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Prairie Primer

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Acknowledgments

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Introduction

Prairie refers to a unique ecological system. As with all ecosystems, the parts—climate, plants, animals—are interrelated and constantly changing. Prairie is characterized by a plant cover of grasses and wildflowers, rather than trees or shrubs. Prairie animals have specially adapted to thrive on "grasslands" rather than in forests or wetlands.

"Prairie" is the French word for meadow. The early French explorers had no other word to describe the open, grass-covered, treeless landscape they found in middle North America. Neither did the English settlers; they adopted the name prairie.

Each year, prairies converted the sun's energy into a wild forage crop sufficient to feed, over their original expanse, 30 million bison—from 40-pound calves to 2,000-pound bulls. The prairie supported a wide variety of animal life and soil fertility gradually built up.

The prairie has largely disappeared from the Middle West, but there is a strong and growing interest in preserving and restoring it, and in enjoying the aesthetic and economic values the prairie affords us.

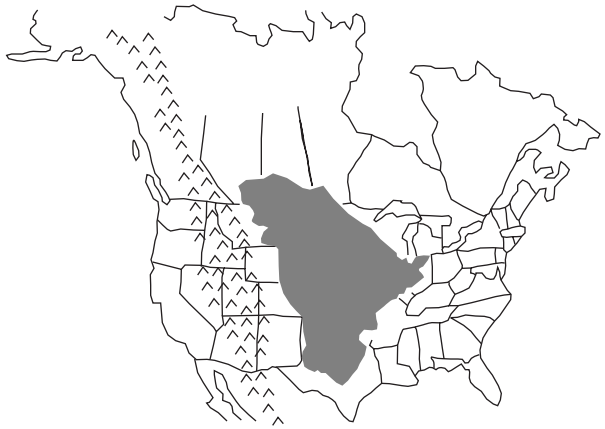
The prairie begins...

The Rocky Mountains rose 80–100 million years ago, and the sea which covered central North America retreated. The mountains significantly altered the climate, and the complex environment characteristic of the prairie was formed. Although little is known about their evolution (because herbaceous plants are difficult to trace through fossil records), prairie plants seem to have evolved in this special climate from surrounding vegetation.

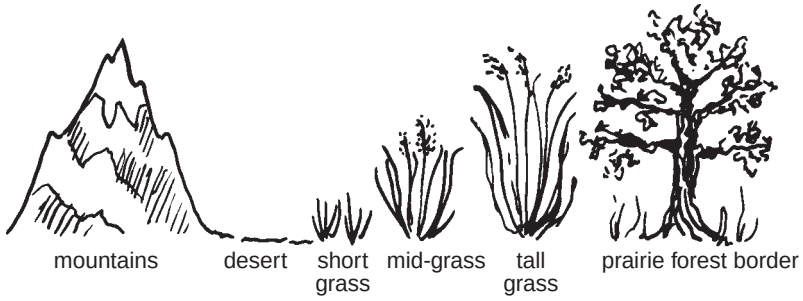
A land bridge formed between North America and Asia about 35,000 years ago when the sea level fell 300 feet. Forerunners of the camel and horse migrated from America, but elephants, bison, bear, deer and humans migrated to the continent. The prehistoric Native Americans, living on the prairie, were farmers and gatherers. They depended on produce from garden plots or gathered from the wild for their livelihood. Our written history records the more recent plains Indians as hunters. But many of them were eastern forest tribes driven onto the prairie by European settlement.

The North American prairie. . .

It occupies that part of our continent between the forest and the desert, between rain and drought. It was once continuous from Indiana to the Rockies, in lands where corn and cows have taken its place.



and its vegetation



And almost ends

Richard Nelson, in an unpublished paper, writes:

> There was a day when the wind blew free and strong off the Gulf of Mexico and onto the prairies. These vast grasslands offered no trees or mountains to stop the breeze and it blew from what is now Texas northward for 2,000 miles to the Arctic forests of Alberta. The wind whipped the mighty land of grass into undulating oceans of green. It blew dust into the eyes of a million buffalo and grizzled the hair of the antelope. It whistled and whirled through a thousand prairie dog towns and rocked meadowlarks on their slender perches. From the lands of the Blackfoot, Hidatsa and Pawnee to the domain of the Cheyenne, Kiowa and Comanche, the wind blew and the sun shone above. This was the prairie.
>
> Then the ocean breezes carried Europeans to this new land. A million square miles of grassland became a million square miles of checkerboard grain fields and grazing lands. The wind erased the last trace of the wandering buffalo and the native Indian who followed it relentlessly. Today, the fences of zoos confine the former denizens of the grassland, and paved highways pass through the sterile lands of Indian reservations. The plants of the prairie today can be seen only in forgotten corners of grain fields, along unused roadsides, or in a tiny tract of a university arboretum. What the prairie farmer could not plow he used for his cattle, which ate the tender stalks of the tall grass and allowed it to be replaced by weeds and dust. The wind still blows free, but it finds a different land today. The prairies are gone…

The vast Midwestern grassland is gone, but the prairie is neither lost nor forgotten.

The most rapid changes in the prairie have come in the last 200 years. Native grasses have been replaced by corn; bison, deer and other grazers have given way to cattle; Native Americans have been replaced by European immigrants.

An extreme climate

The prairie climate is influenced by the rain shadow of the Rockies. The prairie is a land of extreme variability—warm, dry summers and cold, dry winters. Rainfall varies from 40 inches per year on the eastern border to 10 inches per year on the western edge of the prairie. Temperatures may hit summer highs of more than 110° F, and winter lows of -40° F. Temperature can rise or drop as much as 60° F in only a few hours with a chinook wind in spring or an advancing cold front in winter. And in places the wind blows almost constantly.

Over time, prairie plants have survived climatic changes, fire and drought, and today's plants have adapted to harsh conditions.

Fire preserves the prairie

Prairie fires were caused naturally by lightning, or started by Indians to drive game, kill unwanted insects, make better pastures and make travel easier.

The prairie wildfire must have been a magnificent spectacle—beautiful but threatening. Alfred Brunson, a Methodist circuit rider, writing in 1835, described it this way:

> The last twelve miles we traveled after sundown and by firelight over Prairie, it being on fire. This was the grandest scene I ever saw, the wind blew a gale all day, the grass was dry…. In high grass, it sometimes burns 30 feet high, if driven by fierce winds. By light of this fire, we could read fine print for ½ a mile or more.[1]

Prairie fires are very intense. They can heat surface soils to temperatures hotter than 400° F in a minute or two. But the soil is a good insulator and the fires travel quickly. At depths of as little as ½ inch, the soil temperature may be unaltered.

In 1861, Nicholas A. Woods wrote that to escape fires on large prairies one had to "ride madly before the wind" ten miles ahead of the flames while lighting small fires. In that way, the rider could stay on the scorched path and escape the flames. This course of action was impossible if the fire occurred in June when the grass was tallest because the path would be too hot for a horse to step down on. In such cases, the only thing to do was "to stay and disembowel the horse, and literally creep into the cavity till the flames have passed…. There are instances of this resource having sometimes saved the lives of Indians and hunters…"[2]

Prairie plants have lived with fire a long time. They store their food and growing buds underground, ready to go back to work once the fire passes. Plant growth is enhanced by recycling of nutrients, quicker warming of black soils, and removal of dead material by fire. Fires also maintain the prairie in many areas, keeping the invading forest at bay.

[1]Angle, Paul. *Prairie State: Impressions of Illinois*, 1673-1967 by Travelers and Other Observers, p. 162, University of Chicago Press, Chicago, Illinois, 1968

[2]Woods, Nicholas. *The Prince of Wales In Canada and the U.S.*, pp. 301–302, 1861.

Distinctive animal life

Animals make up the portion of the prairie ecosystem which uses, either directly or secondarily, the tremendous supply of plant material produced on the prairie.

The giant of the prairie beasts is the bison or buffalo. An estimated 30 million of these animals occupied the original grassland. These large grasseaters were relatively low on the food chain. They were pursued by wolves, and when they died their bones were picked clean by coyotes, foxes, magpies and insects. Bison, elk and deer fed on the grasslands of Wisconsin. Mountain sheep were common to the plains farther west. With the settlement of prairies, all were pushed into remote areas.

The courser of the plains is the pronghorn or antelope, a creature distinctive to North America. Keen eyesight and great speed aid its survival in open terrain.

A number of animals live under the prairie, rather than on top of it. The best known of these is the prairie dog. Others include the badger, the thirteen-lined ground squirrel and a wide variety of rodents. Snakes and reptiles seek shelter and food in rodent holes. The black-footed ferret, perhaps the rarest prairie mammal, is a predator adapted to seeking out animals in these burrows.

Among the most conspicuous birds of the grassland are those which hunt for a living. Eagles, hawks, owls and other feathered predators take advantage of the open skies to capture prey.

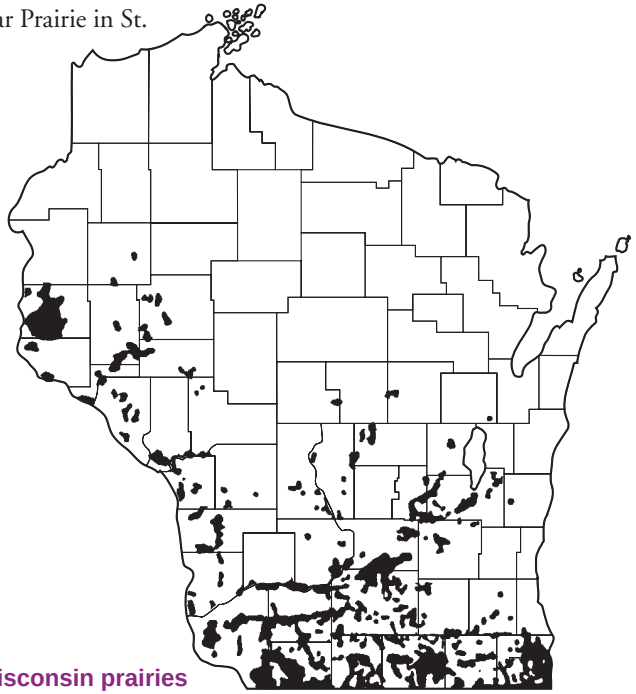
The prairie offers a north-south corridor for many migratory species. It is a relatively safe corridor, with no great expanses of desert or open water to cross. The prairie chicken, dickcissel and bobolink, among others, are distinctive birds becoming rare as the prairie shrinks.

In sheer number, insects are the most important "animals" in the grasslands. More insect species are found in the prairie than in any other ecosystem. Some aid flower pollination; others, such as grasshoppers, are the primary herbivores. Grasshoppers form the base of many food chains, but they can also be a scourge of agricultural crops as in the great locust plagues from 1874 to 1877.

Each species prefers a different diet, providing myriad food chain relationships among the diverse prairie plants and animals.

Wisconsin prairies

Wisconsin lies on the northeastern boundary of the "Great American Grassland." The prairies of Wisconsin include some of the most interesting and least known of our native landscapes. Wisconsin prairies are located within a triangle cornered by Racine County on the east, Grant County on the west, and Polk County on the north. They once occupied the greatest area in the southwestern corner of the state. Many of the larger and more important prairies received distinctive names: Rock Prairie in Rock County, Arlington Prairie in Dane County and Star Prairie in St. Croix County.

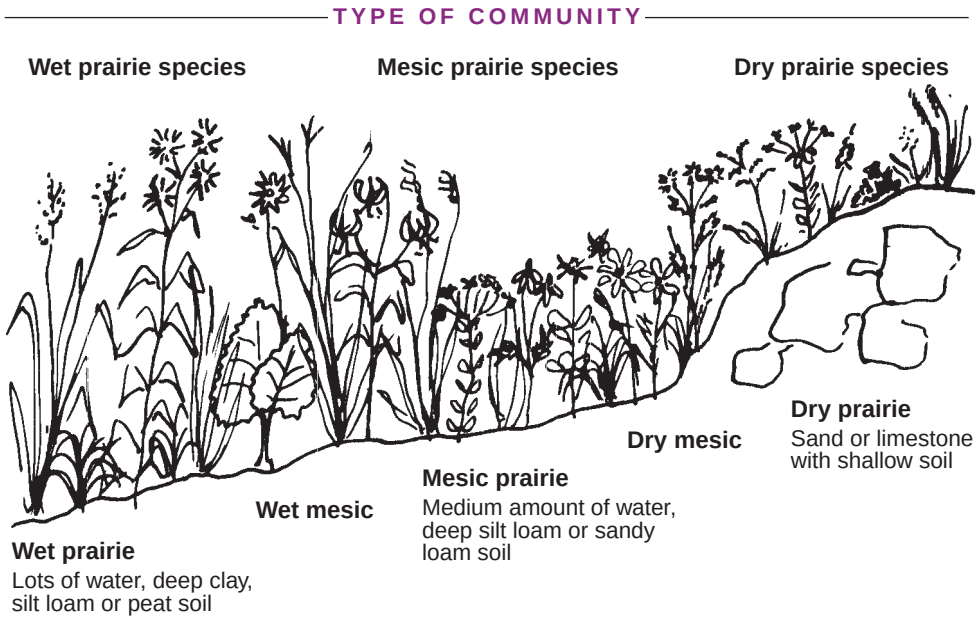


Original Wisconsin prairies

Prairie variations

The prairie is divided into five types; wet, wet mesic, mesic, dry mesic, and dry, depending on the type of soil and amount of moisture. There is no sharp distinction between the types; one blends imperceptibly into the next. On moist soils, the prairie becomes marshland, dominated by sedges rather than grasses. Prairie frequently grades into oak forest through a transition zone, the oak savanna.

Each plant species has individual preferences for soil type, moisture and a variety of other factors. As habitats differ in the prairie, so do plant species. One must use care, however, when reading the prairie landscape. Some plants are particular about where they live and make good indicators of the type of prairie. Others are tolerant of a wide range of conditions.



(Illustration from: *Guide to Arboretum Prairies*)

A parade of plants

"…In early stages of its growth, the grass is interspersed with little flowers, the violet, the strawberry blossom and others of the most delicate structure. When the grass grows higher, these disappear, and taller flowers displaying more lively colors, take their place; and still later, a series of still higher but less delicately formed flowers appear on the surface." (Captain Basil Hall, 1827)[3]

Prairie grasses and plants parade their floral colors across the landscape from the first prairie willow of April to the last bottle gentian in late September. They march quickly. About 17 new species come into flower each week, bloom for a short time, and move on to seed production. This rapid succession reduces competition and gives each plant its time and place in the sun. It also keeps pollinators busy all season by allowing insects to have a continuous diet—without periods of overwork or starvation.

(Illustration from: *Guide to Arboretum Prairies*)

Grass is short. Early blooming plants don't have to be very high to get sunlight.

Grass is much taller. Most blooming plants are as tall as the grass. Spring bloomers are dying down to rest until next year. It is very shady under the dense tall grass, so very few seedlings survive.

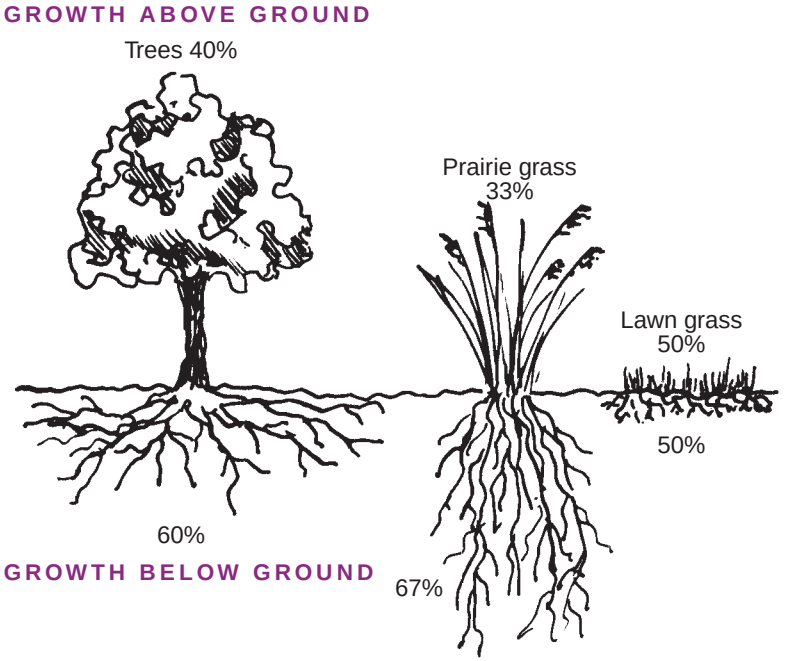
Many blooming plants are quite tall—up to 10 feet.

[3]Captain Basil Hall 1827-28 from Hunter, Joan "Prairie Splendors," The Living Museum, Vol. XXX, No. 1, Springfield, Illinois.

How the prairie plant survives

Molded by fire, extremes of heat and cold, wind and very dry conditions, prairie plants have evolved into specialized organisms—organisms adapted to conserving water and surviving fire. How do they do it?

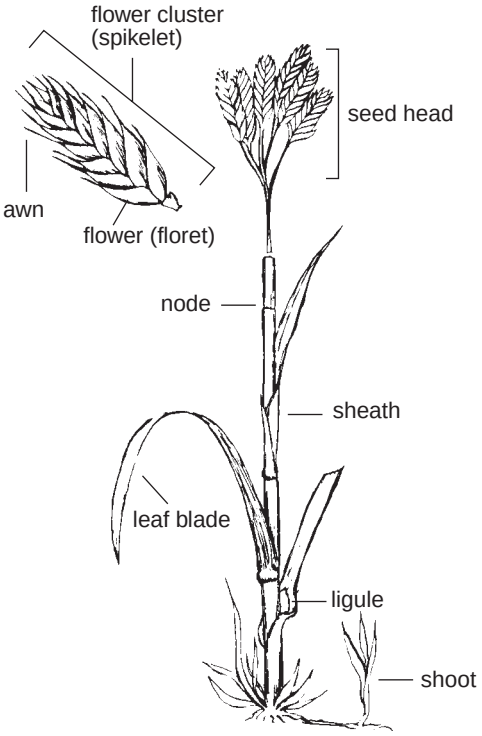
1. Prairie plants put two-thirds of their growth underground. Long roots reach deep into the soil for moisture; food reserves are protected from above-ground extremes (see figure below).
2. Prairie plants keep exposure of above-ground parts to a minimum. They have leaves that are finely divided, slender, vertical, or that can be curled or rolled; or they have fuzzy hairs on stems or leaves and sticky plant juices to prevent water loss.
3. Most prairie plants are perennials—staking out and holding their territory from year to year.
4. Some plants avoid survival problems by completing their entire life cycle in a few moderate weeks of spring. A few form hard seed covers to protect seeds until conditions are proper for germination.
5. Pollination takes advantage of the constant wind and the abundant insect life found on the prairie.
6. Fire may wither the leaves and stems and remove the previous year's growth, but large root systems and underground buds allow prairie plants to spring back to life immediately.



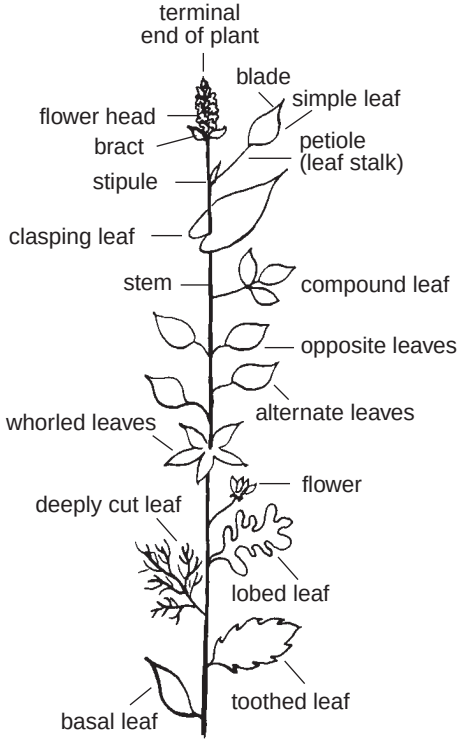
Reading the prairie landscape

To "read" the prairie you have to know some of the characteristic plants. The more than 50 prairie species illustrated in the following section provide a basic "vocabulary" for the beginner. Some plants are grasses, some are shrubs, and some are forbs (wildflowers). Some of the species are general prairie plants found in a variety of prairie types. Others are more specific, showing distinct preferences for limited conditions. They vary in size, color and flowering period. To help you understand the terminology used in the plant descriptions, the diagrams on these two pages show parts of grasses and other plants.

Grasses



Other plants



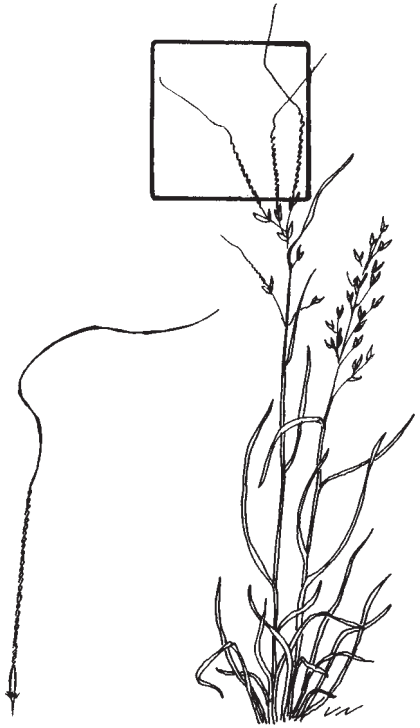
Grasses

The plant illustrations are first divided into two groups: grasses and other plants. The other plants are further grouped by flower color, so that all the plants with blue-red-purple flowers are pictured first; then the plants with yellow-orange flowers; and finally the plants with white-pink-cream flowers. They are also arranged in approximate chronologic order depending on their flowering date, so that, for example, blue-flowered plants blooming in the spring are pictured before blue-flowered plants blooming in the summer.

Grasses

Native prairie grasses generally grow in clumps. Warm season grasses have good fall coloration which remains noticeable throughout the winter. Illustrations show the entire plant except as noted.

Needlegrass *(Stipa spartea)*. 2'–4' tall. The 4"–6" long awns (detail) are tough and spirally twisted when mature. Dry prairies. ➔



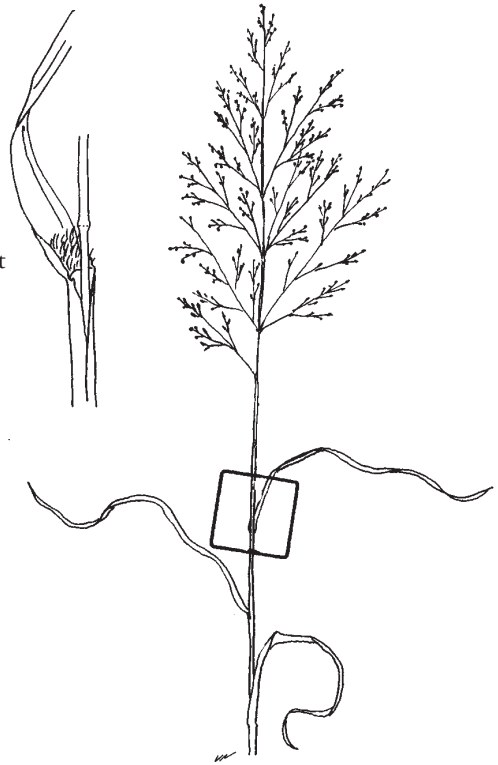
← **Sideoats grama** *(Bouteloua curtipendula)*. 1'–3' tall. Small (¼") "oatlike" seeds uniformly line one side of the stem. The leaf blades have hairs and bumps along their edges and the lower leaves curl and turn white when dry. Dry prairies.

← **Junegrass** *(Koeleria pyramidata)*. 1'-2' tall. The leaf blades are narrow and the slender stems grow in close tufts. The seed head is shiny and spike-like, 1"–3" long and ¼"–½" thick (detail). Dry prairie, often in limey areas.

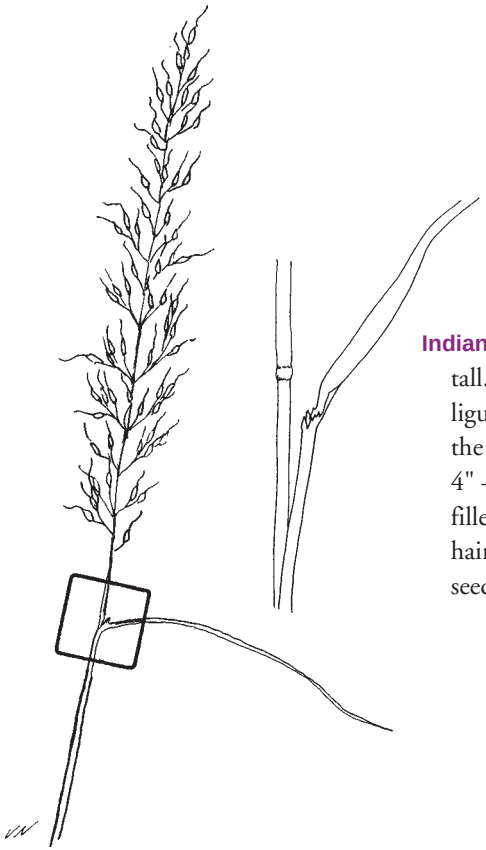
Little bluestem *(Schizachyrium scoparium)*. 2'–4' tall. The bottom shoots are bluish colored and the leaf blades tend to fold. The mature plants are copper colored in the fall. The flowers are feathery and covered with short, white hairs. Dry-moist prairies. (Shown: seed head only—top 8" of plant) ➔

Switchgrass *(Panicum virgatum)*. 3'–6' tall. There is a prominent nest of hairs where the leaf blade attaches to the sheath (inset). The seed head is 5"–10" tall, and basically pyramidal in form. Dry-moist prairies. (Shown: top half of the plant) ➔

Prairie dropseed *(Sporobolus heterolepsis)*. 2'–3' tall. The plant is erect with very long, narrow leaf blades. Dry-moist prairies. ↓



Big bluestem *(Andropogon gerardii)*. 3'–8' tall. The seed head branches into three parts, resembling a turkey's foot. Young shoots are somewhat flattened at the base and the lower leaves are covered with a silky hair. The lower leaves curl when dry and the mature plants have a reddish cast in the fall. Dry-moist prairies. (Shown: top third of plant) ➔



Indiangrass *(Sorghastrum nutans)*. 4'–8' tall. There is a prominent claw-like ligule where the leaf blade attaches to the stem (detail). The seed head is 4" –8" tall and the flower clusters are filled with short, soft, golden-brown hairs. Dry-moist prairies. (Shown: seed head only). ←

↑ **Cordgrass** (*Spartina pectinata*). 3'–6' tall. The long (3'–5'), narrow leaf blades taper to a whip-like point. The edges of the blades are rough and have short points or teeth. The flower clusters are 2"–5" long and have the flowers arranged on one side (detail). The clusters are spirally arranged on the stem. Wet-mesic prairies.

Bluejoint (*Calamagrostis canadensis*). 2'–4' tall. The plant grows in clumps. The nodes are often swollen. Wet prairies. (Shown: top half of plant). ←

Forbs and shrubs

Blue-red-purple

Downy phlox *(Phlox pilosa)*. 8"–24" tall. Blooms May to June. The flowers are pinkish-purple to white in color. The opposite leaves are stiff, narrow and sharply tapered on a slender, very hairy stem. Dry-wet prairie on moderately acid soil. ➔

Pasque flower *(Anemone patens)*. 4"–10" tall. This is one of the earliest blooming prairie plants; it flowers in March to April. The flowers are purple to white and appear before the leaves. The leaves are deeply cut into narrow lobes and are covered with long, silky hairs. Seeds have a long, feathery tail. Dry prairies. ➔

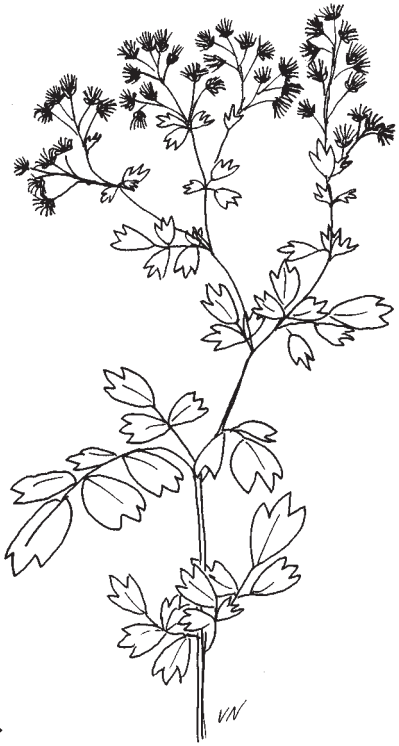
Prairie smoke *(Geum triflorum)*. 6"–16" tall. Blooms late April to May. The flowers are purplish-red to pink in color. The stems are low, soft and hairy with many deep-cut leaves. Long, feathery hairs on the seed head give the appearance of a "puff of smoke." Dry-moist prairies. ➔

Birdsfoot violet *(Viola pedata)*. 3"–6" tall. Blooms April to June. The flowers are flat, pansy-shaped and pale blue in color. The leaves are deeply cut, disappearing in summer and developing again in fall. Dry prairies. ➔

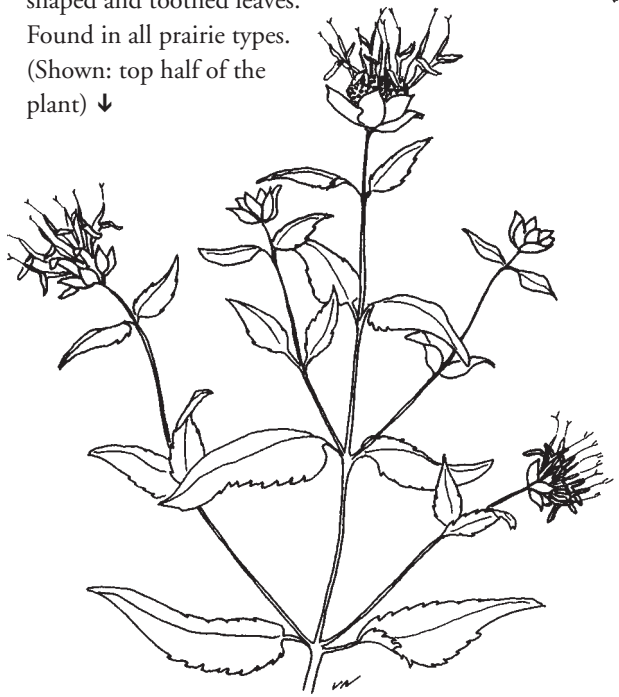
Spiderwort (*Tradescantia* species), 1'–3' tall. Blooms May to July. The flowers are conspicuously three-petaled and bluish-violet to pink in color (detail). Leaves are long and narrow, forming prominent "bumps" where they join the stem. Dry-mesic prairies. ➔

Leadplant *(Amorpha canescens)*. 18"–3' tall. Blooms June to July. The violet- to gray-colored flowers are found in dense spikes 2"long and ¼" wide. The numerous leaves are approximately ¼" long and are placed opposite each other on many small branches. Dry-mesic prairies. (Shown: branch of plant) ←

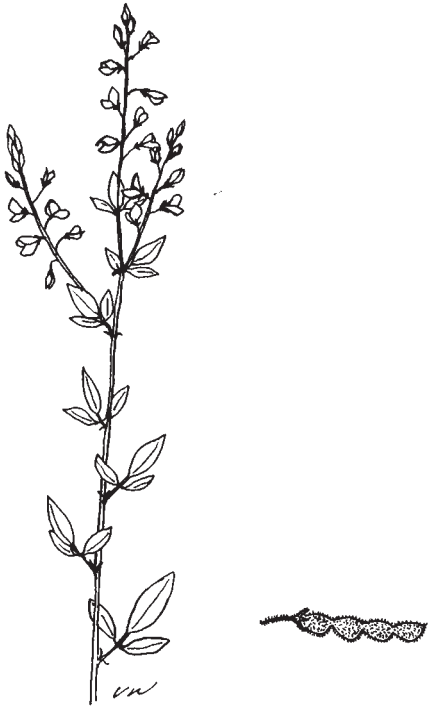
Purple meadowrue *(Thalictrum dasycarpum)*. 2'–7' tall. Blooms June to July. The flowers are purplish-brown to white in color and the stem is erect. Each leaf is composed of three, lobed leaflets, which are usually downy underneath. Wet-mesic prairies. (Shown: top third of plant.) ➔

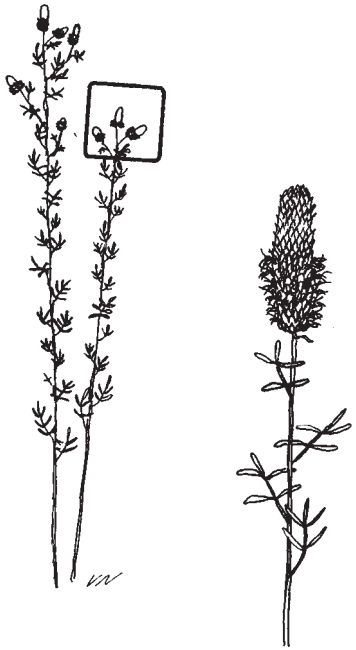


Bergamot *(Monarda fistulosa)*. 2'–3' tall. Blooms July to August. The pale lilac to pink-purple colored flowers are in a terminal cluster. Flower heads are 1"–2" across. Stems are square in cross-section with paired, lance-shaped and toothed leaves. Found in all prairie types. (Shown: top half of the plant) ↓



Purple prairie clover *(Dalea purpurea)*. 1'–3' tall. Blooms July to early August. The purple flowers form a fringe around the base of the ½" tall, conical flower heads (detail). The stems are slender and erect, with numerous, narrow, compound leaves. White prairie clover (*Dalea candida*) is very similar but has white flowers. Mesic-wet prairies. ➔





Canada tick-trefoil *(Desmodium canadense)*. 3'–6' tall. Blooms July to September. The flowers are rose-purple in color, pea-like and appear in clusters at the ends of long stems, above the rest of the plant. The plant can be bushy, and has clover-like leaves. The fruits (detail) are one of the types of "stick-tights" found on the prairie. Other prairie species of tick-trefoil are similar to this one. Wet-mesic prairies. (Shown: top half of plant) ➔

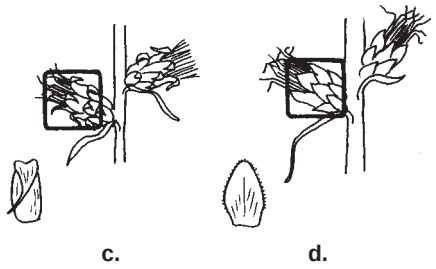
Blazingstars (*Liatris* species). ➔ All the blazingstars bloom July to September and have rosy-lilac colored heads of flowers. The flowers bloom at the top of the stalk first and at the base of the stalk last. The characteristic differences are as follows:

a. **Cylindric blazingstar** *(Liatris cylindracea)* is only 6"–18" tall with one or few heads of flowers. The bracts on the flower head are shining, sharp-pointed and flat (detail). The flower heads are attached to the stem by a short stalk. Dry prairies.

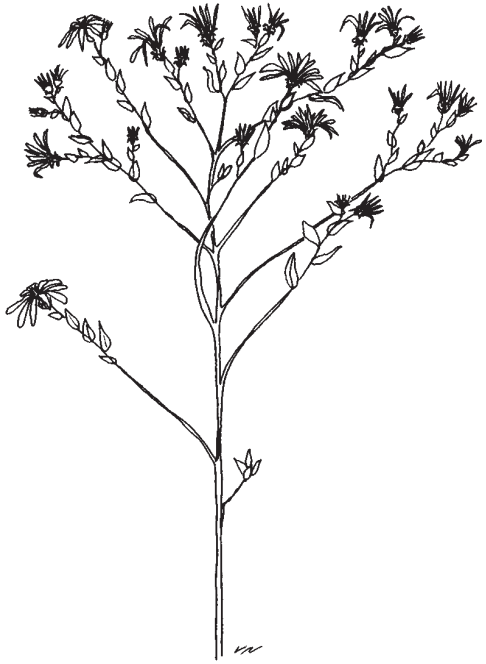
b. **Rough blazingstar** *(Liatris aspera)*. 18"-4' tall. Numerous short-stalked flower heads with cup-shaped bracts (detail) which arch slightly outward. The green bracts are pink- or white-tipped. Dry prairies.

c. **Prairie blazingstar** *(Liatris pycnostachya)*. 2'–4' tall. The flower heads are numerous, dense and attached directly to the stem (no short stalk). The bracts are long, sharply pointed and bent slightly outward (detail). Wet-dry prairies.

d. **Spike blazingstar** *(Liatris spicata)*. 18"–6' tall. The flower heads are dense and attached directly to the stem. The bracts are usually sticky, blunt-tipped and purple-edged (detail). Wet-mesic prairies; neutral to slightly acid soil.



New England aster *(Aster novae-angliae)*. 18"–8' tall. Blooms August to October. The large, violet to red-purple flowers with yellow centers (detail) make this one of the showiest asters. The plant is bushy and the flowers are often sticky underneath. The leaves are numerous and crowded. They clasp the stem and have a pleasant odor when crushed. Moist-mesic prairies. (Shown: branch of the plant) ➔



Silky aster *(Aster sericeus)*. 1'-2' tall. Blooms mid-September to early October. The plant is highly ornamental with bright reddish-purple flowers. The small leaves have silvery-white hairs on both sides and are attached to a wiry stem. Dry to mesic prairies. ➔

Smooth aster *(Aster laevis)*. 1'–3' tall. Blooms during September. The flowers are blue-violet with yellow centers. The stem is hairless. The leaves are blue-green, very smooth and somewhat thick. The basal leaves are attached to the stem with a stalk; higher leaves are attached directly to the stem (stalkless) and the uppermost leaves clasp the stem. The smooth aster grows on the majority of dry-mesic prairies. ➔

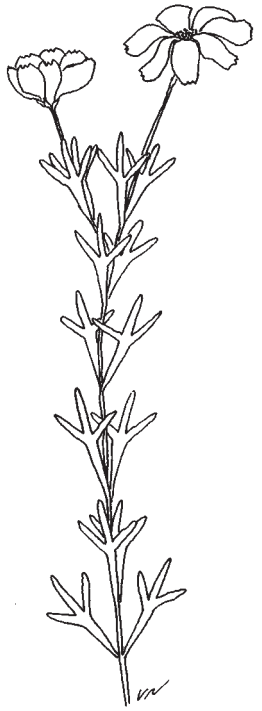
Bottle gentian *(Gentiana andrewsii)*. 6"–2' fall. Blooms August to October. The flowers are normally blue to white in color; occasionally they are totally white. The leaves are opposite and the flower petals remain closed. Wet-mesic prairies. (Shown: top two-thirds of plant) ➔

Yellow

Blackeyed susan *(Rudbeckia hirta)*. 1'–4' tall. Blooms July to August. The center of the flowering head is dark purple or brown. The "petals" (ray flowers) are orange to orange-yellow. The stems and alternate leaves are hairy. Dry-wet prairies; can survive on poor, acid soil and disturbed sites. (Shown: top half of plant) ➔

← **Puccoon** *(Lithospermum canescens)*. 8"–12" tall. Blooms mid-May to early June. The flowers are golden-yellow and tube-shaped. The plant is covered with a dense, white down. (Shown: top two-thirds of plant)

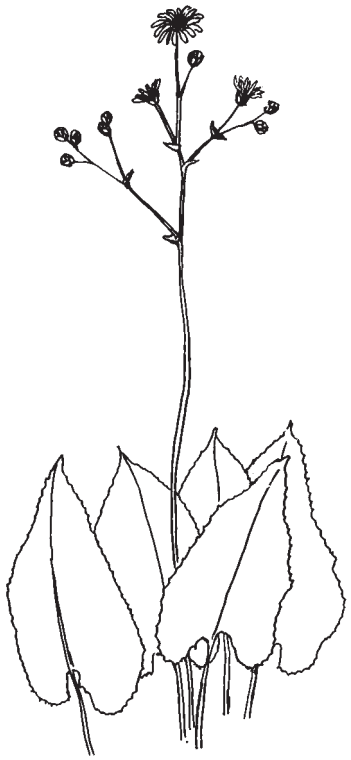
Tickseed *(Coreopsis palmata)*. 1'–2' tall. Blooms June to July. The flowers are large (2" in diameter) and yellow. The leaves are stiff, narrow and deeply cut into three sections. Mesic prairie. (Shown: top two-thirds of plant) ➔



Yellow coneflower *(Ratibida pinnata)*. 18"–5' tall. Blooms June to August. The flowering head is gray in the center with yellow "petals" (ray flowers) which droop downward, almost parallel to the stem. The alternate leaves and stem are hairy. The leaves are deeply cut into lance-shaped segments and tend to droop slightly downwards from the stem. Dry-wet prairies. (Shown: top third of plant) ←

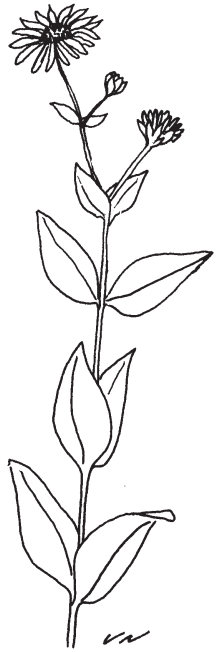
All the *Silphiums* have a very similar flower, bright yellow in color and 2"–3" in diameter. The leaves and the habitat of the plant differentiate the four species native to Wisconsin prairies.

Prairie dock *(Silphium terebinthinaceum)*. 5'–7' tall, blooms July to October. Large (12" wide, 16" high) heart- or arrowhead-shaped leaves grow in a clump at ground level. They are smooth on the front and rough on the back. The flower stalk is stout, without leaves and rises from the clump of basal leaves. Moist-dry prairies.



← **Compassplant** *(Silphium laciniatum)*. 3'–9' tall. Blooms July to September. The leaves are stiff, deeply lobed, covered with course, short hairs and grow in a clump at ground level. The flower stalk is stout, bristly, leafless and rises from the clump of basal leaves. Moist-dry prairies.

Cupplant *(Silphium perfoliatum)*. 3'–8' tall. Blooms July to October. The leaves form a characteristic "cup" with the stem passing through the center. Wet-mesic prairies. (Shown: top third of plant) →



Rosinweed *(Silphium integrifolium)*. 3'–5' tall. Blooms mid-July to late August. The leaves are rough, paired and attached directly to the stem. *Silphium* comes from the name of a plant that produces resin. Dry prairies. (Shown: top third of plant) ←

Field goldenrod *(Solidago nemoralis)*. 6"–2' tall. Blooms August to October. The flowers are yellow and the stems and leaves are covered with fine, gray hairs. There is usually a single flower stem which curves to one side and is covered on the upper side with many small flowers. Spatulate leaves are found near the ground. Dry prairies and disturbed fields. ➔

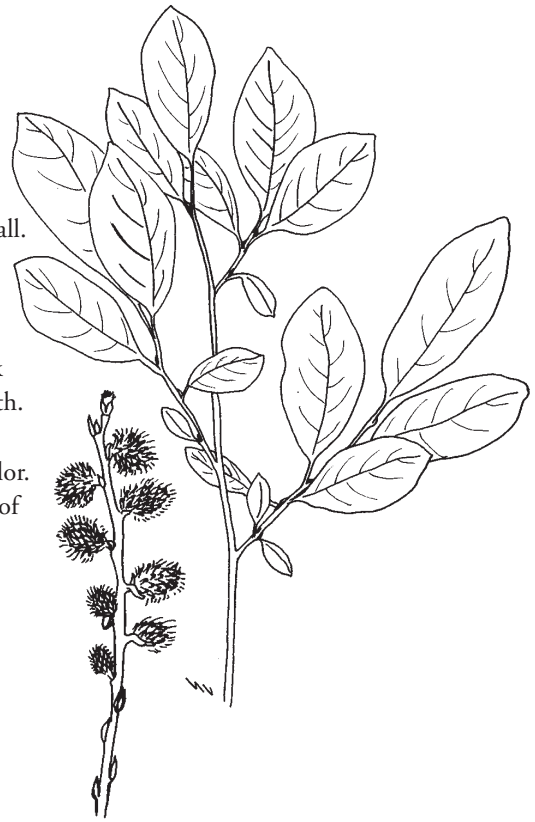
Stiff goldenrod *(Solidago rigida)*. 1'–3' tall. Blooms August to early October. The yellow blooms are large and flat to slightly dome-shaped on the top. The stems and leaves are rough and covered with dense, gray hair. The upper leaves are stiff and attached directly to the main stem. The basal leaves have long leaf stalks. Dry-mesic prairies. ➔

Showy goldenrod *(Solidago speciosa)*. 2'–6' tall. Blooms August to October. The flowers are yellow and clump densely to form erect flower spikes. The stems are reddish, stout and usually smooth. Dry-mesic prairies, often on sandy soil. ➔

Saw-tooth sunflower *(Helianthus grosseserrsatus)*. 6'–10' tall. Blooms August to October. This plant is one of the many sunflowers found on prairies. The stem is very smooth and whitish. The leaves are toothed and are opposite on the lower part of the stem; alternate above. Plants form large, thick clumps. Wet-mesic prairies; often found on disturbed ground. (Shown: top 18" of plant) ➔

White-pink-cream

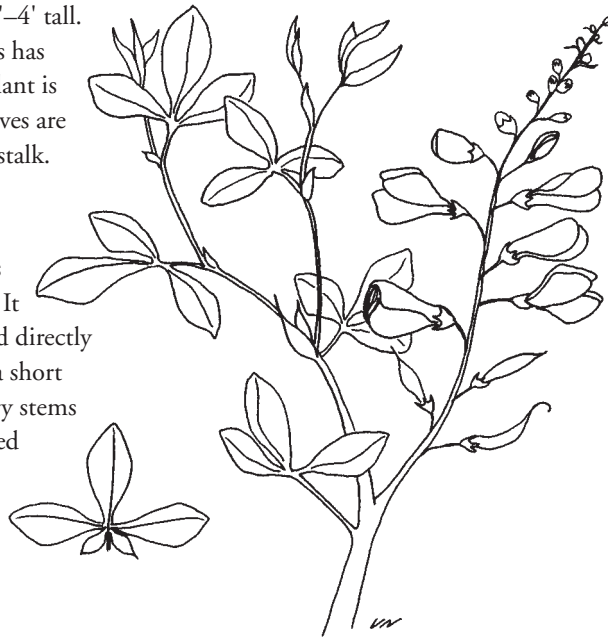
Prairie willow *(Salix humilis)*. 3'–8' tall. Blooms mid-April to early May. The flowers are white and look very similar to the common pussy willow (detail). The leaves are dark green to grey and wooly underneath. This is a woody plant with small branches yellowish to brown in color. Dry-wet prairies. (Shown: branch of plant) ➔

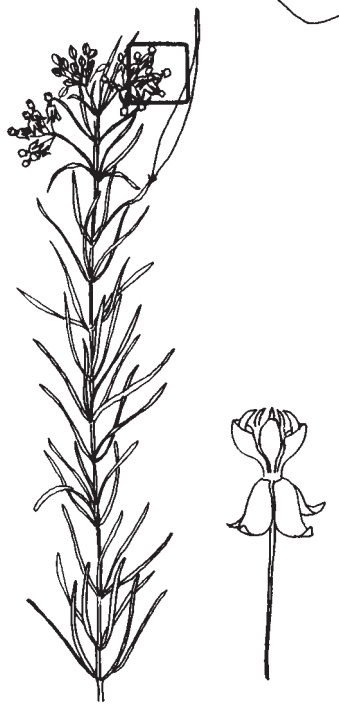


← **Shootingstar** *(Dodecatheon meadia)*. 8"-2' tall. Blooms May to early June. The flowers are white to pink in color. The petals curve sharply upward. The red-tinged leaves are found at the base of the plant. The plant disappears by July. Dry-wet prairies.

Wild indigo *(Baptisia lactea)*. 2'–4' tall. Blooms in June. This species has white flower clusters. The plant is smooth and erect and its leaves are attached to the stem with a stalk. (Shown: branch of plant) ➔

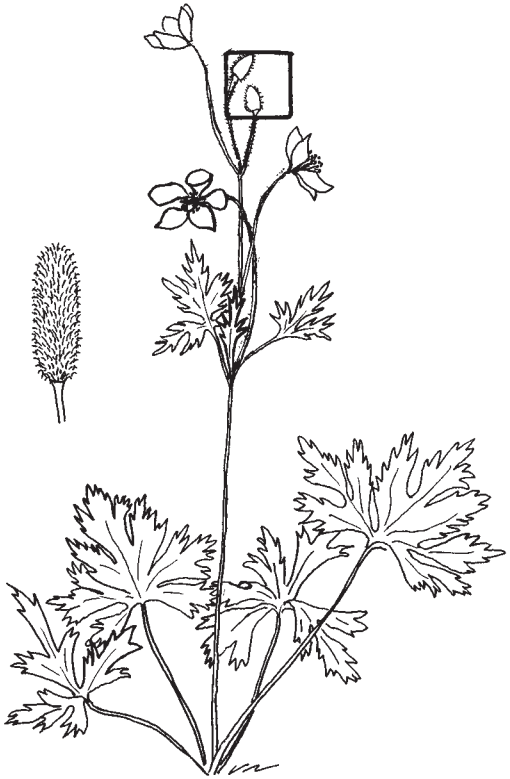
A second species, **creamy wild indigo** *(Baptisia bracteata)* is also common to the prairie. It has leaves which are attached directly to the stem or by means of a short stalk (detail). It also has hairy stems and leaves, and cream-colored flowers. Moist-dry prairies.





← **Whorled milkweed** *(Asclepias verticillata)*. 6"–3' tall. Blooms June to August. The flowers are fragrant, greenish-yellow to white (detail). The leaves are grass-like and the plant has a milky juice. Dry-moist prairies.

Thimbleweed *(Anemone cylindrica)*. 1'–2' tall. Blooms June to mid-July. The flowers are greenish-white to white, and the flower stems are usually leafless. The plants are a hairy-gray color. The seed heads are dense and cylindrical (detail). Each seed is coated with wooly hairs. The leaves are deeply cut into five lobes. Dry-mesic prairies. ➔

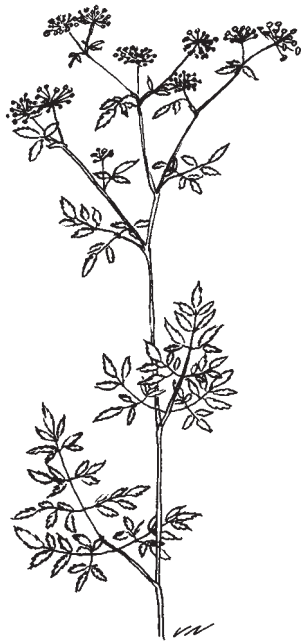


New Jersey tea *(Ceanothus americanus)*. 18"–3' tall. Blooms late June to late July. This plant is white-flowered, bushy and woody. The leaves are alternate, finely toothed, stiff and downy underneath. The flowers are densely clustered; the clusters grow on long stalks. Dry-mesic prairies. (Shown: branch of plant) ➔

Rattlesnake master *(Eryngium yuccifolium)*. 3'–4' tall. Blooms July to early August. The balls of flowers are white, hard, stiff and prickly. The stiff leaves are long, narrow, thick and sharply pointed with spines or teeth along the margins. The seed heads have a honey-like odor. Dry-mesic prairies. (Detail: bottom of plant). ➔

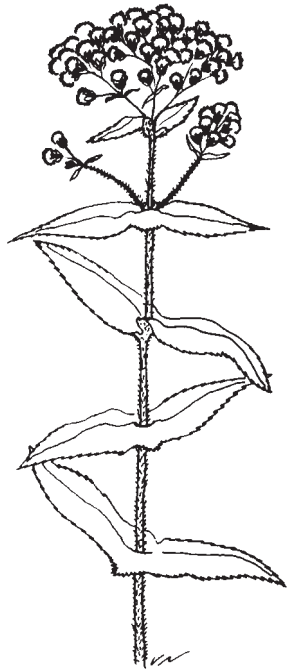
Culversroot *(Veronicastrum virginicum)*. 3'–5' tall. Blooms early July to early August. The clusters of terminal, white flowers look candle-like. The leaves are arranged in whorls of three to six around the stem. Wet-mesic prairies. (Shown: top third of plant) ➔

Mountain mint *(Pycanthemum virginianum)* 2'–3' tall. Blooms late July to mid-September. The white-purplish flower heads are heavily clustered. The narrow leaves are numerous, clustered, opposite and lance-shaped. The stem is square in cross section and the plant has a strong mint-like odor when crushed. Dry-wet mesic. (Shown: top two-thirds of plant) ➔



← **Water hemlock** *(Cicuta maculata)*. 3'–6' tall. Blooms July to August. This plant has white flowers arranged in flat-topped clusters, 2"–5" across. The stems are stout and often purple-spotted. The leaves are compound and toothed along the edges. This plant is highly poisonous when eaten. Mesic-wet prairies. (Shown: top half of plant)

Boneset *(Eupatorium perfoliatum)*. 18"–5' tall. Blooms July to October. The white flowers grow in flat-topped, terminal clusters. The plant is hairy and the opposite leaves are joined at their base with the stem passing through the center. Wet prairies. (Shown: top half of the plant) ➔



← **Bush clover** *(Lespedeza capitata)*. 2'–4' tall. Blooms August to September. The yellowish-white flowers are bristled and densely clustered. The plant is covered with fine, silvery hairs and the leaves are clover-like. Dry-moist prairies.

Where to find prairie remnants

Patches of prairie, called remnants, are scattered throughout the southwest half of Wisconsin. These remnants are interesting to view and study, and serve as seed sources for restoration projects. Want to find a remnant? Here are some hints on where to look, how to look, and what to look for.

Where to look:

Find areas that have been neglected.

- Railroad rights-of-way—many rail lines were built before the land was farmed. Burning on rights-of-way enhanced the growth of prairie species.
- Pioneer cemeteries—if they have not been tidied up too much.
- Large wetland areas may have wet-to-dry prairies in their centers isolated from access by cattle or machinery.
- Large areas of irregular topography—areas too steep to plow, or even too steep to graze, especially on the south side of hills. The steepest of these are known as "goat prairies."
- Areas of poor agricultural soils. There are many prairie remnants in the sand counties of Wisconsin.

How to look:

Good maps will quickly narrow the choices and save a lot of leg work.

- United States Geological Survey[4] topographic maps indicate steepness and remoteness of an area, large wetland areas and areas that are not forested.
- State and county maps indicate highways that run parallel to railroad tracks.
- Maps of presettlement vegetation. These maps will indicate areas that were prairie at the time of the original land survey. A generalized map exists for the whole state.[5]
- Natural Resources Conservation Service soil maps. Counties are mapped by soil groups. A description of the native vegetation is given for each. Also look for land which is "poor" for farming.
- Bordner Land Cover Inventories made in the 1930s and 1940s and now incorporated into the Department of Natural Resources' Wisconsin Wetland Inventories. Identify the two lowest density classes of oak-history forests as good places to look for prairie patches.
- Air photos—available at the Natural Resources Conservation Service or Regional Planning Commissions. These need a certain amount of training to interpret, but give much more detailed information than previous sources.
- Herbaria—look up prairie plants in a local or regional herbarium. Find out where they were collected.
- Ask a local expert—the local Natural Resources Conservation person, county Extension agent, Department of Natural Resources employee, college or high school science teacher, or interested naturalist. Check the yellow pages in the telephone book to find listings of environmental conservation organizations. See "Becoming More Involved" on page 55.

What to look for:

Look for these indicators of prairie remnants, even if you know only a few of the characteristic species.

- A rich variety of flower colors through the summer.
- Prominent orange-brown color in the fall due to prairie grasses.
- Grasses in prominent clumps.
- Goldenrods shorter than the grasses and rarely forming dense patches or thickets.
- Some animal burrows and ant hills.

[4]Wisconsin maps available from Wisconsin Geological and Natural History Survey, 3817 Mineral Point Rd, Madison WI 53706.

[5]Curtis, J. T. *The Vegetation of Wisconsin,* Madison, Wisconsin, 1959.

How to grow your own

Establishing a natural plant community is as much an art as a science. It requires sensitivity, expertise, personal experience, hard work and, most of all, perseverance over many years.

Today it is probably impossible to create a native prairie community in the strictly scientific sense. In many areas, the large expanse that the prairie ecosystem requires has been lost forever. Bison and similar grazing animals need more space than even the largest plantings can provide. This should not discourage you, however, for planting prairie flowers is fascinating work, and the results you can obtain are well worth the effort.

Three steps are involved in growing a prairie: 1) creating a planting plan; 2) implementing it; and 3) managing the planting.

Developing a planting plan

Most successful prairie plantings match species' habitat requirements with the site's environmental characteristics—things like soil texture, light levels and moisture patterns. You'll need to know which prairie plants can survive in a wide range of environments and which require careful placement. Your plan should include drawings and descriptions of the species you want to use, along with their proportions and arrangement. The descriptions in this book can give you a good start towards understanding species requirements.

In addition to coordinating the species and the site, you should develop a set of design rules. Consider aesthetic factors, such as exciting color combinations, arrangements that lead the eye to points of interest, and species that are in scale with the surroundings.

The challenge of prairie landscaping is to place the native plants in a natural-looking setting. Nothing in nature is regular. Some flowers are clumped, others are dispersed. Nature rarely has square corners and sharp edges. How does this translate into practical advice? Don't plant your prairie on a regular pattern. Think random. Avoid sharp corners. As the prairie approaches a fence or woods, use progressively taller grasses, forbs and shrubs to make the transition seem gradual and natural. Finally, plan the size of the plant material to the size of the area. Large plants look out of place in small areas.

It is important to understand the site characteristics and what you wish to achieve with your planting. How close to a native prairie community do you want your planting to be? Your planting can mimic a native prairie in many ways. For example:

- Naturally occurring prairies are composed of some species that bloom in the spring, others that bloom in summer, and still others that flower in the fall. If you plant varieties that bloom on this timetable, you will replicate an authentic feature of a natural prairie community.
- Grass plants comprise more than half of natural prairie groundcover. By sowing at least 50 percent of your planting with grasses, you can duplicate this characteristic. Use 6–10 types of grasses and go easy on big bluestem and switchgrass.
- Flowering species strongly outnumber grass species in prairies. With this focus, a planting might include four or five grasses and 40 or 50 flowering species.

The arrangement of species in a planting should be guided by observations of remnant prairie communities and aesthetic considerations. The same design principles used to create perennial gardens can be used in prairie plantings—place shorter species toward the front and taller species toward the back, and group plants to create specific color effects. Sketching or drawing a plan of your garden layout will help you visualize the result.

Planting the prairie

Once you've decided on a plan, the work begins. Carrying out your plan will involve getting rid of unwanted vegetation and providing a good planting medium. The size of the area, existing vegetation, soil and steepness of the topography will determine which planting techniques to use.

Most small prairies are started with seedlings or seed. A typical planting strategy on a small residential site could include cultivating the planting area by rototilling or turning over the soil several times in the spring. This repeated cultivation allows any weed seed that might be buried in the soil to germinate and be plowed up. Lay out old carpet or plastic to kill lawn. Seedlings and seed can then be planted in June. Large plantings might require plowing and disking the soil for up to a year prior to planting.

You can purchase prairie plants and seeds from native plant nurseries or collect seed from the wild with permission. Look for plants that thrive in conditions similar to those in your planting site; these plants will probably also grow well for you.

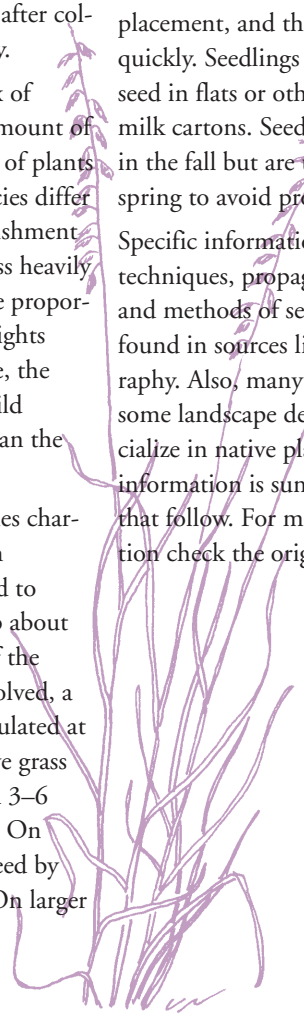
Seed should be collected after it is ripe, which means in late summer or fall for most species, or late spring to early summer for many spring blooming species. Seed collected in the fall can be stored over the winter in cool conditions for spring planting, or it can be sown directly onto the prepared site. For best results, seed of spring blooming species should be planted immediately after collection, probably in June or July.

Seed plantings are usually a mix of several species. Generally, the amount of seed determines the proportion of plants in the area. However, since species differ in their germination and establishment rates, some came up more or less heavily than you might expect from the proportions of seed. Seed sizes and weights vary tremendously. For example, the large seed of legumes such as wild indigo is many times heavier than the very tiny seed of beebalm.

With all the differences in species characteristics and the fact that each planting plan is unique, it's hard to establish general rules of thumb about seeding rates. To give an idea of the general amount of material involved, a typical seed mix might be formulated at a rate of 5–8 pounds of pure live grass seed per acre for tall grasses and 3–6 pounds of flowering plant seed. On small sites, you can broadcast seed by hand and rake it into the soil. On larger sites, use mechanical equipment such as specially adapted seed drills.

Most large prairie plantings are started from seed, rather than seedlings, because it is quicker and cheaper, given the large area to be covered. On small sites, seedlings ranging in age from six weeks to two years are often preferred because it is easier to control numbers and placement, and the prairie grows more quickly. Seedlings can be grown from seed in flats or other containers, such as milk cartons. Seedlings may be planted in the fall but are usually planted in the spring to avoid problems with frost.

Specific information about planting techniques, propagating prairie species and methods of seed collection can be found in sources listed in the bibliography. Also, many private nurseries and some landscape design firms now specialize in native plantings. Much of this information is summarized in the steps that follow. For more detailed information check the original sources.



Steps to planting your prairie

1. Choose a site carefully and select plant species with requirements that match the site. Hot, dry and infertile sites are best to limit weed competition. Mesic and wet sites are prone to severe weed competition and will need additional work.
2. Till the field with a disk or field cultivator several times the year before you plant. This will reduce competition from quackgrass and other weeds. Plow the field or site as late as possible in the fall preceding planting; then harrow or disk it lightly in spring of the seeding year to prepare a seedbed and control early spring weeds. Seed in May.
3. On small sites, you can achieve spectacular results in one or two years by planting seedlings pre-grown in a greenhouse. On medium-sized plots, broadcast the seed by hand and scratch it in with a rake. For large areas (¼ acre and up) use a grain drill adapted for sowing mixtures of prairie seed.
4. Use local seed sources. They are best suited for local conditions. Seeding rates will vary depending on the species and the desired results. The number of seeds to plant should be calculated on the basis of pure live seeds, so germination tests might be needed before planting.
5. Plant as many of the suitable and desired species as possible at the start, since "squatter's rights" competition makes the later addition of species difficult. Given an even start, no species will have an advantage over another.
6. Store all seeds collected in summer and fall in a cold place for at least six weeks before planting (unless they are planted in fall). Some seeds are best stored in moist sand, others in dry conditions. Planting in the fall is a good idea, but not recommended on slopes prone to erosion, where weeds are a serious problem, or where animals are likely to eat the seeds. Some spring flowering plants should be sown immediately in May or June when the seeds are ripe, and will probably "take" only in a wet summer.

7. Plant a fast growing, short-lived (annual or short-lived perennial) companion crop such as wild rye or oats with your prairie seeds. A companion crop helps crowd out weeds for the first two years and reduces soil erosion.
8. Early establishment of dense stands of prairie grass, such as big bluestem, Indiangrass or switchgrass hinders woody seedlings and eliminates field and pasture weeds, but these dense prairie grasses will also discourage some prairie plants. Disturbances caused by people or animals create openings for prairie forbs, but also for weeds.
9. A light, clean mulch, such as straw from grains, applied with moderate thickness (about ½ of the visible soil surface) is helpful, but may be hard to come by since straw is usually full of weed seeds.
10. Much experimentation is still needed. The best timing of plantings, seed mixtures and density will vary from site to site. In some places it may be useful to establish prairie forbs before the grasses.

The prairie landscaper

The following table takes the common plants discussed earlier and shows how they might be used in a prairie landscaping project. Consider the size of the plant, its color during different seasons, and its habitat preferences. For example, some small forbs and grasses adapted to very dry conditions grow well in exposed rock gardens. Tall prairie grasses and forbs fit nicely on large acreages.

As you become familiar with a wider variety of prairie plants, you can expand this list.

Spring color in May

Less than 1 foot tall	1–3 feet tall	Greater than 3 feet tall
Dry		
Pasque flower (blue)	Indiangrass (green)	
Birdsfoot violet (blue)	Needlegrass (green)	
Puccoon (orange-yellow)	Big bluestem (green)	
Little bluestem (green)		
Sideoats grama (green)		
Junegrass (green)		
Prairie dropseed (green)		
Mesic		
Birdsfoot violet (blue)	Indiangrass (green)	Prairie willow (white)
Puccoon (orange/yellow)	Needlegrass (green)	
Downy phlox (pink/purple/white)	Big bluestem (green)	
Shootingstar (white/pink)		
Little bluestem (green)		
Sideoats grama (green)		
Prairie dropseed (green)		
Switchgrass (green)		
Wet		
Downy phlox (pink/purple/white)	Bluejoint grass (green)	Prairie willow (white)
Shootingstar (white/pink)	Cordgrass (green)	

Early summer color/June

Less than 1 foot tall	1–3 feet tall	Greater than 3 feet tall
Dry		
Prairie smoke (red)	Prairie dropseed (green)	Needlegrass (tan)
Birdsfoot violet (blue)	Little bluestem (green)	Indiangrass (green)
Puccoon (orange/yellow)	Spiderwort (blue)	Big bluestem (green)
Sideoats grama (green)	Thimbleweed (white)	
Junegrass (green)		
Mesic		
Birdsfoot violet (blue)	New Jersey tea (white)	Prairie willow (green)
Puccoon (orange/yellow)	Switchgrass (green)	Needlegrass (tan)
Wild indigo (cream)	Little bluestem (green)	Indiangrass (green)
Downy phlox (pink/purple/white)	Prairie dropseed (green)	Big bluestem (green)
Shootingstar (white/pink)	Spiderwort (blue)	
Sideoats grama (green)	Thimbleweed (white)	
Wet		
Downy phlox (pink/purple/white)	Spiderwort (blue)	Prairie willow (green)
Shootingstar (white/pink)	Purple meadowrue (white/purple)	Bluejoint grass (green)
		Cordgrass (green)
		Big bluestem (green)

Midsummer

Dry	Purple prairie clover (purple)	Needlegrass (tan)
	Tickseed (yellow)	Indiangrass (green)
	Thimbleweed (white)	Big bluestem (green)
	Leadplant (violet)	Rosinweed (yellow)
	Whorled milkweed (white)	Compass plant (yellow)
	White prairie clover (white) (yellow)	Prairie dock
	Little bluestem (green)	
	Sideoats grama (green)	
	Junegrass (tan)	
	Prairie dropseed (green)	
	Spiderwort (blue)	
	Little bluestem (green)	

Midsummer, *continued*

Less than 1 foot tall	1–3 feet tall	Greater than 3 feet tall
Mesic	Thimbleweed (white)	Prairie willow (green)
	Whorled milkweed (white)	Needlegrass (tan)
	Purple prairie clover (purple)	Indiangrass (green)
	White prairie clover (white)	Big bluestem (green)
	New Jersey tea (green)	Rosinweed (yellow)
	Rattlesnake master (white)	Compassplant (yellow)
	Yellow coneflower (yellow)	Prairie dock (yellow)
	Canada tick-trefoil (purple)	
	Leadplant (violet)	
	Blackeyed susan (yellow)	
	Bergamot (lavender)	
	Spiderwort (blue)	
	Switchgrass (green)	
	Prairie dropseed (green)	
	Little bluestem (green)	
	Tickseed (yellow)	
Wet	Canada tick-trefoil (purple)	Rosinweed (yellow)
	Blackeyed susan (yellow)	Prairie willow (green)
	Bergamot (lavender)	Bluejoint grass (green)
	Spiderwort (blue)	Cordgrass (green)
	Mountainmint (white)	Big bluestem (green)
	Purple meadowrue (white/purple)	Compassplant (yellow)
	Culversroot (white)	Prairie dock (yellow)
	Yellow coneflower (yellow)	
	Leadplant (violet)	

Late summer color

Less than 1 foot tall	1–3 feet tall	Greater than 3 feet
Dry	Prairie blazingstar (purple)	Indiangrass (tan)
	Rough blazingstar (purple)	Big bluestem (tan)
	Cylindrical blazingstar (purple)	Rosinweed (yellow)
	Purple prairie clover (purple)	Prairie dock (yellow)
	Silky aster (purple)	Compassplant (yellow)
	White prairie clover (white)	
	Field goldenrods (yellow)	
	Little bluestem (copper)	
	Sideoats grama (tan)	
	Junegrass (tan)	
	Prairie dropseed (tan)	
	Bush clover (cream)	
Mesic	Purple prairie clover (purple)	Compassplant (yellow)
	White prairie clover (yellow)	Saw-tooth sunflower (yellow)
	Field goldenrods (yellow)	Prairie willow (green)
	New Jersey tea (green)	Big bluestem (tan)
	Rattlesnake master (white)	Rosinweed (yellow)
	Rough blazingstar (purple)	Indiangrass (tan)
	Yellow coneflower (yellow)	Prairie dock (yellow)
	Canada tick-trefoil (purple)	Cupplant (yellow)
	Blackeyed susan (yellow)	Spike blazingstar (purple)
	Little bluestem (copper)	
	Switchgrass (tan)	
	Prairie dropseed (tan)	
	Prairie blazingstar (purple)	
	Bush clover (cream)	

Late summer color, *continued*

Less than 1 foot tall	1–3 feet tall	Greater than 3 feet tall
Wet	Canada tick-trefoil (purple)	Saw-tooth sunflower (yellow)
	Blackeyed susan (yellow)	Big bluestem (tan)
	Prairie blazingstar (purple)	Prairie willow (green)
	Culversroot (white)	Rosinweed (yellow)
	Yellow coneflower (yellow)	Bluejoint grass (green)
	Bush clover (cream)	Water hemlock (white)
		Prairie dock (yellow)
		Cupplant (yellow)
		Spike blazingstar (purple)
		Compassplant (yellow)

Fall color

Dry	Field goldenrod (yellow)	Indiangrass (tan)
	Silky aster (red)	Big bluestem (tan)
	Little bluestem (copper)	Showy goldenrod (yellow)
	Sideoats grama (tan)	Stiff goldenrod (yellow)
	Prairie dropseed (tan)	
	Smooth aster (blue/violet)	
	Bush clover (cream)	
Mesic	Smooth aster (blue/violet)	Saw-tooth sunflower (yellow)
	Little bluestem (copper)	Big bluestem (tan)
	Switchgrass (tan)	Indiangrass (tan)
	Prairie dropseed (tan)	Showy goldenrod (yellow)
	Silky aster (purple)	Stiff goldenrod (yellow)
	Bush clover (cream)	
Wet	New England aster (purple)	Saw-tooth sunflower (yellow)
Bottle gentian (blue)	Bush clover (cream)	Boneset (white)
		Big bluestem (tan)
		Bluejoint (tan)
		Cordgrass (tan)

Managing a prairie planting

Managing a prairie planting in the early stages usually involves weed control. Plantings started from seed often take three to five years to develop a true "prairie" appearance, since most growth occurs in the root systems during those years.

In the first year or two, weeds such as foxtail, lamb's-quarters, or velvet leaf can dominate the planting. The amount of rainfall and condition of the planting site also influence the density of weed coverage.

Mowing weeds such as pigweed, lamb's-quarters, foxtail and velvet leaf is useful when weeds do not actively threaten the survival of the prairie planting. Mowing helps minimize the uncared-for look weeds may impart to the planting and can also speed up the growth of the prairie species.

If you decide to mow, follow this strategy:

- The first year, wait for weeds to grow about three feet tall; then use a scythe or hay mower to cut them back to a height of six inches. You can generally do this by the end of June and again in July and August.
- The second year, cut the entire planting to a height of six inches at the end of June. Cut again only if the weeds dominate or if several prairie species are less than three inches high.
- Remove clippings if they are thick; otherwise, they may smother the small prairie species.

An alternative to mowing is **spot treatment** of troublesome weeds. Species found on Wisconsin's noxious weed list (for example, leafy spurge and field bindweed) would be candidates for spot treatment, as well as weeds such as white and yellow sweet clover which compete with newly established prairie plants. Hand weeding is the most common form of spot treatment.

If you decide to spot treat weeds:

- Try to determine the time of year or life stage at which the "target" species are most vulnerable.
- Monitor the planting carefully so you can recognize and treat troublesome species before they have a chance to spread.
- Be careful not to disturb more of the planting than is necessary. For example, removing plants or trampling creates bare soil which can make the site vulnerable to weeds.

After three to five years, when prairie species dominate, **burning** can help maintain the planting's health and vigor. A "prescription burn" discourages weeds by removing accumulated decaying leaves and branches, or duff. The blackened ground also increases the amount of sunlight received in early spring, thereby lengthening the growing season. A good grass cover must be established before fire can be used as an effective management tool.

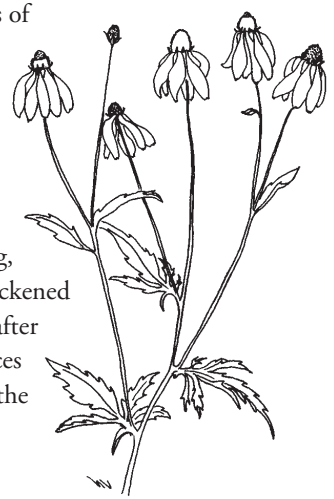
Prescription burns must be executed with caution—get help from an experienced burner.

Before you undertake a prairie burn, remember:

- Always check with the municipality in which the prairie is located to obtain a burning permit. You must notify the appropriate officials of your plans ahead of time.
- The timing of the fire is important. Fires started in March or early April, when most prairie species are dormant, can slow cool-weather weeds such as Kentucky bluegrass. They also do a good job of eliminating duff, helping soil to warm up early in the growing season. Later burns aid in controlling trees and shrubs that encroach upon the planting. However, they can also harm growing prairie species. The fire's timing should be tailored to the circumstances of the site.
- The burn should be well-planned. Prepare fire breaks and keep water or other control devices on hand to control the flames.
- Fires should be scheduled at irregular intervals to prevent the possibility that pest species might adapt to a predictable burn sequence.

For more information on conducting management burns, the booklet *How to Conduct Small Prairie Fires* by Wayne Pauly is an excellent choice. The booklet is available from the Dane County Parks Department located in Madison, Wisconsin.

Where fires are prohibited, **mowing close to the ground and removing debris** can accomplish one of the major effects of fire—removing the duff. Mowing, however, is less effective than burning, since the blackened ground left after a fire enhances warming of the soil.



The useful prairie

Early settlers used prairie sod to build their first houses. They made a tonic of boneset, used the bison for food and fur, and made drinks from bergamot and New Jersey tea plants. But to most prairie immigrants, the rich soil beneath the sod was more valuable than the native plants it produced. Much of the prairie plant community was irretrievably destroyed—its inherent value ignored or unrecognized.

Recent growth of interest in prairies has brought to light many important economic and aesthetic uses for these special plants. Here are a few:

Prairie plants can be:

1. Used to rebuild "worn-out" soils along roadsides, on abandoned farms and in other areas. Many prairie plants thrive on low fertility soils, and nitrogen-fixing legumes are an important part of the native prairie vegetation. The most productive agricultural land in North America grows on the humus from dead prairie plants.
2. Used to prevent soil erosion. Prairie plants have long, deep root systems. They "tie up" or hold down a lot of soil. Native plants generally need less maintenance, once established, than their domestic counterparts, and they are adapted to local conditions.
3. Used for landscaping and horticultural purposes. These plants can be used in any area from a rock garden to a national park. Prairie gives a natural randomness and beauty to the landscape. The prairie community may be especially useful along roadways and in parks, where maintenance costs are important considerations.
4. Useful for wildlife habitat. Many prairie plants are valuable as food or cover for wildlife.

Prairie communities are:

1. Areas for scientific study. The prairies represent a natural, living system, one which must be more thoroughly understood for people to live more harmoniously with their environment.
2. Areas for teaching ecological principles. The prairies are a natural "textbook." Reading them is just as important as reading any book in a library. The prairie is especially good for teaching young children. It is open and sunny and the plants are more child-sized than a woods or forest.
3. A refuge for plants and animals. Society cannot afford to close its options by allowing extinction of a species. We do not know what plant will provide a "miracle drug" for the future. Bison or bison-cattle hybrid animals are being used for meat production. Bison meat can occasionally be purchased in some markets. The bison was nearly extinct early in the 20th century.
4. Areas of agronomic production. Although much of the Midwestern prairie has been lost to agronomic production, certain types of prairie plants may have agronomic potential in themselves. Short grasses, in particular, are well adapted as pasture and range plants. The short grass prairies of the western states are extensively used to graze cattle and sheep. Wet prairies have been traditionally mowed for marsh hay. The agronomic potential of many other plants for pasture, fodder, or forage is largely untested. Caution: The prairie is extremely productive, but it is fragile and can be easily abused.
5. Areas for aesthetic appreciation of nature's handiwork.

Becoming more involved

There are many opportunities to learn more about prairies in the company of others who share your interest. Nearby nature centers are often a source of information and classes. Some groups provide meetings and newsletters. Two Wisconsin groups, Prairie Enthusiasts in Boscobel and The Wild Ones in Milwaukee welcome new members and chapters.

Index of prairie plant illustrations

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