



THE NEBRASKA STATEWIDE ARBORETUM PRESENTS

# GARDENING WITH PRAIRIE PLANTS

Justin Evertson & Bob Henrickson, NSA 2011. For more plant information, visit [plantnebraska.org](http://plantnebraska.org) and [retreenbraska.unl.edu](http://retreenbraska.unl.edu).

## The Benefits of a Prairie Garden

1. **A prairie garden celebrates the intrinsic beauty and heritage of Nebraska.** From the eastern woodlands and panhandle pinelands to the tallgrass prairie and sandhills, draw upon nature to evoke a sense of place and pride.
2. **Prairie gardens benefit wildlife that depends on grassland habitats.** Native plants provide the food, shelter, and nesting cover for songbirds, beneficial insects, and other critters that conventional landscapes cannot.
3. **An established prairie landscape is ecologically sound.** It does not need watering, weekly mowing, herbicides, insecticides, or fungicides. In fact, over-irrigation can cause more harm than good, as many prairie plants thrive in low-water conditions.
4. **A prairie landscape provides run-off and erosion control.** The roots of grasses and forbs arrange themselves in a web so that every cubic inch of soil is exploited for moisture and nutrients. A well-developed sod layer, coupled with a myriad of thin grass stems, lets rain soak in and allows almost no runoff that would otherwise pollute our water bodies.
5. **Lowland prairie landscapes will help clean the water supply.** Deep rooted prairie plants also have extensive surface roots that act as a filter, absorbing potentially harmful nutrients from the water as it moves down the soil profile or as surface water along watersheds.
6. **Prairie landscapes are a unique learning experience.** A natural prairie will attract songbirds, butterflies, toads, voles, and a host of other small animals and invite children to observe changes through the seasons and learn how people contribute to making all of nature work.
7. **Prairie plants are adapted to cope with Great Plains weather extremes.** Specifically, prairie plants are able to withstand the drought, wet, heat, cold, wind, hail, and wide temperature fluctuations characteristic of Nebraska better than many exotic landscape plants.
8. **Using and growing prairie plants will benefit the local economy.** Opportunities exist for growers and producers of locally native seed and plants for conservation plantings, roadsides, land reclamation, wholesale nurseries and landscape contractors.

## Planning a Prairie Garden

### SELECTING THE PLANTS

Do you regard yourself as a prairie purist, only choosing plants native to the state of Nebraska? It may be worthwhile to consider plants that are regionally native to the Great Plains or Midwest. After all, Colorado and Wyoming natives might be more at home in western Nebraska than some southeastern NE natives would, for example. In restoration plantings, every effort should be made to collect and preserve the genetic diversity of the local species. For home gardeners, however, it may serve to use whatever prairie plants are available. To begin designing a prairie garden, it is important to match the plants to the habitat. To do this, determine whether your soil is clay, loam, sand, gravel, rocky, wet, mesic, or dry, and gather together a mixture of plants adapted to this condition. Would a tallgrass prairie garden be more suitable, or a dryland prairie garden?

### THE TALLGRASS PRAIRIE GARDEN

These sunny, mesic prairies are on rolling ground, with lowland species that tolerate periodic flooding and drought. This means they can adjust to wetter or drier conditions. A tallgrass prairie garden, neither too wet nor too dry, can reach 5-6' high and is typically used in larger planting areas or as a backdrop. It may be necessary to enrich the soil by incorporating a few inches of compost. Big bluestem and indiagrass should always be present in this type of garden, along with some switchgrass. To prevent lodging or floppy stems, avoid shady conditions and only water during times of drought. Warm season grasses take a while to emerge in spring, so planting cool season wildflowers can offer early green up while helping to quell weeds like henbit and dandelions. It should be noted that these wildflowers will probably go dormant by summertime.

### THE DRYLAND PRAIRIE GARDEN

Upland prairies are always well-drained and are the driest in this area. These plants are usually knee-high at most and require little if any supplemental water once established. This garden should always have a base of little bluestem (*Schizachyrium scoparium*), sideoats grama (*Bouteloua curtipendula*), and prairie dropseed (*Sporobolus heterolepis*) with an understory of blue grama (*Bouteloua gracilis*).

Cool-season grasses, such as needlegrass and prairie junegrass should also be considered. When planning a border using dryland or rocky soil natives it is essential to improve the site's drainage by raising the soil above the original grade. We recommend garden topsoil or a mix of 1/3 gravel, 1/3 old soilless mix, 1/3 topsoil for plants that demand sharp drainage. A light layer of gravel mulch for topdressing can provide a nice,

uniform cover for a dryland garden. Xeric plants like to reseed in this, and weeding is easy by cutting the young ones with a hoe just under the mulch. Wood chips can hold too much moisture for these plants and can cause crown rot.

## PREPARING A PLANTING BED

The main issue with growing a prairie garden is the soil. Most of the well-drained prairie soils that once supported this state have been altered, plowed, and eroded to leave heavy urban subsoil. For many plants to thrive, especially dryland species, soil preparation with compost is essential.

For good weed control, a prairie garden should be made up of at least 50% grasses. This ensures that wildflowers do not grow too large and flop, or spread to take over the bed. Moreover, grasses will work to hide dormant stems and bare space left by any spring bloomers.

Weeds should be eradicated before planting or sowing because they out-compete slow-growing prairie seedlings and shade them out. Solarization is a popular clearing technique for small areas of bluegrass, fescue, and weeds. First cut the grass or weeds very short then lay down a layer of clear plastic for up to 45 days to smother and cook them. You can also lay down layers of newspaper (at least 10 sheets) over aggressive weeds. Spread 4-6 inches of a topsoil/compost mix on top of the paper. Plant plugs and seeds directly into this mixture. You can also use the least toxic, shortest-lived herbicides on those perennial and annual weeds that are unfazed by hand-weeding.

## LEARN MORE

Many resources exist to help homeowners plan and maintain prairie-style gardens. Here are a few great websites:

- Ladybird Johnson Wildflower Center, [wildflower.org](http://wildflower.org)
- Prairie Moon Nursery, [prairiemoonnursery.com](http://prairiemoonnursery.com)
- Ion Exchange, [ionxchange.com](http://ionxchange.com)
- Kansas Wildflowers & Grasses, [kswildflower.org](http://kswildflower.org)
- Prairie Plains Resource Institute, [prairieplains.org](http://prairieplains.org)
- Natural Resources Conservation Service, [plant-materials.nrcs.usda.gov](http://plant-materials.nrcs.usda.gov)

## Prairie Plants for the Garden

Here are some of the best sun-loving wildflowers for the garden using the tall grass and dryland prairie models. There are many more to choose from but this represents plants that are readily available through local sources or mail order nurseries.

### EARLY SPRING (FULL SUN, DRY)

**Prairie Smoke** (*Geum triflorum*)—12"; Nodding pink flowers and feathery seedheads; attractive fern-like foliage; adaptable to wet or dry soils.

**Pasque Flower** (*Pulsatilla patens*)—15"; lavender cup-shaped flowers followed by silky, delicate seedheads; attractive, cutleaf foliage.

**Dwarf spiderwort** (*Tradescantia tharpaii*)—6"; clumps of grass-like foliage covered with hairs; purple-pink flowers bloom on and off for a month; foliage yellows then dormant; foliage reappears in fall.

**Fremont's Clematis** (*Clematis fremontii*)—15"; mounded, non-vining habit; Thick, leathery leaves emerge in early spring. Attractive 1" urn-shaped flowers with thick blue to purple petals.

**Shining Bluestar** (*Amsonia illustrus*)—3-4'; Easy to grow with light blue, star-like flowers atop robust stems in spring. Tolerates drought, has glossy leaves that turn a nice yellow in fall; takes 3 years to mature.

**Prairie Phlox** (*Phlox pilosa*)—15"—bright pink flower, fragrant heads; hairy foliage; summer dormant.

### MID SPRING TO EARLY SUMMER (FULL SUN, DRY)

**Dwarf Blue Indigo** (*Baptisia minor*)—30"; Beautiful spikes of indigo blue flowers; Slow to establish; forms a nice mound of blue-green foliage; seed pods for dried arrangements.

**Soapweed** (*Yucca glauca*)—3-4'—stiff, sword-like foliage; mases of white, fragrant flowers on tall spikes; extremely drought tolerant.

**Dwarf Leadplant** (*Amorpha nana*)—18"; fragrant magenta spiked flowers with orange anthers. Compact, mounded habit; slow to emerge in spring; cut back woody stems.

**New Jersey Tea** (*Ceanothos americanus*)—3'; Handsome, durable shrub with clean foliage and abundant clusters of white flowers in late spring; slow to establish but worth the wait; limit competition from aggressive plants; dried leaves make an excellent prairie tea.

**Pale Purple Coneflower** (*Echinacea pallida*)—3-4'; Sweet-scented coneflower with spidery petals, blooms early June-July; tall, robust stems make it a good cut flower.

**Narrowleaf Coneflower** (*Echinacea angustifolia*)—18"; pale pink drooping petals; blooms in early to mid June; rough, sandpapery foliage; distinct Great Plains native.

**Wild Senna** (*Senna hebecarpa*) fine textured leaves on 4-6' woody stems, topped with yellow pea-like flowers in summer, each with attractive black anthers; easy to grow in full sun; adaptable.

**Ohio Spiderwort** (*Tradescantia ohioensis*)—18"—linear, daylily-like foliage; topped with lavender flowers in late spring; flowers close by afternoon; summer dormant.

**White Wild Indigo** (*Baptisia lactea*)—5'—emerges late; several years to mature; worth the wait; milky white flower spikes in early summer, followed by showy black seed pods; long-lived.

**Missouri Primrose** (*Oenothera missouriensis*)—15"; shiny silver leaves with huge, delicious bright yellow flowers in June, flowers close during the day; rebloom in fall;

**Leadplant** (*Amorpha canescens*)—4'; silvery green color immediately catches the eye, which is caused by very pubescent leaves. Dark purple spike-like racemes rise above the foliage in June and July.

**Butterfly Milkweed** (*Asclepias tuberosa*)—2; very drought-tolerant; showy dark orange-red flower clusters in summer followed by attractive seed pods in fall. Don't overwater.

**Purple Poppy Mallow** (*Callirhoe involucrata*)—15"; Low-growing cut-leaf native with bright purple-pink flowers all summer; best when allowed to weave between taller perennials.

## LATE SUMMER TO FALL (FULL SUN, DRY)

**Rattlesnake Master** (*Eryngium yuccaefolium*)—4'; Yucca-like foliage; flowering stalks topped with clusters of small white honey-scented buttons; loved by bees!!

**Scaly Blazing Star** (*Liatris squarrosa*)—15"-- Rose-purple buttons in July; extremely drought tolerant.

**Wild Quinine** (*Parthenium integrifolium*)—3-4'--Large, bold leaves; topped with clusters of flat-topped white flowers in the heat of summer; attractive black seed heads in winter; long-lived.

**Purple Prairie Clover** (*Dalea purpurea*)—18"; Bright lavender flowers on compact 15-18" bushy plants with as many as 40 stalks per plant. Full sun and well-drained soil.

**Greyheaded Coneflower** (*Ratibida pinnata*)—4-5'-- elegant deep yellow, drooping petals surrounding a dark brown cone-like center; *R. pinnata* to 4-5' and somewhat of a nuisance seeder.

**Prairie Bushclover** (*Lespedeza capitata*)—3-4'; tiny, insignificant creamy white flowers; silvery foliage. Rich brown seedheads attractive through winter.

**Dotted Gayfeather** (*Liatris punctata*)—18"—rosy- pink flower stalks in Sept.; butterfly favorite.

**Aromatic Aster** (*Aster oblongifolius*)—3-4'; Tolerates poor soils and drought. More compact and less likely to spread than the species. Blue flowers in fall. 'October Skies' and 'Raydon's'

**Smooth Aster** (*Aster laevis*)—3-5'; native with masses of bright blue flowers; blue-green foliage

**'Wichita Mountains' Goldenrod** --3-4'--masses of bright golden rods top plants, followed by showy seed heads; a butterfly and bee favorite.

**Thickspike Gayfeather** (*Liatris pycnostachya*)—4-5'--Rosy-purple flower spikes on 3-4' stalks. Full sun and combine with tall prairie grasses to reduce flopping; Fine for cut flowers.

## RAIN GARDEN (FULL SUN, TALLGRASS PRAIRIE SITES)

**Spiked Gayfeather** (*Liatris spicata*)—3-4'; Rosy-purple flower spikes a favorite of bees, butterflies. Mounded, grass-like foliage; Fine for cut flowers.

**Swamp Milkweed** (*Asclepias incarnata*)—3-5'; Native w/ light pink flowers top plants; attracts butterflies, bees & hummingbirds; short-lived, but seeds around.

**Joe-Pye Weed** (*Eupatorium purpureum*)—5-6'; Choice selection with large clusters of lavender-pink flowers in late summer; butterfly magnet; prefers rich, moist soils so ideal for rain gardens.

**Culver's root** (*Veronicastrum virginicum*)—4-5'; attractive, long-lived; stiff, upright stems with clean, dark green linear foliage in whorls around stems; white/pink flower spikes top plant in early summer.

**Golden Alexanders**, (*Zizia aurea*)—2'—attractive, dark green foliage; yellow umbels in mid spring.

**Turtlehead** (*Chelone lyonii*)—3-4'; Upright 2-4' clump-forming plant ; handsome, dark green foliage; hooded, snapdragon-like pink flowers late summer to fall. Prefers rich, moist soils.

**Queen of the Meadow** (*Filipendula venusta*)—4-5'; attractive maple-like leaves; clusters of pink, cotton-candy like flowers top plants.

**New England Aster** (*Aster novi-angliae*)—4-5'; topped with masses of purple to pink flowers; can be a nuisance with reseeding; provide competition with tall grasses.

**Purple Meadow Rue** (*Thalictrum dasycarpum*)—4-5'—clean, columbine-like foliage; vertical stalks rise above basal foliage, topped with delicate white flower clusters in late spring.

**Helen's Flower** (*Helienium autumnale*)—4-5'—easy to grow and long lived; topped with unique, bright yellow flowers in fall; can flop so provide competition or pinch back to promote bush growth.

## WEEDY NATIVES TO WATCH OUT FOR

The following aggressive wildflowers can be appropriate if they are maintained as a mass planting, surrounded by a mowed surface, or planted in a bed dominated by grasses. Some may take advantage and seed into open spaces and others spread even when given intense competition.

**Canada Goldenrod** (*Solidago Canadensis*)

**Cup Plant** (*Silphium perfoliatum*)

**False Sunflower** (*Heliopsis helianthoides*)

**Jerusalem Artichoke** (*Helianthus tuberosa*)

**Maximillian Sunflower** (*Helianthus maximilliana*)

**Sawtooth Sunflower** (*Helianthus grossurulatus*)

**Pitcher Sage** (*Salvia pitcheri*)

**Meadow Anemone** (*Anemone canadensis*)

**New England Aster** (*Aster novae angliae*)

**Ironweed** (*Vernonia fasciculata*)

## SHORT-LIVED PRAIRIE PLANTS FOR RE-SEEDING (FULL SUN, DRY)

These wildflowers are short-lived (1-3 years) but perpetuate in the garden by reseeding. You can gather seed and sow it where you'd like or let them reseed on their own to make the garden unpredictable, just like a real prairie. These examples are dryland species best in well-drained soils.

**Black-eyed Susan** (*Rudbeckia hirta*) showy, yellow daisy-like flowers with black centers in summer; native *R. hirta* is a 2' annual that will reseed.

**Brown-Eyed Susan** (*Rudbeckia triloba*)—3-4'—small, 1" yellow, daisy flowers with brown centers in late summer; very adaptable; good cut flower.

**Plains Coreopsis** (*Coreopsis tinctoria*)—3-4'—bushy plant with wiry stems and needle-like foliage; masses of small yellow-orange flowers in early summer; easy and tough, dependable.

**Wild Larkspur** (*Delphinium virescens*)—3-4'—vertical spikes lined with delicate white flowers in mid spring; summer dormant, so allow to reseed.

**Lance-leaf Coreopsis** (*Coreopsis grandiflora*)—2-3'—bright orange-yellow flowers in late spring; cut back after flowering or allow to reseed; combine with grasses to hide dormant look.

**Wild Petunia** (*Ruellia humilis*)—15"—dense, bushy plants; leaves covered with hairs; beautiful lavender flowers close in the heat of the day.

**Prairie Ragwort** (*Senecio plattensis*)—18"—bright yellow, daisy-like flowers atop upright plants in mid spring; summer dormant; ideal for naturalizing.

**Shell-leaf Penstemon** (*Penstemon grandiflorus*)—2'—flower spikes in late May; allow attractive seedheads all winter to encourage self-sowing.

**Yellowdicks** (*Helenium amarum*)—15"—dense, bushy plant with thin, wiry foliage; masses of yellow flowers in late summer to frost; very tough and dependable.

**Prairie Coneflower** (*Ratibida columnifera*)—2'—showy, deep yellow petals droop around upright cone in early summer.

## PRAIRIE PLANTS FOR SHADE

**Woodland Phlox** (*Phlox divaricata*)—12"—Starry, lavender flowers bloom in the spring, are fragrant and attract hummingbirds and butterflies; summer dormant; reseeds to form attractive colonies.

**Wild Columbine** (*Aquilegia Canadensis*)—2-3'; Native spring wildflower with drooping, bell-like, 1-2", red and yellow flowers and finely cut foliage. Hardy even in dry shade.

**Prairie Alumroot** (*Heuchera richardsonii*)—18"; Tiny, yellow bell flowers on stems above dark green basal foliage. Heart-shaped leaves turn rosy-red after frost; prefers rich, organic soils, but tolerates dry shade.

**Solomon's Seal** (*Polygonatum biflorum*)—2-3'—leaves arranged along arching stems; small white flowers in spring; colonizing groundcover; yellow in fall with black berries.

**Creeping Jacob's Ladder** (*Polemonium reptans*)—8"—Light blue, bell-shaped flowers in loose, clusters appear mid to late spring. Prefers moist, humusy, well-drained soil and part shade.

**Violet Wood Sorrel** (*Oxalis violaceae*)—4"—Lavender-pink flowers in spring above shamrock-like foliage; from full shade to part sun; spreads to form groundcover; summer dormant.

Golden Alexanders (*Zizia aurea*)—2-3'

**Wild Geranium** (*Geranium maculatum*)—18"; Pink to lilac flowers in spring and early summer. Dark green, deeply cut foliage; will seed around to form colonies

**Liverleaf** (*Hepatica americana*)—6"; Spring wildflower emerging March-April. Stemless plant with large basal leaves and light blue/lavender/white anemone-like flowers. Needs moist, organic soils.

**Jack-in-the-Pulpit** (*Arisaema*)—18"; Large leaves and unusual purplish or green club-like flower develops into cluster of bright scarlet berries. Woodlands plant for leaf/mold/humus soil in part of full shade.

## PRAIRIE PLANTS FOR ROCK GARDENS

**Missouri Pincusion Cactus** (*Coryphantha missouriensis*)—3-4"; beautiful yellow-bronze flowers in late spring; bright red fruits form in fall, persist through winter.

**Pincusion Cactus** (*Coryphantha vivipara*)—4"; Brilliant pink flowers w/ yellow anthers May-June; fleshy fruits follow. Eventually forms large clusters. Needs good drainage.

**'Prairie Lode' Toothed Primrose** (*Calylophus serrulata*)—6"; Yellow cup-shaped flowers bloom all summer on low semi-evergreen groundcover.

**Prairie Skullcap** (*Scutellaria resinosa*)—Bright purple-blue flowers cover the plant from mid-May to late June. Small, gray-green leaves are in harmony with the small, round flowers.

**Fringed Sage** (*Artemisia frigida*)—15"; silver, fragrant foliage; can be short lived so allow to reseed.

**Fendler's Aster** (*Aster fendleri*)—12"; shiny, linear foliage; pinch back to encourage bushy growth; satiny white flowers in fall are fleeting, but beautiful; premier rock garden aster!

**DID YOU KNOW?** The greater the variety of plants, the more resilient the landscape.

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Since 1978, the Nebraska Statewide Arboretum has been helping to grow sustainable landscapes for healthy homes and communities. Please support the NSA by becoming a member. Benefits include admission privileges at botanical gardens across North America, plant discounts, and publications with plant and garden recommendations. Plant information and much more at: [plantnebraska.org](http://plantnebraska.org)

