



# The Seed

**Why plant prairie?  
The Future of Our Prairies  
Prairie in the City and more...**

**Nebraska Statewide Arboretum**  
Sustainable Landscapes for Healthy Homes & Communities

**Summer 2015**

## Why We Love Prairie

Justin Evertson, Green Infrastructure Coordinator

*“The joy of prairie lies in its subtlety. It is so easy—too easy—to be swept away by mountain and ocean vistas. A prairie, on the other hand, requests the favor of your closer attention. It does not divulge itself to mere passersby.”*

Suzanne Winckler

In this issue of *The Seed* we do our best to explain why we love prairie and why we should utilize more prairie plants in our planted landscapes. And yet we have to admit that prairie is not necessarily the easiest thing to love. For many people it’s an acquired taste. Perhaps it’s in our DNA, a leftover trait carried forward from our ancient past, but the prairie just doesn’t seem to call to us like other landscapes do. Where do we camp or build shelter? Typically it’s in or near the woods where the trees can help protect us from the elements. Out on the prairie we become exposed without much protection offered from even the tallest bluestems or sunflowers. And perhaps there’s an ancient instinct rattling in our brains warning us that out on the prairie is where a large animal might take us for a meal.

Judging by the common names given to many of our prairie plants, it seems quite obvious that early settlers didn’t think much of the prairie either.



Smartweed, ironweed, locoweed, rosinweed, snakeweed, milkweed, sneezeweed, gumweed and soapweed were just some of the weedy names given to native plants. And there were other uninspired monikers bestowed such as fleabane, sandwort, spiderwort, ragwort, scurfpea and dogbane. Prairie was a foreign concept to these early settlers who had come from the more wooded areas of the eastern U.S. In fact English speakers didn’t even have a name for the vast grasslands they encountered so they adopted the French word “prairie” which actually meant “meadow.”

“Why We Love Prairie” continued on page 19

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# Why plant prairie?



**beauty, inspiration & sustainability**

## POLLINATION

Prairies provide essential food and shelter for native pollinators—bees, wasps, beetles, flies and butterflies. Besides the long and diverse flowering season, they also offer aboveground shelter year-round when much other vegetation has been removed. Researchers estimate that a third to a half of native tallgrass prairie bees are plant specialists, meaning they only feed on specific plant species or families.

## CLIMATE ADAPTABLE

Most prairie plants can survive extreme dry as well as wet conditions. As climate patterns become increasingly dramatic, prairie vegetation is more likely to survive extreme weather events than other plants.

## CARBON SEQUESTRATION

Native plants work much better than traditional mowed grass as a carbon sink due to their extensive root systems and capacity for retaining and storing water. Their capacity to store carbon can help reduce global warming.

## BIODIVERSITY

“Biodiversity is rarely a fixed constant. Like ‘balance of nature,’ it is a constantly adjusting, shifting phenomenon that tends toward stability in the long run. Within a natural community, it is a reflection of the number of species of plants and animals; stability is the relative constancy in the abundance of those plants and animals. Tallgrass prairie demonstrates both.”

*John Madson, Tallgrass Prairie*

## EDUCATION

Prairies offer educational opportunities, open space and nature exposure for all ages.

## BEAUTY AND INSPIRATION

“The question is always asked by the curious travelers who have crossed the Plains at Interstate speeds, ‘How can you live here without the mountains, the ocean, the woods?’ But what they are really speaking to is their desire to ‘get it’ right away. The sublime of this place that we call the prairie is one of patience and looking. There is no quick fix... If one is to understand the beauty of this place, the old answers just won’t do.”

*Keith Jacobshagen in The Changing Prairie*

Illustration from Keith Jacobshagen’s journals.



# savings & income

## GRAZING AND HAY PRODUCTION

Prairie grasses have very high nutritional value for livestock and hay production. Nebraska's grasslands help feed more than 1.8 million beef cows with an annual economic value over \$12 billion.

## SUPPRESS PEST INSECTS

Prairie insects are natural enemies to many pest insects, reducing the need and cost for pesticides or other costly management.

## PRAIRIE BIOFUELS AND BIOMASS

The energy-dense structure of these plants can be burned or converted into fuels that may become increasingly important as other fuels prove unsustainable or damaging.

## SOIL ENRICHMENT

Their roots concentrate organic matter in the top 2-3 feet of soil, making it fertile, porous and desirable for food production and agriculture.

## PREVENT EROSION

The root systems of prairie grasses can grow 6-8 feet deep or more (most lawn grasses have roots less than 4 inches deep) so they can hold soils even on very steep inclines and prevent reservoirs from filling up with sediment.

"Placing strips of prairie on only 10 percent of the area of a watershed has been found to reduce sediment loss by 90-95 percent when compared to watersheds with 100 percent annual row crops."

*Incorporating Prairies into Multifunctional Landscapes, Iowa State University Extension*

## WATER CONSERVATION

Prairie plants can survive long periods of dry weather. Some die back and grow only when water sources are rejuvenated. Even if aboveground growth is damaged, their roots store energy for regrowth. Their roots also greatly increase water absorption and help recharge groundwater supplies.

## WATER QUALITY

Prairie grasses act as a sponge. They are capable of taking up harmful and toxic buildup of fertilizer, pesticides and herbicides before they contaminate waterways, streams and lakes.

## IMPROVE AIR QUALITY

"Ground level ozone and air toxics can be drastically reduced by the elimination of lawn maintenance equipment—lawn mowers, weed edgers, leaf blowers, etc.—fueled by gasoline, electricity or batteries."

[www.epa.gov/greenacres/](http://www.epa.gov/greenacres/)

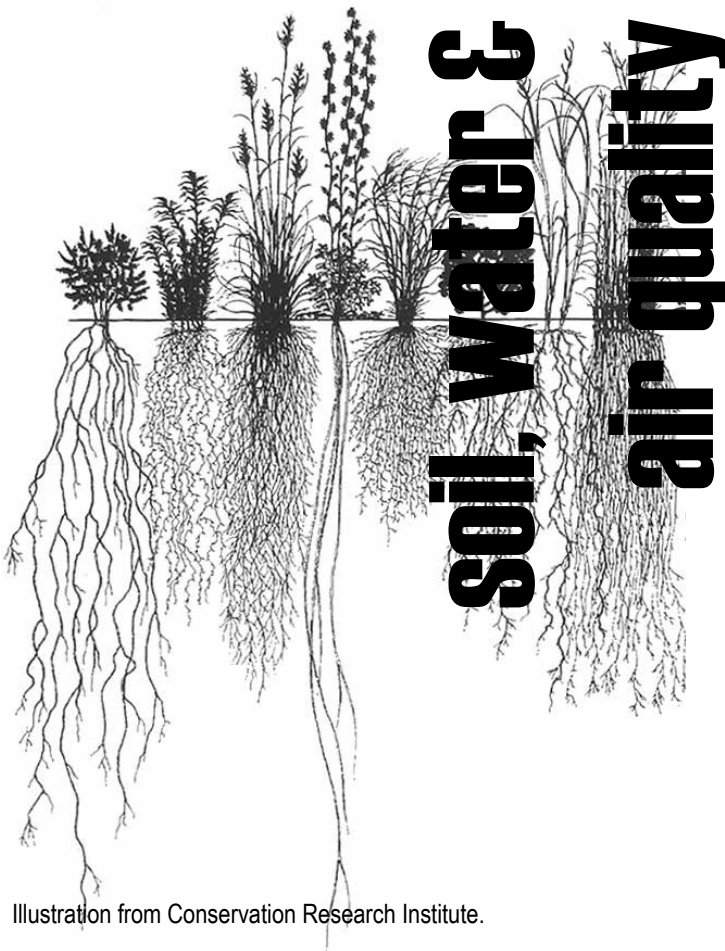


Illustration from Conservation Research Institute.

# Starting a Prairie Garden

Bob Henrickson, Horticulture Program Coordinator

Prairies once stretched from horizon to horizon, vast open spaces that bear no resemblance to today's urban lots. But many gardeners and landscape professionals are discovering that prairie wildflowers and grasses offer a more sustainable, natural and varied alternative to the conventional manicured lawns that have turned America's neighborhoods into clones of one another.

We live where prairie once existed so it makes sense that we garden using prairie wildflowers. These plants existed for centuries without the benefit of landscape crews and garden centers. A prairie landscape is also friendlier on the environment, requiring only a minimum of the water our thirsty lawns require and the need for chemical pest control is virtually eliminated.

Few of us have the rich, deep fertile prairie soils that once existed on the plains. Our good topsoil is usually stripped away during development, leaving us with the heavy clay gumbo dug out for basements, spread out over the lot and compacted by equipment. For plants to be successful, it's helpful to amend our soils so they more closely replicate the soils we once had. We can work to restore them by raising the existing soil grade and adding generous amounts of topsoil and compost into the soil base.

An easy way to start out is to incorporate prairie plants into existing perennial borders or make small "postage stamp" prairie areas in dry, sunny spots near sidewalks or hardscaping.

Creating a new bed may require substantial soil amendment.

## Preparing Soil for a New Bed

☛ Weeds are best eradicated before planting or sowing because they shade and outcompete slow-growing prairie seedlings.

☛ Smothering is a popular technique for small areas of lawn or weeds. First cut the grass or weeds very short, then put down a thick layer of newspapers or lawn recycle bags for up to a month to smother them. This can be covered with several inches of a sand or compost mix to further weigh it down.

☛ You can also use minimally toxic, short-lived herbicides, as carefully and sparingly as possible, on perennial weeds that are aren't removed by hand-weeding.

☛ If possible, enrich the soil for your tallgrass prairie garden by incorporating 3-6 inches of compost/topsoil. A dry, shortgrass prairie garden will benefit from raising the soil with a mix of topsoil, sand or gravel.

## Maintaining a Prairie Garden

☛ It is best to fight only the weeds that can cause major problems later on. It is helpful to know what the prairie plants look like when they first emerge in spring, but it is far easier to know what the most aggressive weeds look like early on so they can be pulled out before they overtake other plants.

☛ Let annual weeds act as a cover crop and worry only about keeping seed from maturing by mowing. Mow whenever weeds get over 10 inches tall using a flail mower or a weed whip. If weeds are minimal, hand-weed only.

☛ The best way to handle insects is to let nature take its course since only 1 percent of garden insects are pests.



☛ Do not overwater your garden after it is established, otherwise the plants that survive will be those that require extra water—and the ones that can live on rainfall or minimal moisture will rot from being too wet. Grasses are best not fertilized and not placed where sprinkler systems will hit them. Most of these plants evolved in poor soils and with fluctuating moisture levels.

## Prairie Combinations

One way to achieve a good mix of texture, height and interest is to follow a planting plan that balances seasonal wildflowers and grasses. To do this, divide your garden space into a grid. In a random pattern within each grid, plant one tall grass and one short grass for every four wildflowers.

**Tall grass:** Indiangrass—*Sorghastrum nutans*; big bluestem—*Andropogon gerardi*; switchgrass—*Panicum virgatum*

**Short grass:** little bluestem—*Schizachyrium scoparium*; sideoats and blue grama—*Bouteloua curtipendula* and *gracilis*; prairie dropseed—*Sporobolus heterolepis*; Canada wildrye—*Elymus canadensis*; prairie junegrass—*Koeleria macrantha*; sedges—*Carex*.

**Tall cool season wildflowers:** rattlesnake master—*Eryngium yuccifolium*; white wild indigo—*Baptisia lactea*; spiderwort—*Tradescantia ohioensis*; *Penstemon tubaeformis*; mountain mint—*Pycnanthemum virginianum*.

**Short cool season wildflowers:** purple poppy mallow—*Callirhoe involucrata*; Missouri primrose—*Oenothera macrocarpa*; *Anemone cylindrica*; prairie smoke—*Geum triflorum*; *Phlox pilosa*; pasque flower—*Pulsatilla patens*.

**Tall warm season wildflowers and forbs:** wild bergamot—*Monarda fistulosa*; pitcher sage—*Salvia azurea*; obedience plant—*Physostegia virginiana*; pale purple coneflower—*Echinacea pallida*; prairie coneflower—*Ratibida pinnata*; compass plant—*Silphium laciniatum*, Joe-Pye plant—*Eupatorium purpureum*; thickspike gayfeather—*Liatris pycnostachya*; showy goldenrod—*Solidago speciosa*; sky blue aster—*Aster azurea*; leadplant—*Amorpha canescens*; New Jersey Tea—*Ceanothus americana*; fleabane—*Erigeron strigosus*; black-eyed Susan—*Rudbeckia hirta*; prairie coneflower—*Ratibida columnifera*; *Penstemon grandiflora*; prairie ragwort—*Senecio plattensis*.

**Short warm season wildflowers:** prairie onion—*Allium stellatum*; purple prairie clover—*Dalea purpurea*; butterfly milkweed—*Asclepias tuberosa*; black Sampson—*Echinacea angustifolia*; prairie coreopsis—*Coreopsis palmata*; dotted gayfeather—*Liatris punctata*; Missouri black-eyed Susan—*Rudbeckia missouriensis*; aromatic aster—*Aster oblongifolius*.

# Bob's Top 10 Tips for Prairie Gardens

Bob Henrickson, Horticulture Program Coordinator

1. Weeds are best eradicated before planting or sowing, because they out-compete slow-growing prairie seedlings and even shade them.
2. Pick your battles! Spend your efforts on the worst weed problems and try to eliminate them early on.
3. If possible, enrich the soil for your tallgrass prairie garden by incorporating a few inches of compost or good topsoil. Prairie plants will benefit from the enriched soil and from being raised above grade to improve drainage.
4. Once established, water your garden only during periods of extended drought. Otherwise the ones that can survive on rainfall will rot and you'll be left with plants that require extra water.
5. Design your prairie style landscape to include 50-75 percent grasses. By competing with the prairie wildflowers, grasses help keep them from growing too tall or becoming aggressive. They also frame the flowers, adding a refined texture to some of the coarser-looking prairie plants, and hiding the legs of seasonal wildflowers that go dormant. With competition you can control aggressive seeders like ironweed, *Ratibida* or pitcher sage. Plants with underground runners like maximillian and sawtooth sunflower, Jerusalem artichoke, late Canada goldenrod and prairie cordgrass are more difficult to control and are best planted in a confined space.
6. Most prairie grasses take awhile to green up in the spring so include early season wildflowers and native sedges that will grow as soon as temperatures rise above freezing and compete with aggressive forbs and spring weeds like henbit and dandelions. Sedges are wonderful for this and there are native sedges for both wet and dry soils.
7. In a prairie garden, it helps to make root competition so fierce that grasses and forbs don't get leggy and nothing is allowed to be aggressive.
8. It is best to plant in a random pattern so it won't look lined up or artificial. Prairie plants will seed around the garden and show up in random locations (free plants for the frugal gardener!). Most only become a nuisance on open ground.
9. If a prairie garden appears too informal, you can soften the wild look by providing a distinct border or edge between the prairie garden and other areas to show that this is a planned landscape.
10. Smaller plantings are easier to establish by planting wildflowers and grasses that were grown in small plug containers rather than from seed. Later on you can broadcast seeds of pioneer forbs—like upright prairie coneflower, wild larkspur and plains coreopsis—to compete with weeds and add more interest.



As in any landscape, thinking through the seasons will add to interest and structure year-round.

“A more immediate appeal of tallgrass prairie is the fact that it can be simulated on almost any scale, from a backyard flowerbed to many acres. For the gardener wanting something striking and colorful without the usual fertilizers, pesticides, and irrigation, a patch of prairie forbs and grasses is ideal. It is the most self-reliant of natural gardens, thriving in spite of drought or insects and fiercely intolerant of invading weeds. It can't survive plowing or constant close mowing, but it can endure stresses that tame, pampered ornamentals could never survive.”  
*John Madson in Tallgrass Prairie*

# Community as Habitat—Prairie in the City

Justin Evertson, Green Infrastructure Coordinator

We at NSA believe emphatically that more native prairie plants should be used in our planted landscapes, especially within our communities. Two factors are prominent in this notion. First is the realization that most of the prairie has been plowed under. Nebraska’s renowned prairie ecologist J.E. Weaver summed it up well: “Civilized man is destroying a masterpiece of nature without recording for posterity that which he has destroyed.”

Weaver had seen that in just a few decades after settlement, we had plowed up the best of the prairie. Across the Great Plains it’s estimated that over 95 percent of the tallgrass prairie and 70 percent of the mixed grass prairie has been lost (U.S. Geologic Survey data 2014). And although we’re fortunate that significant amounts of mixed and shortgrass prairie still exist in central and western Nebraska, much of this has been degraded from mismanagement or has become highly fragmented. The impact to native flora and fauna due to this loss has been significant, with the number of declining species rising every year. In addition, the loss of prairie has led to other problems—significant soil erosion, greater stormwater runoff, streambank erosion and polluted streams. The deeply-rooted prairie is no longer there to hold the soil and filter the pollutants from our farm fields and communities.

Secondly, although we may live in prairie country, our community landscapes reflect very little of our natural heritage. Our community green spaces have become predictable and homogenous, containing a relatively narrow palette of plants, most of which are from foreign lands and which offer few environmental benefits. In fact, most of the community landscape is covered with turfgrass which does almost nothing to aid biodiversity or sustain ecological health. Our landscapes simply do not reflect the many benefits of biodiversity and of native plants that support up to 30 times more species in the food web than non-natives (Douglas Tallamy, *Bringing Nature Home*). Limiting biodiversity also makes our community landscapes less resilient to climate change, weather impacts and disease threats.

If the green spaces of our communities were properly planted and managed, they could become critical refuges for important native plants and wildlife including a wide variety of important pollinators. Just think about it—every town has unused park spaces, school properties, fairgrounds, cemeteries, industrial areas and transportation corridors that are managed primarily by mowing the lawn or whatever grows there, and often by spraying away anything but turfgrass. And of course nearly every commercial or residential property has green space that would be healthier planted to something. These green spaces may as well include more native plants. At least some of the bigger spaces could be planted and managed as richly diverse prairie plots. And although true prairie is harder to do on small residential or commercial yards, many native prairie plants lend themselves well for ornamental use in landscape plantings.

To help push this vision along, the Nebraska Statewide Arboretum is partnering with the UNL Department of Entomology and the Nebraska Environmental Trust on an initiative called “Community as Habitat.” The goal of the three-



Three photos above: This property in northeast Lincoln is a designated Pollinator Habitat and a Monarch Waystation. Though it is a small yard, it offers an abundance of food, nectar and habitat for pollinators.

year initiative is to improve the biodiversity and ecological health of targeted community landscapes via greater use of native plants that in turn attract a much wider variety of important wildlife, especially pollinators and other critical insects. In short we will work to convince Nebraskans that landscape conservation and environmental stewardship should begin in our own yards and neighborhoods.

Specifically, grant funds will be used to plan and implement up to 40 publicly accessible prairie-inspired landscape projects in



Above and below: The Ferguson House, at 700 S 16th St. in Lincoln, is home to the Nebraska Environmental Trust. The landscape surrounding the building is home to a wide variety of native plants and serves as a model of sustainable landscaping.



partner communities across the state. Projects will demonstrate environmental benefits of biodiversity, native plants, waterwise practices and soil building, with a special emphasis on pollinator-friendly and Nebraska appropriate plantings. The Community as Habitat Initiative will advance key environmental priorities of the Nebraska Environmental Trust:

- **Habitat:** The initiative will transform sterile landscapes into richly diverse, pollinator-friendly and prairie inspired habitat. The initiative will benefit a wide variety of wildlife including beneficial insects, birds, bats and amphibians.



Plantings in downtown Scottsbluff filter and absorb runoff, soften reflected light and heat, and beautify the area year-round.

- **Surface and Groundwater:** The initiative will utilize drought-tolerant native plants that greatly reduce the overall need for supplemental irrigation. In addition, the initiative will foster landscape methods that reduce pesticide and fertilizer use and reduce and filter stormwater runoff, thus reducing non-point source pollutants reaching local waterways.
- **Soil Management:** Landscape practices will improve the organic content, microbial life, infiltration, tilth and overall viability of urban soils.
- **Waste Management:** Landscape projects will utilize locally recycled wood waste as mulch and will recycle plant residues on site, thus diverting them from the waste stream.

The landscape of any community could become an important refuge for locally native plants. Unfortunately, native-inspired landscapes are often seen as wild or weedy by many people who have come to expect the neat and tidy of modern landscapes. Reliable, ever-blooming flowers, shortly cropped lawns and few if any insects are what many people have come to expect of our green spaces. Community as Habitat will aim to shift this mindset so that the definition of landscape beauty includes not just color, texture, shape and form, but also a “sense of place” that reflects biodiversity and ecological soundness. The time has come for a new paradigm in the way we landscape our communities—one that is less about exerting our will on Mother Nature and more about our embrace of biodiversity.

# Prairie plants we love.. and why



“I am surrounded by last year’s growth of Indiangrass and big bluestem, the Indiangrass now rich golden copper, and the bluestem with a reddish tinge that has always seemed to me to be the very hallmark of native prairie.”

*Paul Johnsgard*

“Of all the prairie plants we have experimented with, a few really stand out. To me, the ideal perennial is one that not only looks great, but that also attracts wildlife. This is one of the reasons I love butterfly milkweed. Its orange blooms are very showy, followed by interesting seedpods and, as its name implies, it is great for attracting butterflies. My favorite prairie plants change depending on the season; in spring and early summer, I love blue flax, false indigo and the penstemons. In mid to late summer, I am most impressed by *Liatris*, *Rudbeckia* and evening primrose. In fall, my favorites are asters and goldenrod.”

*Annie Folck*



“I’ve never seen it tame snakes, but rattlesnake master brings in pollinators and turns any landscape into a sculpture garden. And there are so many *Liatris* species that you can’t go wrong, from tall spikes to shorter groundcovers, from dry to wet soil, there’s a *Liatris* for any landscape.”

*Benjamin Vogt*

“Favorite prairie plant? The answer is easy. The one that is blooming right now. Today it is the sea of *Monarda* and the butterfly milkweed. One plant that is overlooked is *Heterotheca villosa* (hairy goldenaster). It blooms all summer long and is a nice low groundcover for sunny areas. If pinned down though, I have to say it is often the very early or late bloomer that comes for a short couple of weeks and then leaves you longing for their return. *Baptisia bracteata* (cream wild indigo), which should have been called bridal bouquet, is one of those and, I confess, probably my favorite.”

*Kay Kottas*



“Wild quinine is one of my favorite native plants. It is fun to see the pollinators that are drawn to the white flowers, which appear in clusters in the spring, and look good all season.”

*Sue Dawson*

“Wearing what’s left of their uniforms, little more than a few mildewed tatters of khaki and brown, the sunflowers stand in rank and file in front of the cold gray barracks of a late autumn dawn, heads bowed, ready to accept whatever punishment is due them, fair or unfair, as the sun, a fat sergeant announced by a brass band of goose cries, arrives with the day, both hands out of sight behind his back.”

*Ted Kooser*

“I can’t look for long at Missouri evening primrose flowers without getting dizzy. This beautiful plant, *Oenothera macrocarpa*, occurs in rocky prairie uplands in Nebraska’s southeastern counties and is widely grown in gardens for its luminous, moon-yellow, 4-inch-wide flowers. Blooming begins in May, triggered when Earth reaches a particular point in its annual 584 million mile

journey around the sun. Individual flowers open at dusk, triggered when Earth’s daily rotation causes Nebraska to slip away for a while from the face of the sun. One day it dawned on me that these plants, riding a circuit of the universe on planet Earth, are somehow keeping an eye on our star! Hawkmoths sipping nectar from evening primrose flowers may not wonder about such things, but the thought of it all makes my head spin.”

*Jim Locklear*



“Leadplant (*Amorpha canescens*) is one of the most important prairie plants in the Great Plains... it’s time to start using it in our home gardens where we can enjoy its long season of interest, texture, fragrance and easy maintenance at closer range. And it’s just perfect for those tough, dry, miserable places almost all of us have somewhere in our gardens.”

*Harlan Hamernik, in the 2006 GreatPlants® Gardener*

“I love leadplant for its brilliant purple flowers with orange filaments and anthers set against delicate gray-green leaflets, and for the way it feeds so many insects with those leaves and so many native solitary bees and wasps with its nectar. I love that it has a huge array of medicinal uses, makes a delicious refreshing cold tea and has roots up to 16 feet long. A quintessential prairie plant.”

“One of my very precious memories is being with my mother on her summer’s visit to our farm prairie in Stanton County. I remember the beauty of the many prairie flowers and the insects perched on the flower heads. I only remember the sunflower and the ‘turkey foot’ seedheads. Why do I remember this experience at such a young age, over 75 years ago, but I do. Thank you, Mom!”

*Bud Dasenbrock*



# Uses of Prairie Plants

Bob Henrickson

Below is a list of some native wildflowers and grasses with a rich history here on the Great Plains. These plants are not only beautiful, they were also useful to Native Americans and prairie pioneers for ceremony, food, shelter or play.

- Big bluestem, *Andropogon gerardii*, has stiff flowering stems that were used for toy arrows with hawthorne thorns as tips.
- Buffaloberry, *Shepherdia argentea*, bore fruits that were highly prized after frost.
- Candle anemone, *Anemone cylindrical*, was called “playing card medicine”; the cylindrical seedheads were rubbed between hands for good luck.
- Purple coneflower, *Echinacea angustifolia*, was perhaps the most widely used medicinal plant of the Plains Indians. Its macerated root was used as a painkiller and was considered especially helpful for toothaches and sore throats. It was also used for coughs, colds, snake bites and burns. The dried flower heads were used as a comb.
- Common milkweed, *Asclepias syriaca*, was highly edible; they boiled young shoots and ate immature fruits and flower clusters. Cabbage was called “white man’s milkweed.”
- Dwarf blue indigo, *Baptisia minor*, was called “rattle-pod” and used by children in ceremonial dance.
- Elderberry, *Sambucus americana*, fruits were prized and their blossoms were dried to make a tea.
- Greenthreads, *Thelesperma trifidum*, was the finest of prairie teas (**photo opposite**).
- Ground plum, *Astragalus crassicaarpus*, was called buffalo food. The pea-like fruits were eaten and also used as a seasonal indicator of when to plant corn.
- Leadplant, *Amorpha canescens*, was the dominant prairie flower during rutting season and named “buffalo bellow plant” because of its timing. Lakota made tea from the dried leaves and powdered and mixed them with buffalo fat for pipe tobacco.

- New Jersey tea, *Ceanothus americana*, or “Indian tea” was a substitute for black English tea.
- Pasque flower, *Pulsatilla patens*, was often called “twin flower” or “old man of the prairie” because flowers usually appear in pairs and the seed heads resemble the gray hair of an older person.
- Porcupine grass, *Stipa spartea*, has stiff awns that were bundled together as “comb plant.”
- Prairie golden aster, *Chrysopsis villosa*, was called “chickadee plant” by the Cheyenne. They made a soothing tea from its tops and stems and also burned it as incense.
- Prickly pear cactus, *Opuntia*, was referred to as “raspberry-watermelon,” and they used the pads, fruit and juice in a variety of ways.
- Prickly poppy, *Argemone polyanthemos*, was called “thistle used to dye arrows yellow.”
- Purple poppy mallow, *Callirhoe involucrata*, had roots that were dug and stored for winter use; leaves were chewed for their pleasant flavor and added to stews for thickening.
- Purple prairie clover, *Dalea purpurea*, was called “broom weed” and the tough stems were tied together to make brooms. Fresh roots were chewed and leaves were dried for tea.
- Soapweed, *Yucca glauca*, has roots that were soaked in water to make soap; they were bound with sinew to make a fire drill in treeless prairie; leaves were pounded to reveal fibers used as thread and the tip as needle; and immature flower spikes were boiled and eaten like asparagus and flower petals were eaten fresh.
- Wild strawberry, *Fragaria virginiana*. June was called “moon when strawberries are ripe” and they luxuriated in them when they were in season.

## Sources:

*Uses of Plants by the Indians of the Missouri River Region*, Melvin Gilmore

*Medicinal Plants of the Prairie: An Ethnobotanical Guide*, Kelly Kindscher



Greenthreads,  
*Thelesperma trifidum*

**Join the community!**

## Nebraska Statewide Arboretum

We plant Nebraska.  
Sustainable, beneficial landscapes  
from this place, for this place.  
We help landscapes come together...  
and people as well.  
Join us!

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# Prairies through the Year

## NATIVE SPRING FLOWERS

Blue-eyed grass, *Sisyrinchium campestre*  
 Dwarf blue indigo, *Baptisia minor*  
 Golden Alexanders, *Zizia aptera*  
 Ground plum, *Astragalus crassicaarpus*  
 New Jersey tea, *Ceanothus americanus*  
 Pasque flower, *Pulsatilla patens*  
*Penstemon cobeia*  
 Prairie smoke, *Geum triflorum*  
 Pussytoes, *Antennaria*  
 Ragwort, *Senecio plattensis*  
 Spiderwort, *Tradescantia ohioensis*  
 Wild larkspur, *Delphinium virescens*  
 Woodland phlox, *Phlox pilosa*

## SUMMER

Beebalm, *Monarda fistulosa*  
 Black samson, *Echinacea angustifolia*  
 Black-eyed Susan, *Rudbeckia missouriensis*  
 Butterfly milkweed, *Asclepias tuberosa*  
 Cinquefoil, *Potentilla arguta*  
 Compass plant, *Silphium laciniatum*  
*Coreopsis tinctoria* and *lanceolata*  
 Evening primrose, *Calylophus serrulatus*  
 Fleabane, *Erigeron strigosus*  
 Fringed sage, *Artemisia frigida*  
 Gayfeather, *Liatris*  
 Joe-pye plant, *Eupatorium purpureum*  
 Leadplant, *Amorpha canescens*  
 Mountain mint, *Pycnanthemum virginianum*  
 Pale purple coneflower, *Echinacea pallida*  
 Pitcher sage, *Salvia azurea*  
 Prairie clover, *Dalea*  
 Prairie coneflower, *Ratibida columnifera*  
 Prairie onion, *Allium stellatum*  
 Primrose, *Oenothera macrocarpa*  
 Purple poppy mallow, *Callirhoe involucrata*  
 Rattlesnake master, *Eryngium yuccifolium*  
*Rudbeckia*  
 Sensitive briar, *Schrankia nuttallii*  
 Showy Missouri Goldenrod, *Solidago speciosa*  
 Skullcap, *Scutellaria resinosa*  
 Upland white aster, *Aster oblongifolius*  
 Vervain, *Verbena stricta*  
 White wild indigo, *Baptisia lactea*  
 Wild petunia, *Ruellia humilis*



“Snow geese, like pasque flowers, have always been my personal symbol of spring.”  
 Paul Johnsgard



From top:  
 golden alexander;  
 New Jersey tea;  
 pasque flower;  
 evening primrose;  
 vervain.



## FALL INTO WINTER

Aromatic aster, *Symphotrichum oblongifolium*  
*Boltonia*  
Bushclover, *Lespedeza Capitata*  
Gayfeather, *Liatris*  
Gentian, *Gentiana*  
Helen's flower, *Helenium*  
Joe-Pye Plant, *Eupatorium*  
Missouri evening primrose, *Oenothera*  
Obedient plant, *Physostegia virginiana*  
Stiff goldenrod, *Solidago rigida*  
Sunflower, *Helianthus* and *Silphium*  
Wild rose, *Rosa* (winter rose hips)  
Wild senna, *Senna hebecarpa*



From top and to right:  
gentian;  
bushclover;  
blue grama;  
Gray's sedge;  
stiff goldenrod.



## PRAIRIE GRASSES

Big bluestem, *Andropogon gerardii*  
Blue grama, *Bouteloua gracilis*  
Green needle grass, *Stipa viridula*  
Indiangrass, *Sorghastrum nutans*  
Junegrass, *Koeleria macrantha*  
Little bluestem, *Schizachyrium scoparium*  
Needle-and-thread, *Stipa spartea*  
Prairie dropseed, *Sporobolus heterolepis*  
Sedges, *Carex*  
Sideoats grama, *Bouteloua curtipendula*  
Switchgrass, *Panicum virgatum*



## Prairie Resources

*Field Guide to Wildflowers of Nebraska and the Great Plains*,  
Jon Farrar  
*FloraSearch*, online identification for Nebraska wildflowers  
searchable by bloom color, month, height, region,  
[arboretum.unl.edu/florasearch](http://arboretum.unl.edu/florasearch) *Gardening with Prairie  
Plants*, Sally Wasowski  
*Ion Exchange Native Wildflowers and Seeds*, [ionxchange.com](http://ionxchange.com)  
*Nature's Heartland*, Bill Boon  
*The Prairie Ecologist*, [prairieecologist.com](http://prairieecologist.com)  
*The Prairie Garden*, J. Robert Smith and Beatrice S. Smith  
*Prairie Moon Nursery*, [www.prairiemoon.com](http://www.prairiemoon.com)  
*Prairie Plains Resource Institute*, [prairieplains.org](http://prairieplains.org)  
*Stock Seed Farms*, [www.stockseed.com](http://www.stockseed.com)

### “I saw my first native prairie in

June, 1974 just outside Omaha. I'd never experienced anything like it, a vast sea of pink phlox all in bloom. A student of ecosystems, I wanted to try my hand at restoring prairie to places where it had been plowed, farmed and converted to brome. I've had lots of opportunities at attempting restoration at Neale Woods, Fontenelle Forest and private properties, including my own. A restoration planting on my hillside is over 30 years old and is as diverse as any planting I've seen. However I've learned that restorations, even diverse plantings, are still not the real thing. You can't duplicate, in a few decades, what nature has made over thousands of years. There are associations between plants, fungi and other soil organisms that, once destroyed, may take hundreds of years to heal and come together again. That, to me, is the fun and mystery of it.”

Gary Garabrandt, *Fontenelle Nature Center*



“There is great similarity in the vastness expressed in the open expanse of the prairies and that of the sea... The sea has a distinct power of drawing out of, of arousing one’s curiosity to investigate what is beyond the horizon... The prairies too, have mystery. They too,

have a horizon that calls. Early treks across the great plains must have called the pioneer, urged him on to new adventure... However, the prairies give a far more secure feeling than the sea. The prairies are inhabited; they are human. Like oases the homes of man are scattered over them.”

*Jens Jensen*

**The Feel of  
Prairie...  
a sense of space  
that draws us in  
for a closer  
look**

“While I know the standard claim is that Yosemite, Niagara Falls, the upper Yellowstone and the like, afford the greatest natural shows, I am not so sure but the Prairies and Plains, while less stunning at first sight, last longer, fill the esthetic sense fuller, precede all the rest, and make North America’s characteristic landscape.”  
*Walt Whitman*



“The sea, the woods, the mountains, all suffer in comparison with the prairie...The prairie has a stronger hold upon the senses. Its sublimity arises from its unbounded extent, its barren monotony and desolation, its still, unmoved, calm, stern, almost self-confident grandeur, its strange power of deception, its want of echo, and, in fine, its power of throwing a man back upon himself.”  
*Albert Pike*

“Grasslands challenge our senses, calling us to open our eyes to impossibly broad horizons and then, in the very next breath, to focus on some impossibly tiny critter hidden in the grass.”  
*Candace Savage*



## The Importance of Pathways

Pathways are particularly important in planted landscapes, for accessibility certainly, and to show that what might appear a wild area is being cared for and managed.

“It was a lucky day for me when I discovered that I could put the lawn mower blade on the highest setting and cut a path through the tall grass that, at a stroke, transformed that sorry patch of grass and weeds into something altogether different—into a meadow.

That path, in my eyes anyway, is a thing of incomparable beauty, especially right after it’s been mowed. I don’t know exactly what it is, but that sharp, clean edge changes everything; it makes a place where there wasn’t one before. Where before your eye sort of skidded restlessly across the tops of the overgrown grasses, in search of some object on which to alight, now it has an enticing way in, a clear and legible course through the green confusion that it cannot help but follow. The path beckons, making the whole area suddenly inviting.... New possibilities have opened up; there’s now the prospect of a little journey.”

*Michael Pollan*



# Bringing Prairie to the City

Annie Folck, Planner for the City of Scottsbluff

Nebraska is a beautiful state. We may not have mountains or oceans, but driving across the sandhills, it is easy to see that the prairie has a beauty all of its own. In the part of the state where I live, near the Wyoming border, we have the bluffs and pine ridges rising out of the prairie. On my way to work every day, I drive by Scottsbluff National Monument, which was used as a landmark by pioneers on the Oregon Trail. One of the things I love about Scottsbluff is that this landmark is visible from almost anywhere in town, setting us apart to any visitors who might pass through, just as it did to those on the Oregon Trail.

In spite of the uniqueness of our surroundings, in the past most of the landscaping throughout town and throughout our city parks has been fairly traditional, with a lot of bluegrass and highly ornamental plants. Now I have nothing against having bluegrass in parks—kids need play areas, we need sports fields and it is nice for families to have places to picnic. There are many areas, however, particularly in the downtown, where we want landscaping and typical turfgrasses just don't make sense. So for the last few years we have been breaking up large amounts of concrete in parking lots and along streets and replacing these areas with landscaping. We want plants to help cool the area and make it more attractive, but due to the small amounts of space available and the proximity of traffic, these are not areas in which we want kids to play.

## Sense of Place

When we started landscaping our downtown, we also decided that we wanted the landscape to be a reflection of the beautiful prairie that surrounds our community, not a poor imitation of what other cities with very different climates have done. Besides wanting our downtown landscapes to be a reflection of the area in which we live, choosing to design prairie plantings is more practical as well. The deep-rooted prairie plants are much better adapted to the 15 inches of average annual rainfall that we expect in our part of the state. They are also better adapted to the periodic long, dry spells we get. Many of the areas that we landscaped have very poor soils and if we tried to put in plants that like moist, rich soil, they would have struggled to survive. The prairie grasses and perennials that we chose, however, are very well-suited to these sandy, high pH soils with minimal nutrients.

Some of the native grasses we use will be very familiar to most gardeners: little bluestem, big bluestem, Indiangrass and switchgrass. But we have also been experimenting with a few lesser known grasses like plains muhly grass and prairie junegrass, both of which are a little smaller than the grasses above so they work well in areas with limited space. Both have done very well for us and it is nice to have a few more options for grasses with different sizes and textures. We also use many prairie plants in our rain gardens—perennials like goldenrod, liatris, swamp milkweed and spiderwort thrive in areas that are much too wet



A planting of little bluestem with goldenrod, liatris and sedges absorbs and filters runoff from surrounding pavement, offers a regional sense of place and softens the urban landscape.

for most plants. And for areas that are extremely poorly drained and too wet for anything else, we bring in the sedges. There are many native sedges that will tolerate both wet and dry soils. We have even planted some directly into standing water and had them grow successfully.

## Challenges

While we love prairie plants for their beauty and resilience, prairie plantings are not without their challenges. Maintenance can be difficult, especially during establishment. In one particular planting of ours, the grasses have done so well that it has been hard for the wildflowers to compete. Additionally, it can be difficult for anyone maintaining the landscape to know what is supposed to be there and what is a weed. We have tried to make it easier by using a limited number of species in each planting; even so, some of these prairie plants are not familiar to the average maintenance person and, in their early stages, some look very much like weeds. As some of these plantings mature, the grasses are spreading in diameter but dying out in the middle. Ideally, it would be best if we could burn the dead material away, mimicking the prairie fires in nature, but because we are in town, this is not an option. Instead, we are going to have to start dividing the grasses if we want them to continue to be healthy. With the large number of grasses that we have in these landscapes, this will be a huge part of our maintenance program. The amazing root systems that help make the grasses so resilient also create a lot of work when dividing them, so this will be one of our challenges in years to come.

## Prairie Plants as Problem-solvers



Deep-rooted prairie plants are excellent rain garden plants. Besides absorbing and filtering runoff, many of them can tolerate extremes of both wet and dry conditions.



For areas that are difficult to mow, water or otherwise manage, prairie plants can minimize the need for care.

### “The prairie is a great stabilizer.

Compared to man’s crops of wheat or maize (in fields adjacent on virgin soil), fluctuations in temperature of both soil and air are much less in the prairie, humidity is consistently higher, and evaporation is decreased. The demands for water and light increase more gradually and are extended over a longer period of time. Less water is lost by run-off or by surface evaporation. When drought comes, the vegetation gradually adjusts itself to the time of stress. Growth decreases, less water is needed, many species do not bloom, and the landscape temporarily takes on a dry appearance, which is again replaced by the fresher one of green upon the advent of rain.” *J.E. Weaver*



ABOVE: Little bluestem and *Ratibida* in front of a mixture of big bluestem, Indiangrass and switchgrass. Prairie Splendor penstemon with prairie junegrass and sedges.



Another maintenance challenge has been learning how to manage these plantings to keep them looking acceptable to the public. For the most part, we have had a great response to our prairie plantings. Many people have embraced them and we get great feedback about the use of all the prairie grasses with one seasonal exception—in the past we have left the prairie grasses alone through the winter and cut them back in spring just before new growth begins. However, even people who love the grasses through the summer and fall have told us that, after the first couple of snows flatten them out, they can start to look unkempt and weedy for the rest of the winter. In order to make these plantings more acceptable to the public, in the future we will probably try to cut the grasses back after the first major snowfall every winter.

We are still learning a lot about working with prairie plants. It is not easy to replicate a prairie landscape in an urban environment. Even so, in our limited experience, these prairie plants are far more resilient and better able to handle tough urban growing conditions than more traditional plants. We will be watching these plants and learning more about the best ways to design and maintain these plantings over time. In the meantime, we are enjoying them for their beauty and the important functions they serve within the landscape.

# Challenges of Landscaping with Prairie Plants

Mark Canney, Park Planner and Urban Designer for Lincoln Parks and Recreation

**1. Commitment.** You have to be committed to seeing the project through. Living in a prairie state and using native prairie plants should not imply that you can plop them in the ground and walk away and the plants will take care of themselves. As with any landscape project, you need to understand the site and plant appropriately for the soil, exposure to sunlight, soil moisture and impact of the surrounding area. Crucial to success is knowing how long it will take to get prairie plants established.

**2. Design Approach.** What goal are you trying to accomplish by using prairie plants? Is your intent to create a true prairie aesthetic—a mixture of color, texture and form in a randomized pattern? Perhaps it is a stylized prairie where large masses and swaths of color are woven together creating movement. Or a traditional landscape approach but using prairie plants in patterns that demonstrate clear intent and organization. Regardless of the design approach, it is important to keep in mind that some standard prairie mixes contain more than 50 varieties of seeds, making it a challenge to differentiate desired plants from weeds, especially for the novice gardener. It may be helpful to limit the seed mix depending on the size of the site, maintenance ability and overall aesthetics. Keep in mind the setting as well. Is it an acreage or a traditional neighborhood? What type of architecture—traditional vs. modern? And how will it be used? Children and dogs require open green space. All of these factors should influence the design.

**3. Grasses, forbs, native and annual wildflowers.** Within a prairie there is a range of plant types—grass, forb, native and annual wildflower. Something to consider is the proportion or mix as you plan your design. Short term and long term may have two very different aesthetics whether intended or not. While many pre-made seed mixes focus on a mix of all plants, grasses will always dominate over time, so be prepared for that in the designing stage. Annual wildflowers are a way to add immediate color to a larger scale design that is planted from seed while the natives have time to establish. Consider the proportion or combination of grasses, forbs or flowers and plan with that in mind.

**4. Size of plants.** There is no right or wrong approach to starting a prairie regarding the sizes of plants. You can start with seeds, plugs, quarts, gallons or a combination. Each method has pros and cons. Oftentimes the type and size of materials are dictated by budget and availability. Some of the most successful prairie gardens use a combination of sizes.

**5. Availability.** Prairie plants are not always readily available at the local nursery. You may have to preorder or special order plant material so plan accordingly and purchase locally when possible. Starting prairie plants from seed will involve some trial and error. Purchasing plugs is probably the easiest and most economic approach but plan in advance to make sure material is available.

**6. Patience.** Most native plants will take three years to become



A newly-installed rain garden at the South Platte Natural Resources District in Sidney absorbs runoff, withstands hot, dry winds and offers visitors ideas for their home landscapes.

established. Spring-blooming prairie plants installed in the spring, like pasque flower or *Baptisia*, may be disappointing while growth is occurring below ground. Fall-blooming plants like asters and goldenrods installed in the spring often provide a nice display even the first year because they are allowed a season to grow. Instant gratification will not occur with prairie plants so remind yourself that gardens—most gardens—need three years or more to really come into their own.

**7. Think four season garden.** Many standard seed mixes may be overwhelming because of the variety of plants in the mix. If this is the case for you, consider a more limited approach, selecting three to five plants for each season for a more manageable palette that still offers seasonal color and form (i.e. pasque flower for spring, coneflower for summer, goldenrod for fall and bluestem for winter).

**8. Management strategy.** Prairie plants have varied growth patterns and some of them tend to be aggressive and move around in the landscape. Part of the fun in using prairie plants is seeing where they will show up next. However, if you want a





Runoff had been a serious problem at FireWorks Restaurant in southeast Lincoln. A rain garden, planted in 2009, prevents problems associated with standing water and makes the nearby trail more appealing.

more controlled or managed landscape, you may have to remove or relocate rogue plants. Doing research in advance will help you select plants that can be more easily managed and that best suit your garden aesthetic and management plan.

**9. Weed control.** Weeds or undesired plants are the biggest deterrent in prairie plantings. Annual weeds can be aggressive and create unwanted competition. Develop a strategy for weed control—chemical or organic? Are you willing to remove all weeds by hand or spot treat them with chemicals like Roundup? Is a pre-emergent over the entire prairie better for the garden or are you committed to hand weeding? Each method has its pros and cons and you have to determine which approach or combination fits your garden philosophy.

**10. Using prairie plants does not equate with true prairie.**

While prairie plants have the obvious benefits of being adapted to the location, attractive to native wildlife and pollinators and more likely to survive heat, cold, flooding and drought, planting them does not create true prairie. Humans have been modifying this region's landscape since the 1400s. Historically fires, both natural and prescribed, have helped control, eradicate and propagate plant life but they are not practical or possible for most landscapes. The impact of native animals—from bison to prairie dogs—has also been greatly reduced, another change in the function, aesthetics and health of the prairie. Regardless of the limitations or restrictions that exist in today's world, there are ways to bring prairie back into our landscapes.



Small curbside plantings in downtown Lincoln make a big difference, both visually and in managing runoff from hardscaping.

“The beauty and quiet calm of the grassland should not obscure the fact that the prairie is a field of battle centuries old in which the conflicting species, never wholly victorious nor entirely vanquished, each year renew the struggle. It is the bitter struggle for mere existence, for light, water, nutrients, etc., eagerly sought by numerous competitors. Each species would increase its holdings; but parent plants must compete with their own offspring; as a result the population becomes enormously overcrowded for the best development of the individual. Consequently all are reduced in size and underdeveloped compared to the stature they could attain. They often fruit sparingly rather than abundantly, and take years to accomplish what, unhindered by their fellows, might be accomplished in a single season.”

*J.E. Weaver*

# Western Prairie Beauties

Justin Evertson, Green Infrastructure Coordinator

Before we reshaped it with our farms and communities, Nebraska was pretty much cloaked in prairie from corner to corner. What a sight it must have been: grass and associated herbaceous plants as far as the eye could see, with vast herds of grazing animals, especially bison, integral to the growth and recycling of that prairie. Occasionally the grassland was punctuated by trees where the impact of fire was reduced, such as along streams and in the rough, broken lands of the Panhandle. But by and large it was a sea of grass. From a distance this sea of grass might have looked fairly uniform. But in reality, the species composition on the western end of the state bore little resemblance to that of the east.

The change in species composition from east to west primarily reflects the state's rainfall pattern. In southeast Nebraska where annual average moisture often exceeds 30", the tallgrass prairie dominates. In an average moisture year, some species such as big bluestem or cup plant can reach over 6' tall. Conversely, in the far western end of the state, where the annual precipitation might be closer to 15", shorter species dominate. Even in a relatively wet year, the tallest species in the west don't get much over 2' tall with most species in the 1-2' range. To put it another way, the shortgrass prairie is often short and sparse enough late in the growing season that a person could easily run across it. Running in the tallgrass on the other hand would be more like running in a deep, soft snow. Nobody's very fast in it.

In between the shortgrass and the tallgrass is what's generally referred to as the mixed-grass prairie. In reality, this area consists of several distinct ecotypes, including the Sandhills, which remains one of the largest relatively intact areas of native prairie in the US. The mixed-grass prairie serves as the transition zone between the semi-arid, shortgrass prairie of the west and tallgrass prairie of the east. Depending on the amount of rain that falls, the dominating species of these prairies can ebb and flow quite dramatically between more drought-tolerant types and those that thrive with more moisture.

Although I grew up around the shortgrass prairie of western Nebraska, I wasn't born with an affinity for that ecosystem. It could be hot, cold, windy, dusty and unrelenting at times—sometimes all on the same day. If there was any down time, I didn't spend it traipsing the prairies learning the plants. Farm work was tiring and economically-marginal, so I left it to pursue other dreams, some place in the big city I figured, where all the excitement would be. But life has a way of working out differently than we may have planned and I ended up in a landscape career that taught me new appreciation for our native land. Thank goodness! Now when I go home to our Kimball County ranch, I can't wait to go traipse the short prairie and see what's happening with the plants and wildlife. I'm truly amazed at how so many species are able to survive and thrive where drought is always lurking. On our farm alone we've counted over 60 different prairie species. Here are a few of the more inspiring wildflowers.

**Milkvetch** (*Astragalus*, photo at top). There are several perennial milkvetch species that grow in Nebraska. Some grow up to 18" tall alongside grasses in better soils while others hug

the ground in rocky areas with sparse vegetation. The early spring, pea-like blooms range from white to pink to purple depending on the species.



**Death Camas** (*Zigadenus venenosus*) is a native perennial growing from a bulb. Its short flower stalk terminates in pointed clusters of delicate, white flowers appearing in May. The grass-like foliage gives this plant a similar appearance to wild onions and, as its common name implies, all parts of the plant are poisonous to humans and animals. Some early settlers are thought to have been poisoned by the plant after mistaking the bulb for an onion. But it's still a beautiful harbinger of spring being one of the first prairie plants to bloom after a long winter.

**Pale Evening Primrose** (*Oenothera albicallis*), also called prairie lily, is known for its brilliant white, papery blooms occurring from late May into July. Unlike other primroses, these flowers open in the daytime. The flowers sit on 10-12" tall stems growing from a rosette of finely cut foliage. Plains Indians used the leaves as a remedy for stomach ache.

**Prairie Larkspur** (*Delphinium virescens*) is known for its spurred, dolphin-shaped flowers growing along a stiff stem that grows 1-3' tall. The flowers, which appear from May into July, are typically white but a blue variety is known from Kimball County. The flowers attract a night-flying moth that acts as its primary pollinator. The plant is poisonous and cattle are often kept away from it while it's actively growing.

**Townsend Daisy** (*Townsendia grandiflora*) is a short-lived perennial growing in sparse prairies or eroded banks. Its relatively large white, daisy-like flowers occur in May and June atop short tufts of long-leaved foliage growing about 4-6" tall. The plant was often called Easter Daisy by early settlers and Native Americans were known to eat the substantial root crown.

**Penstemon**, opposite. There are several penstemons native to Nebraska, but the two most common on the shortgrass prairie are white penstemon (*Penstemon albidus*, named for its white flowers) and narrowleaf penstemon (*Penstemon angustifolius*) with blue to lavender flowers. Both typically bloom from May through June with the white penstemon growing up to 20" tall while the slender penstemon usually stays under 12" tall. Penstemons are known for their tubular flowers that attract a variety of bees. Native Indians chewed the roots to relieve toothache.



**Prickly Pear** (*Opuntia polyacantha*) is the most common cactus of the shortgrass and is one of the primary reasons (along with rattlesnakes) that tennis shoes are not recommended when

walking the prairie. Its lemon yellow (sometimes pinkish) flowers appear in early summer and give way to an egg-shaped tan fruit later in the season. The pads and fruits of this cactus are edible though Plains Indians considered it a starvation food. The plant can be long-lived and form colonies several feet across.

**Ten-Petal Mentzelia** (*Mentzelia decapetala*) is rather large plant growing up to 3' tall and is known for its very attractive, star-shaped white flowers that bloom in late summer. The flowers sit upon distinctive serrated stems. The plant prefers disturbed or rocky ground where it can accumulate selenium, making it mildly poisonous.

**White Prairie Clover** (*Dalea candida*) is very similar to its cousin the purple prairie clover, except possessing white flowers and more wiry vegetation. Prairie clovers are highly palatable to grazing animals and they often disappear on overgrazed pastures. Lakota Indians brewed a tea from its leaves.

**Western Wallflower** (*Erysimum asperum*) is a biennial and a true harbinger of spring with its dense clusters of yellow flowers appearing on 10-12" stems in early May, often while snow is still on the ground. In a good year, the prairie shimmers in yellow when wallflower is blooming.

**Plains Evening Primrose** (*Calylophus serrulatus*) is known for its papery-yellow flowers that stay open during the day. Its long bloom period stretches from late May through July as the plant continually adds new leaves and flower buds well into summer. It's well-adapted to drought conditions with a deep taproot and narrow leaves that fold shut in the midday sun.

**Dotted Gayfeather** (*Liatrix punctata*) has an amazing natural range growing in just about every corner of the state. In southeast Nebraska its lavender flower spikes can reach 30" tall while in the shortgrass it might struggle to reach 15". This is a common wildflower at Panorama Point—the state's high point in southwest Kimball County. Its amazing survivability is tied to its deep taproot that can reach 12' deep! The plant held a wide-variety of uses for Native Americans, including food and medicine.

**Scarlet Globe Mallow** (*Sphaeralcea coccinea*, opposite) is a low-growing perennial known for its distinctive salmon-colored flowers that are unlike anything else in the prairie. The plant is actually related to the hollyhock, and its flowers are definitely similar when seen up close. However the hollyhock can grow to 8' tall, while this little plant stays in the 4-6" range. Also known as Cowboy's delight, the plant prefers disturbed areas and is often found growing on road cuts and cow paths. The Lakota used the plant for ceremonial and medicinal purposes.



**Showy Milkweed** (*Asclepias speciosa*) grows 2-3' tall and is similar in form to its cousin the common milkweed. However its ball-like flower clusters are stiffer and the individual flowers are larger and a darker pink to lavender. The plant is quite fragrant and typically grows where just a bit more soil moisture is found such as in a low spot or ditch.

**Yucca** (*Yucca glauca*, opposite) is one of the signature plants of the western prairie with its stout, tall stalks often covered in creamy white, bell-shaped flowers in June and July (if soil moisture is adequate). The plant is also distinguished by its fountain of sharp, narrow, evergreen leaves that were used as needles, bound to make brooms or woven into ropes and mats. The plant has a large woody root that can extend several feet deep. The root was mashed to make a soapy lather, thus giving the plant another common name: soapweed. Interestingly, the flowers of yucca are pollinated by the yucca moth in a very unique and symbiotic arrangement in which neither species can reproduce without the other.



**Note:** Anyone wishing to learn more about western Nebraska wildflowers should seek out the field guide *Wildflowers of the Wildcat Hills* by Connie McKinney, complete with photographs and descriptions of over 85 species. It was consulted in developing the plant descriptions above.

“Why We Love Prairie” continued from cover

Unlike the newly arriving settlers, Native Americans who had been here for thousands of years had great reverence for the prairie. They knew the importance of the grasslands for sustaining the vast herds of bison and other animals they subsisted on. And they revered the plants that grew here. In fact, most prairie plants were put to use in some way—whether for food, medicine, utility or ceremony. If the early pioneers had studied the ways of Native Americans more, they likely would have come to appreciate the prairie much more quickly, and perhaps would have given the plants more deserving names.

And so for those of us non-natives who are still relatively new to this part of the world, love of prairie doesn't always come quickly. It takes a little work. But if we take the time to go explore it and try to see it the way Native Americans did, we start to see it differently. We can see how incredibly dynamic and biodiverse it is. How its color, texture and mood can change dramatically from season to season and year to year. And we can see how beneficial it is to building soil, to filtering and holding water and to sustaining the web of life, including us humans. If we've opened our eyes properly, the prairie will have become deeply rooted within us, inspiring us to preserve and expand it wherever we can.

This year's effort at prairie-love serves as a companion to last year's issue in which we did our best to explain “Why We Love Trees.” Trees are fairly easy to love. In fact Nebraskans have planted so many that we've become known as “The Tree Planters' State”. Prairie, on the other hand, sure seems to have gotten short shrift. Although it once covered over 95 percent of our state, we rarely utilize it in our planted landscapes. Thankfully, that seems to be changing. In recent years more prairie plants have become commercially available and we're finally starting to include them more often where we plant. We still seem a bit timid about it, however, so this publication is intended to help cheerlead us toward an even greater embrace of the prairie-inspired landscape.

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### Lots of Ways to Connect!

You are part of the NSA community and there are many ways to take part in it:

- JOIN US for events, including talks, tours, plant sales and free brown-bags the first Thursday of every month in UNL Keim 150
- BUY PLANTS, either online or at plant sales, from our wide selection of regional recommendations, many with local seed source
- RECOMMEND our organization and resources to friends, family and co-workers
- VOLUNTEER at our greenhouse, office or at statewide events
- GIVE—donations are essential to NSA since we are a grassroots membership-based nonprofit.
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