5 cm long)
- fruits: achene (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

Vegetative Characteristics
- leaves: alternate, simple; basal and rosette blades narrowly elliptic to oblanceolate, usually one or two times pinnately parted or remotely dentate to entire; stem blades (2-4 cm long) pinnately divided into remote and narrow segments (1-3 mm wide); upper blades entire (1-2 cm long); surfaces nearly glabrous to tomentose
- stems: erect or ascending, 1 to several, branching above, ridged underground: taproot, stout

Distribution and Habitat
Spotted knapweed is scattered throughout Nebraska and may be locally common in northern Nebraska. It is most common in sandy soils of rangeland, pastures, meadows and roadsides.

Uses and Values
Forage. Spotted knapweed is a serious weed of pasture and rangeland. It has a bitter taste and has no forage value for livestock.

Wildlife. It is sometimes grazed by deer.

Ornamental. This aggressive weed should not be planted. It is hardy to zone 3.

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 (1-1.5 cm tall) topped with spines (1-2.5 cm long). All can be troublesome weeds and should receive aggressive weed control efforts.
(1-10 mm long), petiole winged; stems: blades similar to rosette blades only smaller and with spines up to 1.7 cm long; blades becoming progressively smaller upward; all leaves green, with appressed yellowish prickles above, gray-green villous below; bases decurrent erect, many spreading branches, green to brownish, slightly hairy with cobwebby hairs; wings irregular, spiny at least on the upper portion.

**Distribution and Habitat**

Bull thistle grows throughout Nebraska on rangeland, pastures, meadows and disturbed sites.

**Uses and Values**

**Forage.** Bull thistle is classified as a weed and has little or no forage value. Cattle may eat the heads.

**Wildlife.** Songbirds and small mammals eat the fruits.

**Ornamental.** Bull thistle should not be planted in Nebraska because it can rapidly spread and be an aggressive weed. It is hardy to zone 3.

**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 9.3 ft)

**Inflorescence Characteristics**

**Type:**  
umbel (4-7 cm wide), compound; rays 8 to 20, unequal; involucre of 3 to 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:**  
mericarp oblanceolate, flattened to concave

**Vegetative Characteristics**

**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; petiole winged; stems: blades similar to rosette blades only smaller and with spines up to 1.7 cm long; blades becoming progressively smaller upward; all leaves green, with appressed yellowish prickles above, gray-green villous below; bases decurrent erect, many spreading branches, green to brownish, slightly hairy with cobwebby hairs; wings irregular, spiny at least on the upper portion underground: taproot, fleshy

**Distribution and Habitat**

Bull thistle grows throughout Nebraska on rangeland, pastures, meadows and disturbed sites.

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**Seeds:**  
mericarp oblanceolate, flattened to concave
**Vegetative Characteristics**

**leaves:** alternate (may be opposite above), pinnately compound; fern-like (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

**stems:** erect, highly branched, distinctly ridged, glabrous with purple blotches, hollow between nodes

**underground:** taproot

**Distribution and Habitat**
Poison hemlock is 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 and has no forage value.

**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 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. It is hardy to zone 4.

**Other**
It is believed that poison hemlock was used to put Socrates to death.

---

**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:** 0.5-1.5 m (1.6-4.6 ft)

**Inflorescence Characteristics**

**type:** raceme (5-15 cm long including the peduncle), spike-like, axillary, flowers 30 to 70

**flowers:** yellow corolla (4.5-7 mm long); typical 5-petaled legume flower; calyx bell-shaped, short

**fruits:** legume (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

**Vegetative Characteristics**

**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

**stems:** erect or ascending, highly branched, glabrous to sparsely pubescent

**underground:** taproot
Distribution and Habitat
Yellow sweetclover grows throughout Nebraska in rangeland, pastures, meadows, 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 and may be an important forage some years but present in only small amounts in other years.

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 game birds. It attracts bees and is an excellent honey plant.

Ornamental. Yellow sweetclover has few applications in ornamental plantings. It is hardy to zone 2.

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 that are 4-5 mm long. It also may also be taller (up to 2.5 m).

**Common Name:** Western salsify
(yellow salsify, yellow goatsbeard)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Tragopogon dubius Scop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Biennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Introduced (Eurasia)</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to July</td>
</tr>
<tr>
<td>Height:</td>
<td>0.3-1 m (0.9-3.1 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**
- Type: head, (to 5.5 cm in diameter), solitary, terminal on long peduncles; involucre (2.5-4 cm tall) with 1 series of 8 to 13 linear bracts
- Flowers: yellow ray florets (2-3 cm long), all fertile
- Fruits: achene (2.5-3 cm long), terete or angled,
nerves 5 to 10, brown, tapering to a stout beak; pappus of dirty white colored bristles; seeds 1

Vegetative Characteristics
leaves: alternate, simple; blades long linear (to 30 cm long); somewhat grass-like
stems: erect, sparsely branching, unevenly woolly pubescent when young, nearly glabrous when older; contain a white latex
underground: taproot, long, thick

Distribution and Habitat
Western salsify is common throughout Nebraska in rangeland, pastures, 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 produces little forage and is rarely grazed when it is mature.

Wildlife. Pronghorn and bighorn sheep graze the foliage. Prairie chickens and sharp-tailed grouse eat the fruits.

Ornamental. Western salsify is drought-tolerant and has been planted as an ornamental. It is hardy to zone 2.

Common Name: Common mullein

Species: Verbascum thapsus L.
Growth Form: Forb
Life Span: Biennial
Origin: Introduced (Europe)
Flowering: June to August
Height: 0.3-2.2 m (0.9-6.8 ft)

Inflorescence Characteristics
type: spike or spike-like panicle, cylindrical, dense, terminal
flowers: pale yellow to sulfur yellow corolla (2-3 cm in diameter), lobes 5; calyx lobes 5, lanceolate (5-11 mm long); short woody pedicels or without pedicels
fruits: capsule, 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

Vegetative Characteristics
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; stem blades smaller and more pointed, bases decurrent; sessile
stems: erect, stout, unbranched or a few upright branches near the top, surfaces covered with woolly hairs
underground: taproot

Distribution and Habitat
Common mullein is widespread throughout Nebraska on abused pastures and rangeland, waste places and roadsides especially in sandy and gravely soils. It can be locally abundant and an aggressive weed.

Uses and Values
Forage. Common mullein is not grazed by cattle.

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. It is hardy to zone 3.

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.
annual introduced

Marijuana
Lamsquarters
Kochia
Pepperweed
Black medic
Russian thistle
Tumbling mustard
Hairy vetch
**Common Name:** Marijuana  
(hemp, cannabis, pot)

**Species:** Cannabis sativa L.  
**Growth Form:** Forb  
**Life Span:** Annual  
**Origin:** Introduced (from Asia)  
**Flowering:** July to October  
**Height:** 0.4-5 m (1.3-15.5 ft)

**Inflorescence Characteristics**  
- **type:** dioecious; staminate panicles, axillary; pistillate cymose clusters, 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:** achene, globose (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

**Vegetative Characteristics**  
- **leaves:** opposite below, mostly alternate above; palmately divided into 5 to 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)  
- **stems:** erect, solitary, highly branched, surfaces coarse, slightly grooved  
- **underground:** taproot

**Distribution and 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 rangeland, pastureland, 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.

---

**Common Name:** Lambsquarters  
(common lambsquarters, lambsquarters 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 (0.3-4.6 ft)

**Inflorescence Characteristics**  
- **type:** clusters in dense terminal and axillary paniculate spikes, small, compact  
- **flowers:** green calyx, sepals 5; sepals small and inconspicuous, covered with a mealy
powder; without petals; sessile
urticle (1.1-1.5 mm in diameter); pericarp
lightly roughened; seeds 1
discoid, with a notch, black, shiny; second
type oval, larger, flattened, brown

Vegetative Characteristics
leaves: alternate, simple; blades highly variable,
trowel-shaped to lanceolate (3-6 cm long
2-4 cm wide), glabrous, tips pointed
margins irregularly toothed or wavy to
toothed or entire; covered with a white
mealy powder, especially on the underside
erect, solitary, usually much-branched
above; branches often ascending;
glabrous, often with red or light green
stripes

derect, solitary, usually much-branched
above; branches often ascending;
glabrous, often with red or light green
stripes

Distribution and Habitat
It is a common weed of rangeland, pastures, fields and
disturbed sites throughout Nebraska. 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 after drought has suppressed grasses. It is occa-
sionally eaten by sheep.

Wildlife. It is eaten by deer, pronghorn, elk and big-
horn sheep. Mourning doves, songbirds and small mam-
mals eat the seeds.

Ornamental. It is usually considered to be a weed and
should not be planted as an ornamental.

Other
Lambsquarters is a prime contributor to the hay fever
season. Native Americans ground the seeds for a source of
meal for breads and cereals. Young leaves and shoots have
been used as greens in salads or boiled and eaten as a green
vegetable similar to spinach.

Common Name: Kochia
(spring cypress, fireweed,
belvedere, mock cypress, 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 (0.9-5.6 ft)

Inflorescence Characteristics
type: spike, axillary and terminal
flowers: green calyx (0.3-0.6 mm long, 2.3-3 mm
wide), winged; sepals 5, paired in leaf-like
bracts, enveloped by tufts of hair
fruits: urticle, globose, calyx persistent; seeds 1
seeds: oval (2-3 mm long), concave, brown to
black

Vegetative Characteristics
leaves: alternate, simple; blades linear to
narrowly ovate (2-7 mm long, 0.5-0.8
mm wide), flat, prominent veins 1 to
5; margins entire, fringed with hairs;
surfaces nearly glabrous to pubescent;
short-petioled

Distribution and Habitat
It is common in rangeland, pastures, fields and dis-
turbed sites throughout Nebraska. It grows in all types of
soils.

Uses and Values
Forage. Kochia is usually classified as having poor
forage quality; however, forage quality can be good when
Kochia plants are young. When immature, kochia is eaten by all classes of livestock.

**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 game birds.

**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.

---

**Inflorescence Characteristics**

- **type:** raceme (5-10 cm long), numerous, erect, terminating 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:** silicle (2.5-3.5 mm in diameter), with a narrow wing on the distal end; seeds usually 2
- **seeds:** ovate (1.5-1.8 mm long), flattened, narrowly winged, orange to tan

**Vegetative Characteristics**

- **leaves:** alternate, simple; basal blades 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
- **stems:** erect, much-branched at the top, surfaces pubescent
- **underground:** taproot, short

---

**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:** March to June  
**Height:** 0.1-0.5 m (0.3-1.6 ft)
Distribution and Habitat

Pepperweed grows throughout Nebraska in dry or moist soils of disturbed sites, pastures, rangeland 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.

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.

Common Name: Black medic

Species: Medicago lupulina L.
Growth Form: Forb
Life Span: Annual (or short-lived perennial)
Origin: Introduced (from Europe)
Flowering: April to November
Height: Prostrate with stems 0.1-0.8 m (0.3-2.5 ft) long

Inflorescence Characteristics

type: raceme (4-15 mm long), head-like, clustered, flowers 10 to 50; peduncles slender, exceeding the subtending leaves by 1 to 4 times
flowers: yellow corolla (2-4 mm long), typical 5-petaled legume flower; calyx bell-shaped, teeth nearly equal
fruits: legume, 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

Vegetative Characteristics

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 dentate (toothed) on upper one-half; glabrous to sparsely pubescent

stems: prostrate to ascending; surfaces glabrous to having long, soft hairs
underground: taproot

Distribution and Habitat

Black medic grows throughout Nebraska in meadows, pastures, roadsides 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. It is usually considered to be a weed.

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 game birds, waterfowl, and small mammals.

Ornamental. Black medic is considered to be a weed and is not planted.

Other

It is a common contaminant in uncleaned clover and alfalfa seed, and it quickly escapes and spreads into waste places and pastures.
**Common Name:** Russian thistle  
(tumbleweed)

<table>
<thead>
<tr>
<th>Species:</th>
<th><em>Salsola tragus</em> L. (=<em>Salsola iberica</em> Sennen &amp; Pau, <em>Salsola kali</em> L.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Annual</td>
</tr>
<tr>
<td>Origin:</td>
<td>Introduced (from Europe)</td>
</tr>
<tr>
<td>Flowering:</td>
<td>August to October</td>
</tr>
<tr>
<td>Height:</td>
<td>0.3-1 m (0.9-3.1 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**
- **Type:** spike-like (1-8 cm long), axillary
- **Flowers:** perfect, small (2-4 mm long); bracts ovate to triangular, spreading and often recurved; sessile
- **Fruits:** urticle, obovoid (1.5-2.5 mm in diameter), tip winged; pericarp fleshy; seeds 1
- **Seeds:** round (1.5 mm in diameter), black, smooth, shiny

**Vegetative Characteristics**
- **Leaves:** alternate, simple; blades filiform (1.2-8 cm long, 1 mm wide), tips spinose, upper leaves thickened at the base and enclosing the fruit; surfaces glabrous to pubescent; sessile to clasping
- **Stems:** erect, highly branched, usually streaked with red
- **Underground:** taproot

**Distribution and Habitat**
Russian thistle grows throughout Nebraska, but is more frequent in western Nebraska. It grows in abused rangeland, waste areas, cultivated dryland fields and disturbed areas.

**Uses and Values**
- **Forage.** Russian thistle produces fair quality forage 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 game birds. 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 an important survival feed during the 1930s drought. Russian thistle stems break at ground level in the fall and roll with the wind, hence one of its common names is “tumbleweed.”

---

**Common Name:** Tumbling mustard

<table>
<thead>
<tr>
<th>Species:</th>
<th><em>Sisymbrium altissimum</em> L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Forb</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Annual</td>
</tr>
<tr>
<td>Origin:</td>
<td>Introduced (from Europe)</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to August</td>
</tr>
<tr>
<td>Height:</td>
<td>0.5-1.5 m (1.6-4.6 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**
- **Type:** raceme, terminating branches, numerous 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:** silique, linear (5-15 cm long), straight, spreading, pubescent; seeds several; pedicel stout (4-10 mm long), as thick as or nearly as thick as the silique

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seeds: oblong or angular (1-1.5 mm long), yellow to brown, with a slight groove

Vegetative Characteristics
leaves: alternate; lower blades oblanceolate to spatulate (3-23 cm long, 1-4 cm wide); upper blades smaller, pinnately lobed or divided nearly to the midrib; margins coarsely toothed; surfaces pubescent, pale green
stems: erect, simple below, much-branched above, surfaces pubescent
underground: taproot

Distribution and Habitat
Tumbling mustard is found throughout Nebraska on rangeland, roadsides, waste places and cultivated fields.

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.

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 0.2 m (0.6 ft) long

Inflorescence Characteristics
type: raceme, axillary, dense, flowers 10 to 60; peduncle with long (1-2 mm long), soft hairs
flowers: bluish-purple, drying blue (9-16 mm long); typical 5-petaled legume flower; calyx irregular, tube 2-4 mm long, lobes linear above a triangular base (0.8-1.5 mm long); villous
fruits: legume, oblong (2-3 cm long, 7-10 mm wide), flattened, glabrous to pubescent; seeds 3 to 5
seeds: globose (4-5 mm in diameter), dark brown, smooth

Vegetative Characteristics
leaves: alternate, even-pinnately compound, terminate in tendrils; leaflets 10 to 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)
stems: twining, climbing, villous
underground: taproot

Distribution and Habitat
Hairy vetch grows throughout Nebraska planted in fields and roadsides. It occasionally escapes to adjacent rangeland, other fields, waste places and stream valleys. It is most common 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.

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 and tolerates a higher soil alkali level than most legumes. Hairy vetch is both cold and drought hardy. It is sometimes used for winter cover and as a green manure crop.
SUCCULENTS

perennial native

Ball cactus
Brittle cactus
Bigroot pricklypear
Plains pricklypear
**Common Name:** Ball cactus  
(nipple cactus, pincushion cactus, sprouting pincushion)

**Species:** Coryphantha vivipara (Nutt.) Britt. & Rose [=Mammillaria vivipara (Nutt.) Haw.]

**Growth Form:** Succulent  
**Life Span:** Perennial  
**Origin:** Native  
**Flowering:** May to June  
**Height:** <0.1 m (<2 in)

**Inflorescence Characteristics**
- type: solitary flowers or in groups of 2 to 5, terminal, sessile  
- flowers: reddish-purple to pink, showy (2.5-4 cm in diameter)  
- fruit: berry (1-2 cm long), ellipsoid, fleshy, green; seeds many  
- seeds: semicircular (1.2-1.8 mm long), brown to reddish-brown or black, reticulate

**Vegetative Characteristics**
- leaves: essentially absent  
- stems: globose or cylindrical, turbinate at the base, 1 to several, fleshy, covered with spirally arranged tubercles; most tubercles with a groove on the upper side; aeroles with 3 to 4 (sometimes up to 12) prominent, reddish central spines (1 spine turned downward) and 12 to 40 smaller, white radial spines (9-12 mm long)  
- underground: fibrous roots, shallow

**Distribution and Habitat**
Ball cactus grows in the western three-fourths of Nebraska on dry rangeland and prairies, especially in sandy 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 rangeland. Livestock on abused rangeland may cause a reduction in numbers of ball cactus because their hooves dislodge the plants.  
- **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 prefers full sun and well drained soils. It is easier to grow from transplants than from seed. Seed germination is difficult and growth is extremely slow. It is hardy to zone 3.

**Other**
Ball cactus can store water and its shallow roots can extract water from the soil even under relatively dry conditions. Missouri pincushion [Coryphantha missouriensis (Sweet) Britt. & 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.

**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:** <0.2 m (<8 in)

**Inflorescence Characteristics**
- type: solitary flowers, sessile  
- flowers: yellow to greenish-yellow (4 cm wide),
petals (1.5-2 cm long)
berry (3 cm long), ovate, fleshy, prickly, green turning purple; seeds many
white to gray (6 mm long), margins conspicuous

**Vegetative Characteristics**

leaves: cylindrical to subulate, small, fleshy, green, seldom present and soon falling

stems: pads or joints, ovoid to obovoid (4-5 cm long), bilaterally flattened, fleshy, readily detaching and rooting; spines (mostly less than 4 cm long), 1 to 10 per areole

underground: fibrous roots

**Distribution and Habitat**

Brittle cactus is most common in the western two-thirds of Nebraska on sandy to gravelly rangeland and hillsides. Occasionally, it is found in eastern Nebraska.

**Uses and Values**

**Forage.** Brittle cactus increases on heavily grazed rangeland and has no forage value for domestic livestock.

**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 many wildlife species.

**Ornamental.** Brittle cactus can be planted in rock and cacti gardens. It is hardy to zone 3.

**Other**

The stems and fruits have been used extensively as food. The fruit 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. Native Americans used the spines to lance warts and moles and the peeled stems for dressing wounds. The mucilaginous juice of the stems was applied over paint on hides to make the paint permanent. Often this plant is concealed by surrounding vegetation and goes unnoticed until it is kicked up onto the back of your leg, thus the nickname “jumping cactus.”

**Common Name:** Bigroot pricklypear
(common pricklypear, twistspine pricklypear)

**Species:** *Opuntia macrorhiza* Engelm.
**Growth Form:** Succulent
**Life Span:** Perennial
**Origin:** Native
**Flowering:** May to June
**Height:** <0.2 m (<8 in)

**Inflorescence Characteristics**

**type:** solitary flowers, sessile
**flowers:** yellow to rarely reddish-yellow, pink or copper (4-7 cm wide); petals red at base, wedge-shaped, tips notched
**fruits:** berry, globose to ovate (2-4 cm long), fleshy, becoming red to purple, not spiny; seeds many
**seeds:** light tan to bone white, discoid (3-6.5 mm long), flattened; winged rim irregular (0.5-1 mm wide)

**Vegetative Characteristics**

**leaves:** cylindrical or conical, small, fleshy, green, seldom present and soon falling

**stems:** pads ovate (usually <10 cm long), flattened, fleshy; with spines (to 5 cm long or more), mostly straight, occasionally twisted, 1 to 6 per areole, usually only on the upper and marginal areoles; pads rooting when detached

**underground:** fibrous roots, thick

Brittle cactus

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**Distribution and Habitat**

Bigroot pricklypear is found across Nebraska in sandy, gravelly, or rocky soils of rangelands.

**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. It is hardy to zone 4.

**Other**

All of the cactus species have similar current and historical uses. See the discussion of brittle cactus (*Opuntia fragilis*) for these uses.

---

**Common Name:** Plains pricklypear

| Species: | *Opuntia polyacantha* Haw. |
| Growth Form: | Succulent |
| Life Span: | Perennial |
| Origin: | Native |
| Flowering: | May to July |
| Height: | <0.2 m (<8 in) |

**Inflorescence Characteristics**

- **type:** solitary flowers, sessile
- **flowers:** yellow to rarely pink or red (4-7 cm wide), waxy
- **fruits:** berry, 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

**Vegetative Characteristics**

- **leaves:** cylindrical or conical, small, fleshy, green, seldom present and soon falling
- **stems:** prostrate segments or joints (usually less than 12 cm long), ovate, flattened, fleshy; with spines (1-4 cm long), 1 to 10 or more per areole, on nearly all areoles
- **underground:** fibrous roots, thick

**Distribution and Habitat**

Plains pricklypear grows throughout western Nebraska, especially in the Panhandle, on dry sandy rangeland, 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 many 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. It is hardy to zone 3.

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 prickly pears 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.
perennial native

Leadplant
False indigo
Sand sagebrush
Fringed sagewort
New Jersey tea
Broom snakeweed
Wild plum
Western sandcherry
Chokecherry
Skunkbrush sumac
Smooth sumac
Prairie wildrose
Common snowberry
Western snowberry
Buckbrush
Poison ivy
Small soapweed
Common Name: **Leadplant**
(prairie shoestring)

<table>
<thead>
<tr>
<th>Species:</th>
<th><em>Amorpha canescens</em> Pursh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Shrub</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to August</td>
</tr>
<tr>
<td>Height:</td>
<td>0.3-1 m (0.9-3.1 ft)</td>
</tr>
</tbody>
</table>

**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**: 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 (1.6 mm long); anthers conspicuous, yellowish-orange
- **Fruits**: legume (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

**Vegetative Characteristics**
- **Leaves**: alternate, odd-pinnately compound (3.5-10 cm long); leaflets 15 to 49; leaflets crowded to overlapping, elliptic to oblanceolate (7-16 mm long, 3-6 mm wide), mucronate on the tip, margins entire, lower surface woolly and light green, upper surface darker green and not as woolly; petioles 1-4 mm long, pubescent
- **Stems**: erect to ascending, base shrubby; new growth covered with long, matted hairs
- **Underground**: taproot and rhizomes

**Distribution and Habitat**
Leadplant grows throughout Nebraska on well-drained soils of rangeland and prairies. It is abundant in the Sandhills.

**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.

**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. It is hardy to zone 2.

**Other**
Plains Indians dried the leaves for smoking and tea. It also was used to treat rheumatism and neuralgia. Stems were cut into small pieces, and one end was moistened and attached to the affected area. The stem pieces were then lighted 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 its common names.
Common Name: False indigo  
(streambank amorpha)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Amorpha fruticosa L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Shrub</td>
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<tr>
<td>Life Span:</td>
<td>Perennial</td>
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<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to June</td>
</tr>
<tr>
<td>Height:</td>
<td>1.5-3 m (4.6-10 ft)</td>
</tr>
</tbody>
</table>

Inflorescence Characteristics

- type: raceme (10-15 cm long), terminal, usually 2 or 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 acute to broadly rounded (0.5-1.2 mm long), upper lobes shortest; anthers yellow to yellowish-orange, conspicuous
- 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

Vegetative Characteristics

- leaves: alternate, odd-pinnately compound (12-22 cm long); leaflets 11 to 41; 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
- stems: erect, single or a few clustered trunks; bark of young trunks smooth and brownish-gray; bark of old trunks slightly fissured
- underground: taproot and rhizomes

Distribution and Habitat

False indigo is infrequent to locally common throughout Nebraska on moist stream banks, 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 diet. It decreases with heavy grazing and trampling along shorelines.

Grassland Seeding. False indigo is not included in grassland seedings.

Prairie Restoration. It should be included on appropriate sites such as along shorelines. 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. It is hardy to zone 2.

Other

The Pawnee 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. The Lakota cut false indigo to feed to horses and made arrow shafts from the stems. False indigo emits a pleasant, sweet fragrance when flowering.
Common Name: **Sand sagebrush**
(Sandhill sage, silvery wormwood)

**Species:** *Artemisia filifolia* Torr.
**Growth Form:** Shrub
**Life Span:** Perennial
**Origin:** Native
**Flowering:** June to September
**Height:** to 1 m (3.1 ft)

**Inflorescence Characteristics**
- **Type:** heads discoid, numerous in panicles (15-20 cm long); panicles plume-like, densely flowered, leafy; phyllaries imbricate; ray florets 2 to 4, pistillate; disk florets 3 to 5, staminate
- **Flowers:** green ray florets (0.6-0.7 mm long); yellowish disk florets (1.5 mm long)
- **Fruits:** achene, obovoid (0.7-1 mm long, 0.4-0.5 mm wide); ribs 4 to 5: covered with woolly scales; seeds 1
- **Seeds:** small, rarely reach maturity

**Vegetative Characteristics**
- **Leaves:** alternate, simple; blades usually clustered, filiform (3-5 cm long); margins entire, both surfaces gray-green with appressed pubescence; sessile; aromatic
- **Stems:** ascending to erect, freely branching; covered with pubescence when immature; bark often marked with longitudinal grooves or lines
- **Underground:** taproot and lateral roots

**Distribution and Habitat**
Sand sagebrush grows in the western two-thirds of Nebraska in sandy rangeland soils. It is considered to be an indicator of sandy soils.

**Uses and Values**

**Forage.** Sand sagebrush 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 almost completely cover low sandy hills.

**Grassland Seeding.** Sand sagebrush 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 sagebrush 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 sagebrush tolerates drought and heat and is adapted to poor soils. Its thread-like, silver foliage is attractive, leading to its use as an accent or background plant. It should be planted in well-drained soils in full sun. Commercial seed is available. It is hardy to zone 2.

Other
Sand sagebrush is an important hay fever plant. The whole plant is aromatic.

Common Name: **Fringed sagewort**
(fringed sagebrush, prairie sagewort, wormwood)

**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)
**Inflorescence Characteristics**

- **type:** heads, numerous in panicles (2-12 cm long) or racemes; leafy, involucre 2 to 3 mm tall; ray florets 10 to 18; disk florets 25 to 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 small

**Vegetative Characteristics**

- **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 pubescent; lower leaves on petioles; upper leaves sessile; with characteristic sage odor
- **stems:** forming mats with numerous ascending or erect stems arising from a woody base underground: taproot and short rhizomes

**Distribution and Habitat**

Fringed sagewort grows in the northwestern two-thirds of Nebraska on dry rangeland, especially sandy soils. It is often abundant on old fields several years after 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 indicate abuse.

**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 and mixed with wildflowers. It is drought- and heat-tolerant and grows best in full sun. It is hardy to zone 2.

**Other**

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.

---

**Common Name:** New Jersey tea (redroot)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Ceanothus herbaceous Raf.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Shrub</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
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<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>May to July</td>
</tr>
<tr>
<td>Height:</td>
<td>0.3-1 m (0.9-3.1 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- **type:** panicle of umbel-like clusters, loose; umbels 1 to 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:** capsule (3-4.5 mm wide), dark brown to black; lobes 3, lobes not dorsally crested; seeds 3
- **seeds:** reddish-brown (2 mm long, 1.6-1.8 mm wide), pitted
**Vegetative Characteristics**

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

stems: densely pubescent, flexible; bark grayish-brown and cracked into short slits

underground: taproot and lateral roots, reddish

**Distribution and Habitat**

New Jersey tea grows on rangeland, prairies and roadsides in the eastern half of Nebraska 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. It is most common in areas such as roadsides and protected northern slopes.

**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 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 and is hardy to zone 4.

**Other**

The 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.

<table>
<thead>
<tr>
<th>Common Name:</th>
<th>Broom snakeweed</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(broomweed, turpentine weed, perennial snakeweed)</td>
</tr>
</tbody>
</table>

**Species:** Gutierrezia sarothrae (Pursh) Britt. & Rusby [=Xanthocephalum sarothrae (Pursh) Shinners]

**Growth Form:** Shrub

**Life Span:** Perennial

**Origin:** Native

**Flowering:** August to October

**Height:** 0.1-0.8 m (0.3-2.5 ft)

**Inflorescence Characteristics**

type: heads numerous in corymb; corymb rounded, loose or dense; involucres (3-6 mm tall) with 5 series of 4 bracts; bracts linear (1.2-3.5 mm long), pointed, imbricate, green midrib at the tip; ray florets 4 to 8 (sometimes absent); disk florets 2 to 5

flowers: yellow ray florets, tubular (for 2 mm) and expanding into a ray (2.5 mm long), pistillate; yellow disk florets

fruits: achene; cylindrical (1.7-2 mm long, 0.5 mm in diameter), brown, pubescent; pappus of 8 to 10 scales (0.5-1 mm long), chaff white; seeds 1

seeds: small
Broom snakeweed

**Vegetative Characteristics**
- leaves: alternate, simple; blades linear to filiform (1-7 cm long, 1-3 mm wide), midrib prominent; margins entire, rolled inward, scabrous, otherwise glabrous; sessile
- stems: erect or ascending from a woody base, branched, herbaceous above
- underground: taproot, stout

**Distribution and Habitat**
Broom snakeweed is occasional to abundant in the western two-thirds of Nebraska on dry, abused rangeland on all soil types. 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 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 in landscapes. It should be planted in well-drained soils in full sun. It is hardy to zone 3.

**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 coughs, colds and dizziness. A high density of broom snakeweed is usually an indication of previous poor management.

**Common Name:** Wild plum

**Species:** *Prunus americana* Marsh.
**Growth Form:** Shrub or small tree
**Life Span:** Perennial
**Origin:** Native
**Flowering:** April to May
**Height:** 2-5 m (6.2-15.5 ft)

**Inflorescence Characteristics**
- type: umbellate clusters of 2 to 5 flowers, from old wood, appearing before and with the leaves
- flowers: white to pinkish; petals 5; petals ovate (9-11 mm long); fragrant; sepals entire or with a few tiny teeth, pubescent inside, glabrous outside, ciliate on the margins
- fruits: drupe, globose to oval (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

**Vegetative Characteristics**
- leaves: alternate, simple; blades ovate to obovate (6-10 cm long, 3-5 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
- stems: erect, branching above, bark gray-brown and tinged with red or purple; twigs forming spines
- underground: rhizomes, forming large, dense thickets
**Distribution and Habitat**

Wild plum is common throughout Nebraska in rangeland ravines, 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 does provide 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 poisoning problems have been reported.

**Grassland Seeding.** Wild plum is not included in grassland seeding mixtures.

**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. It is hardy to zone 3.

**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.

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**Common Name:** Western sandcherry

(dwarf cherry, sand cherry)

<table>
<thead>
<tr>
<th>Species:</th>
<th>Prunus pumila L. var. besseyi (L.H. Bailey) Waugh (=Prunus besseyi L.H. Bailey)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Form:</td>
<td>Shrub</td>
</tr>
<tr>
<td>Life Span:</td>
<td>Perennial</td>
</tr>
<tr>
<td>Origin:</td>
<td>Native</td>
</tr>
<tr>
<td>Flowering:</td>
<td>April to May</td>
</tr>
<tr>
<td>Height:</td>
<td>0.1-0.7 m (0.3-2.2 ft)</td>
</tr>
</tbody>
</table>

**Inflorescence Characteristics**

- type: paired or single 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); fragrant
- fruits: drupe, globose to ovoid (1.3-1.4 cm long), deep purple, glossy; seeds 1
- seeds: stone, oval (7-8 mm long), flattened, flesh-colored, ridged on one side

**Vegetative Characteristics**

- leaves: alternate, simple, often clustered; blades elliptic or obovate to oblanceolate (4-6.5 cm long, 1-2.5 cm wide); margins finely serrate with longer teeth near the base; upper surface dark green and glabrous; lower surface paler and often appearing waxy
- stems: erect to decumbent, few-branched above, young bark red and turning reddish-gray with age
- underground: taproot, not forming thickets

**Distribution and Habitat**

Western sandcherry grows throughout Nebraska, except in the southeastern portion, in sandy soils of rangeland and roadsides. It is most common on rangeland 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.

**Grassland Seeding.** It is not used in grassland seedings.

**Prairie Restoration.** It could be added to restorations in areas with 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
Inflorescence Characteristics
- type: raceme, oblong (5-15 cm long), cylindrical, densely flowered, terminal; appearing after the leaves have formed
- flowers: white corolla, small (4 mm wide); petals 5; petals subround (3-4 mm long)
- fruits: drupe, globose (6-10 mm in diameter), dark red to black, juicy, lustrous; seeds 1
- seeds: stone, oblong-ovoid (7 mm long, 5.5 mm wide), cream-colored, pointed at the tip, 1 suture ridged

Vegetative Characteristics
- leaves: alternate, simple; blades obovate to oval (5-10 cm long, 3-5 cm wide), margins serrate (5-7 teeth per cm); upper surface glabrous and dark green; lower surface sparsely pubescent and pale
- stems: erect; twigs reddish-brown, sparsely white-spotted, slender; bark gray to black
- underground: rhizomes, forming dense thickets

Distribution and Habitat
- Chokecherry grows throughout Nebraska in moist soils of rangeland, prairies, fence rows and roadsides.

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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, raccoon and opossum. 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. It is hardy to zone 3.

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.

Common Name: Skunkbrush sumac
(skunkbrush, fragrant sumac, polecat bush)

Species: Rhus aromatica Aiton (=Rhus trilobata Nutt.)

Growth Form: Shrub
Life Span: Perennial
Origin: Native
Flowering: April to June
Height: 0.5-2.5 m (1.6-7.8 ft)

Inflorescence Characteristics

- type: cluster, spike-like (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: drupe, 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 stone (4.5-6.2 mm long), somewhat flattened

Vegetative Characteristics

- leaves: alternate, compound, trifoliate; 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- to 7-lobed; upper surface green, lower surface pale, both surfaces glabrous to sparsely pubescent; leaflets sessile to subsessile; aromatic erect, alternate branches; glabrous to pubescent, gray brown to red or dark brown; smooth to fissured; fragrant when bruised
- stems: underground: taproot

Distribution and Habitat

Skunkbrush sumac is locally common in the western two-thirds of Nebraska in dry hillside ravines and canyon bottoms of rangeland.

Uses and Values

Forage. Skunkbrush sumac is poor to fair forage for cattle and sheep. It increases with abusive grazing.

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. It is hardy to zone 3.

Other
Native Americans used the berry-like fruit for food, medicine and lemonade-like 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.

Common Name: Smooth sumac

Species: Rhus glabra L.
Growth Form: Shrub
Life Span: Perennial
Origin: Native
Flowering: May to June
Height: 1-3 m (3.1-10 ft)

Inflorescence Characteristics
- type: panicle, pyramidal, dioecious
- flowers: yellowish-green pistillate flowers, petals 5; petals ovate (2.5 mm long, 1 mm wide); yellowish-green staminate flowers, petals 5; petals ovate (3-3.5 mm long, 1 mm wide)
- fruits: drupe, 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

Vegetative Characteristics
- leaves: alternate, odd-pinnately compound, 11 to 29 leaflets; leaflets elliptic to narrowly ovate (7-10 mm long, 2-3 mm wide); margins coarsely serrate (2 to 3 teeth per cm); upper surface dark green and lustrous, lower surface whitened and glabrous; leaves turn bright red in the fall
- stems: erect, rigid, reddish-brown to purple when young, grayish-brown when older; forming dense thickets
- underground: rhizomes, extensive

Distribution and Habitat
Smooth sumac is scattered to locally common in the eastern two-thirds of Nebraska on rangeland, prairies, fence rows, thickets, abandoned fields, pastures and edges of woods in all soil types.

Uses and Values
Forage. Smooth sumac is nearly worthless as cattle forage. 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. It is hardy to zone 2.

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.

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Common Name: Priarie wildrose
(wild rose, Arkansas rose)

Species: Rosa arkansana Porter (=Rosa suffrutice Greene)
Growth Form: Shrub
Life Span: Perennial
Origin: Native
Flowering: May to August
Height: 0.1-1 m (0.9-3.1 ft)

Inflorescence Characteristics

type: corymbose clusters (usually 3 or more) or solitary flowers, terminal
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)
fruits: fruiting accessory (commonly called a hip) 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

Vegetative Characteristics

leaves: alternate, odd-pinnately compound, 5 to 11 leaflets; 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)
stems: erect, flexible, red to brown, with prickles (thorns); prickles 1-3.5 mm long, sometimes up to 8 mm long
underground: stout, horizontal roots

Distribution and Habitat

Prairie wildrose grows throughout Nebraska in dry soils of rangeland, roadsides, bluffs, hills and thickets.

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.

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 specimen plantings. The flowers are used in bouquets. They grow best in well-drained soils in full to partial sun. It is hardy to zone 2.

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.

Common Name: Common snowberry
(white coralberry)

Species: Symphoricarpos albus (L.) Blake
Growth Form: Shrub
Life Span: Perennial
Origin: Native
Flowering: June to July
Height: 0.1-1 m (0.3-3.1 ft)
**Inflorescence Characteristics**

- **type:** raceme, spike-like, terminal; flowers 2 to 5 (occasionally single); axillary with 1 or 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
drupe (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)

**Vegetative Characteristics**

- **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
- **stems:** erect to ascending, yellowish-brown, covered with curled hairs (especially at the nodes); internodes hollow
- **underground:** rhizomes, creeping, producing thickets

**Distribution and Habitat**

Common snowberry grows in the Panhandle and north central Nebraska 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, but 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 sapinin 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 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.

**Ornamental.** Common snowberry is used as a large scale ground cover and shrub border. The rangeland plant is var. *albus* while the cultivated plant is var. *laevigatus* (Fern.) 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. It is hardy to zone 3.

**Other**

Native Americans made tonic from the roots, eyewash from the bark and all parts were crushed and applied to wounds.

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**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 (0.6-4.1 ft)

**Inflorescence Characteristics**

- **type:** spikes, terminal or axillary; flowers 5 to 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; sweet fragrance
- **fruits:** drupe, globose (6-9 mm in diameter),

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Vegetative Characteristics

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
stems: erect, flexible, pubescent when young and then becoming glabrous
underground: rhizomes, extensive; forming thickets

Distribution and Habitat
Western snowberry grows throughout Nebraska on rangeland, pastures, woodland and ravines.

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 does well in either sun or shade. It can be trimmed to form a hedge. It is hardy to zone 3.

Other
Lakota children made lightweight 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.

Common Name: Buckbrush
(coralberry, indianscurrent)

| Species: | Symphoricarpos orbiculatus Moench |
| Growth Form: | Shrub |
| Life Span: | Perennial |
| Origin: | Native |
| Flowering: | July to August |
| Height: | 0.2-1.5 m (0.6-4.6 ft) |

Inflorescence Characteristics

type: raceme, spike-like, terminal and axillary; flowers 4 to 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
fruits: drupe (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

Vegetative Characteristics

leaves: opposite, simple; blades elliptic to ovate or suborbiculate (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
Buckbrush

and glabrous; lower surfaces lighter in color or whitened and variously pubescent; petiole 1-3 mm long, pubescent

stems: erect, slender, surfaces sparsely pubescent and then becoming nearly glabrous; internodes not hollow

Distribution and Habitat
Buckbrush grows in the eastern half of Nebraska and is most common in the southeastern part of the state. It grows in pastures, rangeland, woodland, ravines and along streams.

Uses and Values
Forage. Buckbrush is worthless for cattle and increases on heavily grazed land.

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. It is hardy to zone 2.

Other
Buckbrush leaves were steeped by some Native Americans to make a wash for sore eyes. The fruit was eaten during times of famine or boiled and fed to horses as a diuretic.

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Other
Buckbrush leaves were steeped by some Native Americans to make a wash for sore eyes. The fruit was eaten during times of famine or boiled and fed to horses as a diuretic.
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 they contact within a few hours. 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. It is hardy to zone 3.

Other

Eastern poisonivy [Toxicodendron radicans var. negundo (Greene) Reveal] is common in the eastern half of Nebraska. This highly variable species may be in the form of a vine or shrub and frequently has aerial roots. The petioles of mature leaves are usually pillose to puberulent. Contrary to popular belief, poison oak (Toxicodendron pubescens P. Miller) does not grow in Nebraska. Plants referred to as poison oak in Nebraska are usually the vine form of Toxicodendron radicans.
**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.** Small soapweed is widely used as a specimen planting. It prefers dry soils and full sunlight. Only very small plants can be transplanted successfully. It is hardy to zone 3.

**Other**

Winter browsing by cows is unique. As it is one of the only green plants available, cows will 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. Livestock find the flower clusters and fruits to be highly palatable; their presence is a good indicator that rangeland has not been grazed. Native Americans had many uses for small soapweed: young flower stalks were boiled or roasted and eaten; young pods were peeled and baked or roasted; fibers were extracted from the leaves and used to make rope, baskets and sandals; roots were used in making soap, especially soaps 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 (example: "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 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 percent or more), which 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 (example: 4-angled means that the plant part has four corners)
- **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 when 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 forward; 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
- **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** Ear-like lobes at the base of leaf blades; lateral appendages at the collar on a grass leaf
- **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

### Resources
- Glossary, selected references, index
livestock (especially cattle) marked by abdominal swelling due to a buildup 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 (example: onion)

Bulblet A small bulb

Bur A rough and prickly covering of a fruit

Calcereous 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

Carpel A modified leaf bearing a single ovary or ovules; the act of consuming portions of woody plants

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 or ovules

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)

Cilium 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 sepal

Cleft Having deeply divided lobes or divisions

Cleistogamous Applied to flowers or florets that are self-fertilized without opening

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

Collar The area on the outer side of a grass leaf at the junction of the blade and sheath

Colliculose Covered with small, rounded elevations or bumps

Cordate Heart-shaped, with rounded lobes and a notch at the base

Copious An abundance

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

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

Crisp, Crisped Curled or undulate

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
Distichous Conspicuously two-ranked leaves, leaflets, or flowers
Distinct Clearly evident; separate; apart

Divergent Separated or cut into distinct parts by incisions extending to near the base or midrib
Dolabriiform 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
Drop To hang downward
Drupe A fleshy fruit, indehiscent, usually with a single seed inside a stony endocarp (example: 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
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
Equilateral 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
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
Fascicate 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; thread-like
Filiform Thread-like; long and very slender
Firm Resisting distortion when pressure is applied
Flattened Having the major surfaces essentially parallel and distinctly greater than the minor surfaces
Fleshy Pulpful; 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)
Flioriferous Flower-bearing
Floss A tuft of hairs; coma
Foliage Plant material that is mainly leaves
-foliate Suffix pertaining to or consisting of leaflets (example: 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 grass-like 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
Fused United
Fusiform Shaped like a spindle; narrowed at both ends

Gastroenteritis Inflammation of the mucous membranes of the stomach and intestines
Geniculate Bent abruptly, like a knee (example: 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

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

Imbedded Surrounded by or located deeply in other tissue
Imbricate Overlapping (like shingles on a roof)
Incense An aromatic substance that burns with a pleasant odor
Incised Cut sharply, irregularly, and more or less deeply
Included Not exerted 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 bladder
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 cup-like
Involute Rolled inward from the edges, the upper surface within
**J**

Jointed Possessing nodes or articulations

Juvenile Young; immature

**K**

Keel The united lower petals of members of the bean family

**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

Lenticel A corky spot on the bark, providing passage for gas exchange

Lenticular Lens-shaped

Lesion Damaged tissue; a wound

Ligule In the sunflower family, the head that have a strap-like corolla (ray flowers) on the disk; flowers of the head that have a strap-like 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

Maculate Blotted or mottled

Malodorous Having an unpleasant odor

Marbling Mottled or streaked with color

Margin An edge; border

Marsh An area of perpetually wet soils

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 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

Midnerve, Midrib, Midvein The central or principal vein of a leaf or bract

Minute Very small

Monoeious 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

Nerve The vascular bundles or veins of leaves, culms, or other organs

Neuter Lacking stamens and pistil

Nitrate Compounds containing NO₃; high concentrations are poisonous to animals

Nodding Inclined somewhat from the vertical
droping

Node Points along the stem where leaves are borne; a joint of attachment along a stem or inflorescence axis

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

Ob- A prefix meaning inversely

Obcordate Inversely cordate or heart-shaped with the attachment at the narrow end

Obclavate 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 toward 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 prefix denoting a number not evenly divisible by two

Odoriferous Producing an unpleasant odor

Opaque Impenetrable by light; dull, without luster

Ovary The cavity of an ovary, fruit, or anther

Oval-shaped or rounded

Ovoid High rounded; egg-shaped

Oval-ended

Ovate To the shape of an ovum

Oval-shaped

Ovular Having ovaries or ovules

Oxidized Containing oxygen


delicate...
Opposite Growing in pairs on either side of a stem
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 toward 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
Paniculate Borne in a panicle
Papery Having the texture of writing paper
Papillose Bearing small, pimple-like 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; comb-like
Pedicel The stalk of a spikelet or single flower in an inflorescence
Pedicellate, Pedicelled Having a pedicel; borne on a pedicel
Pendulous, Pendant Suspended or hanging downward; drooping
Peduncle Stalk of a solitary flower or inflorescence
Pennmican A concentrated food consisting of pulverized, dried, lean meat mixed with fat and occasionally dried fruit or molasses

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 Petal-like
Petiolate With a petiole
Petiolate 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
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 Feather-like; having long, fine hairs
Plump Full in form; well rounded
Pollen Microscopic grains produced by the anthers 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 grass-like plants
Prickly Small spine-like structure produced from the epidermis or bark
Prismatic Shaped like a prism; angular with flat sides
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
Pubescent 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 Raceme-like
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,
grass-like 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, notched at the base
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
Retrorse Pointing backward or downward toward the base
Reticulate In the form of a network; netted as many leaf veins of forbs and woody plants
Refuse With a slight notch at a rounded tip
Revolute Rolled under along the margin toward the undersurface
Rhizomatic 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; soap-like
**Saponin** Any of various glucosides found in plants and marked by the property of producing soapy lather
**Scabrous** Having bristles or bristle-like
**Scabrous** Having bristles or bristle-like
**Scar** A mark on the stem where a leaf, bud, flower, or fruit was formerly attached
**Scarification** The process of breaking, scratching, or puncturing the seed coat to allow water and gases to penetrate to improve or speed germination
**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)
**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 bristle-like
**Setose** Covered with bristles
**Sheath** The lower part of a leaf that encloses the stem
**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
**Silicic** 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 Spike-like
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 Having spines
Spinulose Having small spines
Spur Any slender, tubular, hollow projection of a flower (example: larkspur)
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 thus is 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 leaf-like, 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
Stratification Process of treating seeds imbibed with water to cool temperatures (35 to 50°F) for a period of a few weeks to break seed dormancy; naturally occurring cold treatment over winter which breaks seed dormancy
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 lowland region saturated with water and sometimes covered with water; wetter than a swale
Symmetrical All sides of the organ or structure are balanced and alike
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
Thress 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 cymosey 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
Transection Semicircular or crescentic
Trailing Dangling, such as a leaf or branch
Truss A cluster of flowers
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 (example: a potato)
Tuberous Having thick, fleshy stems
Tuberculate Furnished with small projections
Tubercule A small projection from the surface of an organ or structure
Tubercule 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

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
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, dehiscing by the breakdown of the thin wall

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

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 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
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index

A

Achillea lanulosa...................... 22
Achillea millefolium................. 5, 6, 22
alfalfa, wild.......................... 78
alkali milkvetch...................... 39
Ambrosia articisiliifolia........... 96
Ambrosia psilostachya.............. 23
Ambrosia trifida...................... 96
American deervetch................ 108
licorice................................ 54
Amorpha canescens.................. 146
Amorpha fruticosa.................... 147
amorpha, streambank................ 147
annual, buckwheat................... 104
eriogonum............................... 104
feabane................................ 104
pricklypoppy........................ 97
ragweed................................ 96
sunflower.............................. 106
Antennaria neglecta................ 24
Apocynum cannabinum.............. 25
Argemone polyanthemos............ 97
Arkansas rose........................ 156
Artemisia dracunculus............. 26
filifolia................................ 148
fragilis................................ 148
ludoviciana........................... 27
artichoke, Jerusalem............... 57
Asclepias incarnata................. 28
Asclepias pumila..................... 29
Asclepias speciosa.................. 30
Asclepias syriaca.................... 30, 31
Asclepias verticillata............. 32
Asclepias viridiflora.............. 33
Aster ericoides....................... 33
aster, heath......................... 33
white................................ 33
Astragalus bisulcatus.............. 34
Astragalus canadensis.............. 35
Astragalus crassicarpus............ 36
Astragalus missouriensis.......... 37
Astragalus mollissimus............. 38
Astragalus racemosus.............. 39
beardtongue, large................. 74
largeflower........................... 74
narrow................................. 73
white................................ 72
bee spiderflower.................... 99
beebalm................................ 67
beeblossom, scarlet................. 53
beepalat, Rocky Mountain.......... 99
belvedere.............................. 133
bergamont, wild..................... 67
big marshelder...................... 108
bigbract verbena..................... 112
bigroot morningglory.............. 59
bigtop dalea......................... 48
black medic.......................... 135
medick................................ 135
black samson......................... 52
blazing star......................... 61
blowout penstemon.................. 74
bluestem pricklypoppy............. 97
boneset, false....................... 40
bracted spiderwort.................. 84
buckwheat, annual............... 104
wild................................ 104
buffalo bean......................... 36
bull thistle......................... 125
buddleflower, prairie............... 51
illinois................................. 51
bush morningglory.................. 59
sundrops............................... 42
bush, polecat......................... 154
bushelover, roundhead............. 60
button snakeroot..................... 61
buttons, bachelor................... 116
C
Calylophus serrulatus............. 42
camas, death......................... 87
Canada horseweed.................. 100
milkwetch............................. 35
thistle................................. 117
cannabis................................ 132
Cannabis sativa..................... 132
Carduus acanthoides.............. 124
catsfoot................................ 24
catspaw................................ 24
Ceanothus herbaceous............. 149
Centaurea biebersteinii........... 125
cyans.................................. 116
diffusa................................. 125
maculosa.............................. 125
repens................................. 116
solstitials........................... 125
stoebe................................. 125
chalkhill hymenopappus........... 91
chalk rose............................. 91
Chamaecrista fasciculata........ 98
Chenopodium album............... 132
cherry, dwarf......................... 152
sand.................................. 152
chicory................................. 116
chokecherry......................... 153
Chichorium intybus................ 116
Chrysopsis villosa.................. 58
Cicuta maculata.................... 42
Cirsium arvense..................... 117
canescens............................. 43
flodmanii............................. 44
undulatum............................ 45
vulgare................................. 125
clamy groundcherry............... 75
cleft gromwell....................... 63
Cleome serrulata............... 99
clover, Dutch......................... 120
Ladino................................. 120
Spanish................................. 108
white................................. 120
common dandelion.................. 119
evening primrose.................... 92
lamb quarters......................... 132
milkweed............................... 30, 31
mullein................................. 129
pepperweed......................... 134
pricklypear........................... 141
ragweed................................. 96

snowberry ........................................ 156
daisy fleabane .................................. 103
dalea, bigtop .................................... 48
dandelion ........................................ 119
dark camas ...................................... 87
dark camas, meadow .......................... 87
deervetch, American ......................... 108
Delphinium virens ................................ 50
Descurainia pinnata ............................. 102
Desmanthus illinoensis ......................... 51
diffuse knapweed ................................ 125
dogbane, hemp .................................. 25
dotted gayfeather .............................. 61
doweweed ........................................ 101
Dutch clover ..................................... 120
dwarf cherry ..................................... 152
milkweed .......................................... 29
sundrops ......................................... 42
eastern poisonivy ................................ 160
echinacea ......................................... 52
Echinacea angustifolia ......................... 52
Eriogonum anuus ................................ 104
Eriogonum anuum ................................ 104
Eriogonum, annual ................................ 104
Erigeron anuus .................................. 119
esula ............................................. 118
marginita ......................................... 105
evening starflower .............................. 91
eveningprimrose, common ..................... 92
fourpoint ......................................... 104
hoary .............................................. 92
plains .............................................. 42
rhombic .......................................... 93
sand ............................................... 93
serrate leaf ...................................... 42
everlasting pussytoes .......................... 24
False boneset ................................... 40
goldenaster ....................................... 58
indigo ............................................. 147
falsemallow, red .............................. 82
feverroot ......................................... 42
field pussytoes ................................. 24
thistle ........................................... 117
fireweed .......................................... 133
fireweed, Mexican .............................. 133
fleabane, annual ............................... 104
daisy ............................................. 103
horseweed ....................................... 100
prairie ............................................ 103
rough .............................................. 103
flodman thistle ................................ 43
four-o’clock, heartleaf ......................... 66
narrowleaf ....................................... 67
wild ................................................ 66
fourpoint eveningprimrose .................... 93
fragile pricklypear ............................ 140
fragrant sumac .................................. 154
fringed pucoon .................................. 63
sagebrush ........................................ 148
sagewort ......................................... 148
fuzzybean, stickseed ........................... 111
G
Gaura cocinea .................................. 53
gaura, scarlet .................................... 53
gayfeather, dotted ................................ 61
giant goldenrod ................................. 82
ragweed .......................................... 96
sumpweed ....................................... 108
globemallow, scarlet ......................... 82
Glycyrrhiza glabra ................................ 55
lepidota .......................................... 54
goatsbeard, yellow .............................. 128
goatweed ......................................... 101
goldaster .......................................... 58
goldaster, hairy .................................. 58
golden dalea ...................................... 46
prairie clover .................................... 46
goldenaster, false .............................. 58
goldenaster, giant ............................... 82
late ................................................. 82
mossouri .......................................... 81
prairie ............................................. 81
rigid ............................................... 68
stiff ............................................... 68
goosefoot, lambsquarters ..................... 132
gray sagewort ................................... 27
thistle ............................................ 45
Great Plains yucca ............................. 160
green milkweed ................................. 33
green milkweed, greenflower ............... 134
sagewort ......................................... 26
greencomet milkweed ......................... 33
greenflower pepperweed ...................... 134
greenthread, rayless ........................... 83
slender ............................................ 83
Grindelia squarrosa ............................ 90
gromwell .......................................... 62
gromwell, cleft .................................. 63
narrowleaf ....................................... 63
ground plum ...................................... 36
groundcherry, clammy ......................... 75
lanceleaf ......................................... 76
virginia ............................................ 76
groundplum milkvetch ......................... 36
groundsel, prairie ............................... 80
riddell ............................................ 80
gunweed, curlycup .............................. 90
curlytop .......................................... 90
Gutierrezia sarothrae ......................... 150
H
hairy goldaster ................................ 58
prairieclover ................................ 50
vetch ......................................... 137
halfshrub sundrops ......................... 42
Haplopappus spinulosus ........................ 66
hat, Mexican .................................. 79
heartleaf four-o’clock ....................... 66
heath aster .................................... 33
heathaster, white ............................. 33
Helianthus annuus ......................... 106, 107
grosservatus ................................ 55
paciflorus ..................................... 56
petiolaris ...................................... 107
rigidus .......................................... 56
tuberosus ....................................... 57
hemlock .......................................... 126
hemlock, poison .............................. 126
spotted ......................................... 42
water ........................................... 42
hemp ........................................... 132
hemp dogbane ................................ 25
Heterotheca villosa .......................... 58
hoary eveningprimrose ...................... 92
vervain .......................................... 85
vetchling ....................................... 60
hopmedic ....................................... 135
horse mint ...................................... 67
horseweed ...................................... 96, 100, 108
horseweed, Canada ......................... 100
horseweed, fleabane ......................... 100
Hymenopappus tenuifolius .................. 91
hymenopappus, chalkhill ................... 91
slimleaf ......................................... 91
woollywhite ................................... 91

K
kochia ........................................... 133
Kochia scoparia ................................ 133
knapweed, diffuse ......................... 125
Russian ......................................... 116
spotted ......................................... 125
Kuhnia eupatorioides ....................... 40

L
lacy tansyaster ............................... 66
Ladino clover .................................. 120
lambert crazyweed ......................... 69
locoweed ........................................ 69
lambquarters .................................. 132
lambquarters, common ....................... 132
lambquarters goosefoot ..................... 132
lanceleaf groundcherry ................... 76
large beardless ................................ 74
largeflower beardless ...................... 74
penstemon ...................................... 74
larkspur, plains ................................ 50
prairie ........................................... 50
lake goldenrod ................................ 82
Lathyrus latifolius ......................... 60
polymorphus .................................. 60
leadplant ........................................ 146
leafy spurge .................................... 118
lemon scurfpea ............................... 77
Lepidium densiflorum ..................... 134
Lespedeza capitata ......................... 60
lespedeza, roundhead ....................... 60
Liatris punctata ................................ 61
licorice, American ......................... 54
wild ............................................... 54
lily, sand ....................................... 91
Lithospermum caroliniense ............... 62
incisum .......................................... 63
little breadroot .............................. 72
little pricklypear ............................ 140
loco .............................................. 69
loco, stemless .................................. 69
locoweed, Lambert ......................... 69
twogrooved .................................... 34
whitepoint ...................................... 69
woolly .......................................... 38
longbract spiderwort ....................... 84
Lotus americus ................................ 108
purshianus .................................... 108
unifoliatus .................................... 108
Louisiana wormwood ...................... 27
low lupine ....................................... 109
milkweed ....................................... 29

M
Machaeranthera pinnatifida ................ 66
Mamillaria vivipara ......................... 140
manypotted scurfpea ....................... 79
manysystem pea .............................. 60
marijuana ..................................... 132
marestail ..................................... 100
marshelder .................................... 108
marshelder, big .............................. 108
meadow deathcamas ........................ 87
medic, black ................................... 135
medick, black .................................. 135
Medicago lupulina ........................... 135
Melilotus alba .................................. 128
 officinalis ..................................... 127
Mentzelia decapetala ........................ 91
nuda ............................................. 92
mentzelia, bractless ......................... 92
tenpetal ....................................... 91
Mexican fireweed ............................ 133
hat ............................................... 79
milfoil .......................................... 22
milkvetch, alkali .............................. 39
Canada .......................................... 35
cream ............................................ 39
groundplum .................................... 36
Missouri ......................................... 37
twogrooved .................................... 34
woolly .......................................... 38
milkweed, common ......................... 30, 31
dwarf ........................................... 29
green ............................................ 33
greencomet .................................... 33
low ............................................... 29
plains ........................................... 30
showy .......................................... 30
swamp .......................................... 28
whorled ........................................ 32
mint, horse ..................................... 67
Mirabilis linearis ............................ 67
nyctoginea ..................................... 66
Missouri goldenrod ......................... 81
milkvetch ....................................... 37
pincushion ..................................... 140

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tenpetal mentzelia ..................................... 91
stickleaf ........................................... 91
Texas croton ........................................ 101
Thlesperma megapotamicum ................... 83
thistle, bull .......................................... 125
Canada .............................................. 117
common ............................................. 125
creeping ............................................ 117
creed ................................................. 117
flodman ............................................. 43
gray .................................................. 45
musk ............................................... 124
nodding ............................................. 124
Platte ................................................. 43
plumeless .......................................... 124
prairie ............................................... 43
Russian ............................................. 136
spear ............................................... 125
wavy leaf .......................................... 45
Toxicodendron pubescens ...................... 160
radicans ............................................. 159
Tradescantia bracteata ......................... 84
occidentalis ....................................... 85
Tragopogon dubius ............................... 128
trefoil, Prairie ..................................... 108
yellow ............................................... 135
Trifolium repens .................................. 120
tumbleweed ........................................ 136
tumbling mustard ................................ 136
turnip, Indian ..................................... 71
prairie ............................................... 71
turpentine weed ................................. 150
twistspine prickly pear ......................... 141
twegrooved locoweed ......................... 34
milkvetch .......................................... 34
poisonvetch ........................................ 34

U
umbrella plant ..................................... 104
upright prairieconeflower .................... 79

V
Verbascum thapsus ................................. 129
Verbena bracteata ............................... 112
stricta ............................................. 85
verbena, Bigbract .................................. 112
Woolly .............................................. 85
Vernonia baldwinii ............................... 86
fasciculata ........................................ 87
vervain, bracted ................................. 112
carpet .............................................. 112
hoary ............................................... 85
prostrate ........................................... 112
tall .................................................. 85
vetch, hairy ....................................... 137
winter .............................................. 137
vetchling, hoary .................................. 60
Vicia villosa ......................................... 137
violet prairieclover ............................. 49
Virginia groundcherry ....................... 76

W
water hemlock .................................... 42
waterhemlock, common ....................... 42
spotted ............................................ 42
wavy leaf thistle .................................. 45
western ironweed ............................... 86
poisonivy .......................................... 159
ragweed .......................................... 23
salsify ............................................ 128
sandcherry ....................................... 152
snowberry ........................................ 157
tansyaster ........................................ 102
tansymustard ..................................... 102
yarrow ............................................ 22
white aster ........................................ 33
beardtongue ...................................... 72
clover ............................................. 120
coralberry ........................................ 156
heathaster ......................................... 33
penstemon ........................................ 72
prairieclover ..................................... 47
sagebrush ........................................ 27
sweetclover ...................................... 128
whitepoint locoweed ......................... 69
whorled milkweed ............................... 32
wild alfalfa ....................................... 78
bergamot .......................................... 67
buckwheat ........................................ 104
four-o’clock ...................................... 66
licorice .......................................... 54
plum .............................................. 151
rose ............................................... 156

Y
yarrow, common .................................. 22
western ............................................. 22
woolly ............................................. 22
yellow goatsbeard ............................... 128
salsify ............................................ 128
sweetclover ...................................... 127
trefoil ............................................ 135
yucca .............................................. 160
Yucca glauca ...................................... 160
yucca, Great Plains ......................... 160

Z
Zigadenus venenosus ............................. 87
sunflower ........................................ 106
wildbean, small ......................... 111
smoothseed ....................................... 111
wildrose, prairie ............................... 156
winter vetch ..................................... 137
wolfberry ......................................... 157
woolly indianwheat ......................... 110
locoweed ......................................... 38
milkvetch ........................................ 38
plantain .......................................... 110
verbena .......................................... 85
yarrow ............................................ 22
woollywhite hymenopappus ................ 91
wormwood ........................................ 148
wormwood, Louisiana ....................... 27
mugwort .......................................... 27
silky ............................................... 26
silvery ............................................ 148
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