



Basics of Native Plant Gardening

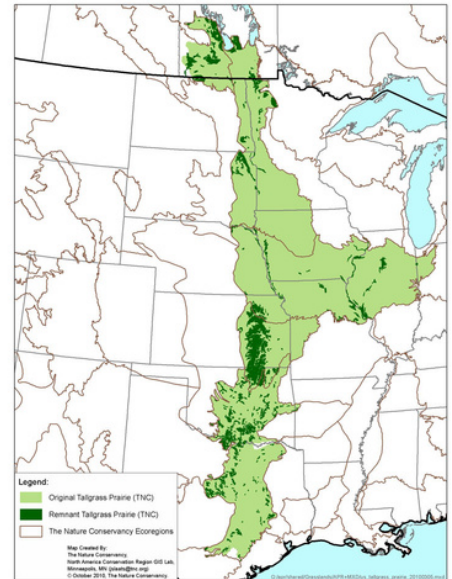


What Are Natives and Why Do They Matter?

Native plants are those that occur naturally in a specific region and, in North America, they existed prior to European settlement. Most natives in Northeast Kansas are tallgrass prairie plants.

Prairie is North America's native grassland. It is characterized by a lack of trees but an abundance of grass and wildflowers and was largely formed by the interaction of fire, drought, and grazing by large herbivores. It is one of the world's most diverse ecosystems providing habitat for over 300 species of mammals, 1000 plant species, 4000 different invertebrates, and many species of grassland and migratory birds.

The three types of prairie - short grass, mixed grass and tallgrass - once comprised North America's largest continuous ecosystem, covering the midsection of the continent. Today prairie, particularly tallgrass prairie, is one of the most endangered ecosystems in the world with only 1-4% of the pre-settlement acreage remaining.



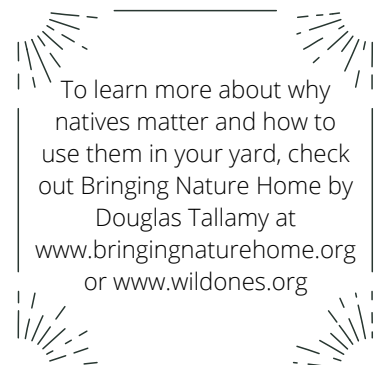
Map adapted from Tallgrass Prairie National Preserve

Why Garden with Native Plants?

While we can't restore the entire tallgrass prairie, gardening with native plants is an important way to ensure that some of the most important parts of that ecosystem remain – and they're beautiful!

Wildlife Needs Natives! Native plants form the basis of the prairie food web. Many native insects must eat the plants with which they evolved because they can't digest the chemicals in foreign or non-native plants. When we remove natives from the landscape, we remove food for native insects which are the primary source of food for birds, reptiles, and even many mammals. So, a decrease in insects leads to a decrease in other wildlife, which has adverse effects on the health of the entire ecosystem.

Native gardens are hardy! A native garden is not maintenance free however. A well-planned garden can be easier to care for and require less water, fertilizer and time than a conventional garden – providing you use the right plants for your space. Natives evolved right here, even below your feet, so they are adapted to our climate. There's no need to try to recreate the weather conditions of their far-away homeland. Everything the plants need is already here.



Landscaping with Native Plants

Before planning your garden, decide on your goals. There are two main goals that every native plant gardener should keep in mind: 1) plant natives that benefit wildlife in some way and 2) utilize less water, fertilizer, and other inputs than a traditional garden. That said, you can still plant the garden that best suits your needs. Do you want a small “pocket” prairie that recreates what existed here before? Are you focused solely on pollinator habitat or plants that benefit birds? Maybe the most important consideration is how hard you want to work - are you okay with a little wildness or do you like to keep things formal? Maybe manicured instead of formal?

Native plant gardens run the style gamut – they can be big and a bit wild or they can be a little more formal and maintained. Whatever your goals, remember that some natives are more well-behaved than others and **the more formal the garden, the more work it will take to maintain it.** Whatever your goals, pick those plants that best meet your needs and goals, enjoy the process, and if a plant just doesn't work, give it to a friend and try something new.



More formal native garden that utilizes a brick edge.



Photo courtesy of Courtney Masterson.

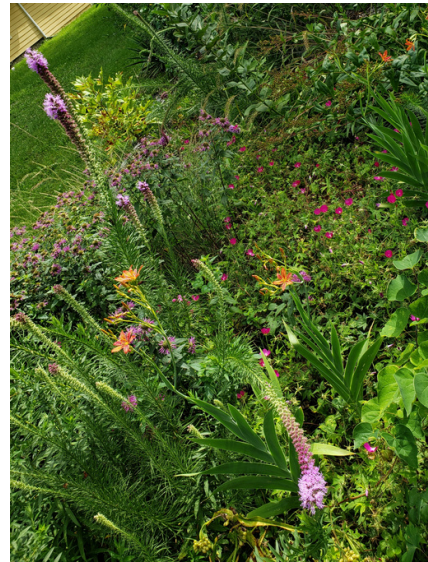


Photo courtesy of Andrea Repinsky.



Less formal native garden without defined borders.

Simple Landscape Design Tips

EDGE:

Consider using rocks or fencing to contain the sprawl of a native planting; and, unless the garden is seen from all sides, use mostly shorter species in the front and taller in the back. This makes the transition from turf (or paving) to flower garden more gradual.

FOCAL POINT:

The addition of focal point, such as a boulder or a birdbath, gives the eye a place to “land;” it also helps to bring order to a varied planting. Other possibilities might be a sculpture, a birdhouse, a bench or even a fountain.

TEXTURES:

A variety of textures is key to any successful garden. Use more showy plants next to structural plants; narrow-leaved near broad-leaved; and don't forget to include grasses for good contrast and movement in the garden. Shrubs should also be considered, where there is enough space, because they bring considerable mass into the new garden right away.



A Few Things to Consider

- Leave room for natives to grow and be patient while they establish. Some natives take 2-3 years to bloom. Once they're established, however, they can grow quickly and re-seed prolifically.
- A diverse planting with many types of plants is visually interesting and better for wildlife. Birds, bees, butterflies and other wildlife utilize different plants in different ways. By planting a variety of plants, you'll attract and benefit more wildlife than you would with a simple garden of 2-3 species.
- Be flexible, but if something just doesn't work, replace it. Most of the plants beginning native gardeners use aren't rare or precious. It's okay to make mistakes and change things. If you do have a rare plant that you just can't keep, find a native plant enthusiast to take it.
- If you've opted for a less formal garden, post a sign indicating yours as a pollinator/butterfly garden, pocket prairie, or whatever you want to call it. Because native gardens are not common, a sign will help your neighbors understand what you're doing and maybe give you a chance to talk to them about the importance of native gardens. Inexpensive signs can be purchased from a variety of organizations.

Where to Find Natives

First, where not to get your plants: Do not dig plants or collect seeds from the wild or on private property without permission. Some native plants are rare and taking them from public or private land could further impair wild populations.

Most garden centers stock cultivars of well-known native plants and true natives are becoming more common. True natives are preferred to cultivars as the changes in the bloom color and size of cultivars may not be utilized by pollinators and other nectaring insects. To identify a cultivar, look for a second name on the tag, like Fragrant Sumac "Low Grow," for example.

Nurseries that specialize in native plants are becoming more common. A quick internet search should turn up a few. If you can't find any in your area, search for non-profit native plant sales. Several organizations host them including Grassland Heritage Foundation. Watch the GHF Facebook page or website (www.grasslandheritage.org) for a date and location. The Kaw Valley Native Plant Coalition also publishes a list of the non-profit native plant sales and native plant nurseries in Lawrence, Topeka and the KC metro region. Check out their Facebook page in late winter to find a copy.



Watch Out for Neonics

Neonicotinoids (neonics) are a class of commonly used systemic pesticides that have been shown to harm native pollinators, especially bees. The pesticide can be applied as a powder or spray. It is taken up and distributed to all parts of the plant potentially including the pollen, nectar, and even the seeds. Because native plants are important food sources for native insects, neonic-laden plants are traps for any insects that feed on them. Always ask about neonics before making a purchase and if the personnel can't answer your question, don't risk it. The Xerces Society (www.xerces.org) has extensive information about neonics and a list of the brand names of neonic-containing products.



Maintaining a Native Plant Garden

The most important thing to remember when tending native gardens is not to do too much. One of the benefits of growing natives is that once they're established, they won't need a lot of watering, fertilizing or other maintenance. There are a few things that need to be done during the first growing season however:

- **Water new plants once a week for the first month. After that only water during really dry spells.**
- **Mulch more formal gardens although not heavily, and do not place mulch against plant stems as that will encourage rot. Most native bees also nest in the ground and they shouldn't be excessively covered. Feel free to leave "pocket" prairies and more wild locations mulch free.**
- **Pull weeds as they get too numerous or large.**

After the first year, watering shouldn't be necessary during the growing season except during extremely dry periods. The biggest task will be to divide plants that become too large or numerous.

Fall Clean Up

Many gardeners have been taught to clean up or "winterize" their gardens in the fall. This includes replacing mulch, cutting back dead foliage and deadheading spent flowers. Native gardens flip that idea on its head by requiring that we do as little as possible. In fact, doing nothing is better than doing too much!

In native gardens, many butterflies (including their caterpillars) and other beneficial insects overwinter in leaf litter. Some native bees lay their eggs in flower stems. Birds rely on the seeds of native flowers. By cleaning out the dead matter in a native garden, we're cleaning out many of the pollinators and other wildlife that live there. Additionally, most of North America's native bees nest in the ground. By applying a heavy mulch in the fall, we cover the entrance to their burrows and make it difficult to emerge in the spring. If it's just too hard to stay out of the garden in the fall, here are a few things you can do:

- Collect seeds from plants you want to propagate.
- Divide and transplant spring blooming plants.
- If you mulch your garden, apply the last mulch by August then leave it alone until the spring. Leave a few areas of bare ground for late nesting bees.

Spring Maintenance

While gardeners shouldn't do too much to prep the garden for winter, we also shouldn't be in a hurry to clean it up in the spring. It may be hard but wait to clean out the old plant material until nighttime temperatures are consistently in the 40s, you see bees buzzing around local fruit trees, or if you want to be really careful, wait until it's time to plant your tomatoes. By then most of our spring-active insects should be out of dormancy and won't be swept away with the leaves. For more specific information on timing spring cleanup go to <https://xerces.org/2017/04/04/dont-spring-into-garden-cleanup-too-soon/>.



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Top 20 Plants for New Native Plant Gardeners

The plants listed below are native to NE Kansas and easy to find at garden centers, non-profit native plant sales, or nurseries that focus specifically on natives. Most are also easy to grow which makes them great for beginning native plant gardeners. Their general characteristics are listed; however, some plants may grow in other conditions. We encourage you to experiment and plant whatever you enjoy and will work in your yard.

Plant	Sun/Shade	Soil/Moisture	Growth Habits	Wildlife
Prairie Blazing Star - <i>Liatris pycnostachya</i> . Tall, upright clump forming. Blooms July – Sept.	Full sun	Average, well-drained soil. Dry-medium moisture. Tolerates poor soils and drought.	Easy to grow. Showy. Good cut flowers.	Nectar source for bees, butterflies, and hummingbirds. Host plant for bleeding flower moths.
Pale Purple Coneflower - <i>Echinacea pallida</i> . Tall, upright clump forming. Blooms June – July.	Full sun	Average, well-drained soil. Tolerates dry, rocky soil and drought.	Re-seeds easily.	Nectar source for bees and butterflies. Host plant for various checkerspot butterfly species.
Butterfly Milkweed - <i>Asclepias tuberosa</i> . Clump forming. Blooms June – Aug.	Full sun to partial shade	Average, well-drained soil. Tolerates poor soil and drought.	Spreads easily but dislikes transplanting. Most successful in full sun.	Nectar source for bees and butterflies. Host plant for monarch butterflies and various moth species.
Rose Verbena - <i>Glandularia canadensis</i> . Clump forming. Blooms May – Aug.	Full sun to partial shade	Tolerates poor soil.	Spreads quickly in full sun but it is short-lived.	Nectar source for bees, butterflies, and hummingbirds.
Spiderwort - <i>Tradescantia ohioensis</i> . Clump forming. Blooms May – July.	Full sun to partial shade	Tolerates poor soil and drought.	Easy to divide and transplant. Showy.	Nectar source for bees. Numerous insects collect the pollen.
Wild Bergamot - <i>Monarda fistulosa</i> . Tall, upright clump forming. Blooms June – Sept.	Full sun to partial shade	Average soil. Dry to medium moisture. Tolerates poor soil and some drought.	Re-seeds/spreads easily. Dislikes transplanting. Grows best in full sun.	Nectar source for bees, butterflies, and hummingbirds. Host plant for hermit sphinx moths.
Grey-headed Coneflower - <i>Ratibida pinnata</i> - Tall, upright clump forming. Blooms June – Aug.	Full sun	Average, well-drained soil. Medium moisture. Tolerates drought.	Re-seeds easily, especially in disturbed areas.	Nectar source for bees and butterflies.
Foxglove Beardtongue - <i>Penstemon digitalis</i> . Clump forming. Blooms April – June.	Full sun to partial shade	Average, well-drained soil.	Deer tolerant. Re-seeds easily. Grows best in full sun.	Nectar source for bees and hummingbirds
All Aster species - <i>Symphyotrichum</i> sp. Clump forming. Bloom Aug. – Oct.	Full sun to partial shade.	Tolerate a variety of soil types. Dry to wet - varies by species.	Easy to grow but some get leggy. Pinch stems by July to encourage bushy growth.	Important late season nectar source for bees and migrating monarchs. Host plant for pearl crescents and some checkerspot butterfly species.

Top 20 Plants for New Native Plant Gardeners

Plant	Sun/Shade	Soil/Moisture	Growth Habits	Wildlife
Woodland Phlox (Wild Sweet William) - <i>Phlox divaricata</i> . Mat forming. Blooms April – May.	Partial to full shade.	Rich, moist, well-drained soil.	Spreads quickly. Rabbits/deer will eat it. Flowers are fragrant.	Nectar source for bees, butterflies, and hummingbirds.
Golden Alexander - <i>Zizia aurea</i> . Blooms May – June.	Full sun to partial shade	Average, well-drained soil.	Re-seeds easily. Does well in rain gardens.	Host plant for eastern black and giant swallowtail butterflies.
Wild Columbine - <i>Aquilegia canadensis</i> . Clump forming. Blooms April – June.	Full sun to partial shade	Average, well drained soil. Medium moisture. Tolerates most well-drained soils.	Re-seeds easily. Tolerates mostly shade.	Nectar source for bees and hummingbirds.
Round-leaved Ragwort (Groundsel) - <i>Packera obovata</i> . Groundcover. Blooms April – June.	Full sun to partial shade.	Moist, well-drained soil. Tolerates some dryness.	Spreads quickly. Tolerates mostly shade areas. Showy flowers.	Nectar source for bees and butterflies. Obligate food source for some small green sweat bee species.
Prairie Dropseed - <i>Sporobolus heterolepis</i> . Clump forming grass. 2-3' tall.	Full sun.	Dry, rocky soil. Tolerates a variety of soil types.	Re-seeds easily. Tolerates black walnut trees and deer.	Birds eat the seeds.
Little Bluestem - <i>Schizachyrium scoparium</i> . Clump forming grass. 2'-4' tall.	Full sun.	Grows in a variety of soil types. Drought tolerant.	Turns bronze – orange after the first fall frost. Name refers to blueish color at base of stems.	Host plant for the common wood nymph and many skipper butterfly species. Birds eat the seeds.
Side Oats Grama - <i>Bouteloua curtipendula</i> . Clump forming grass. 1-1 1/2' tall.	Full sun.	Grows in a variety of soil types – dry to medium moisture.	Can self sow although not heavily. Good ornamental grass.	Host plant for the orange skipperling butterfly and possibly others. Birds eat the seeds.
Aromatic Sumac - <i>Rhus aromatica</i> . Dense, low-growing deciduous shrub. Blooms in April.	Full sun to partial shade.	Grows in a variety of soil types. Drought tolerant.	Grows to approx. 2-4' tall but can spread to 10' wide in the wild.	Nectar source for butterflies. Birds and other wildlife eat the fruit.
Nine Bark - <i>Physocarpus opulifolius</i> . Blooms May – June.	Full sun to partial shade.	Tolerates clay, shallow, and rocky soils. Drought tolerant.	Provides winter interest. Bark exfoliates to reveal multiple colors of inner bark.	Nectar source for bees and butterflies.
American Beautyberry - <i>Callicarpa americana</i> . Blooms June – Aug.	Full sun to partial shade.	Rich, moist soil. Tolerates moist sand and clay.	Easy to grow. Produces more flowers in full sun.	Birds eat the fruit.
Eastern Star Sedge - <i>Carex radiata</i> . Clump forming.	Partial shade.	Humus-rich soil. Wet to medium moisture.	Good clumping ground cover in shady areas.	Host plant for various brushfoot butterfly species.

Shrub

Grass

Sedge



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GHF Native Gardening Resources

Plant Lists

- Grassland Heritage Foundation Top 20 Plants for New Native Plant Gardeners - www.grasslandheritage.org
- The Xerces Society Pollinator Friendly Plants - www.xerces.org/pollinator-conservation/plant-lists/
- Missouri Prairie Foundation Grow Native Lists – www.grownative.org/grow-native-top-ten-native-plant-lists

Plant Identification

- Kansas Wildflowers and Grasses - www.kswildflower.org
- Missouri Botanical Garden - www.missouribotanicalgarden.org/plantfinder/plantfindersearch.aspx

Miscellaneous Information

- Kansas Native Plant Society Resource Lists - www.kansasnativeplantsociety.org/resources.php
- Information on Neonicotinoids and Pollinators - www.xerces.org/neonicotinoids-and-bees
- Useful ways to start seeds for spring planting. – www.wintersown.org
- Garden design ideas – www.gardendesign.org
- North American Plant Atlas – <http://bonap.net/napa>
- KSU Research and Extension, select publications – hnr.k-state.edu/extension/publications
- Audubon "Plants for Birds" Database- www.audubon.org/native-plants

Helpful Organizations

- Grassland Heritage Foundation – www.grasslandheritage.org
- Douglas County Extension Master Gardeners - www.douglas.k-state.edu/lawn-garden/master-gardener.html
- Kansas Rural Center - www.kansasruralcenter.org
- Monarch Watch - www.monarchwatch.org
- Jayhawk Audubon Society - www.jayhawkaudubon.org

Insect Identification/Guidebooks

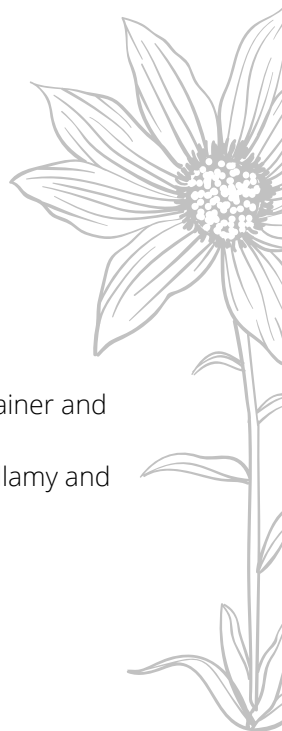
- Bug Guide: Identification, Images, and Information – www.bugguide.net
- A Photographic Field Guide to the Butterflies in the Kansas City Region, Betsy Betros
- Bees: An Identification and Native Plant Forage Guide, Heather Holm

Plant Identification/Guidebooks

- Field Guide to the Common Grasses of Oklahoma, Kansas, and Nebraska, Iralee Barnard
- Native Plants of the Midwest, Alan Branham
- Trees, Shrubs, and Woody Vines in Kansas, Mike Haddock and Craig Freeman
- Wildflowers and Grasses of Kansas, Mike Haddock

Books on Native Gardening

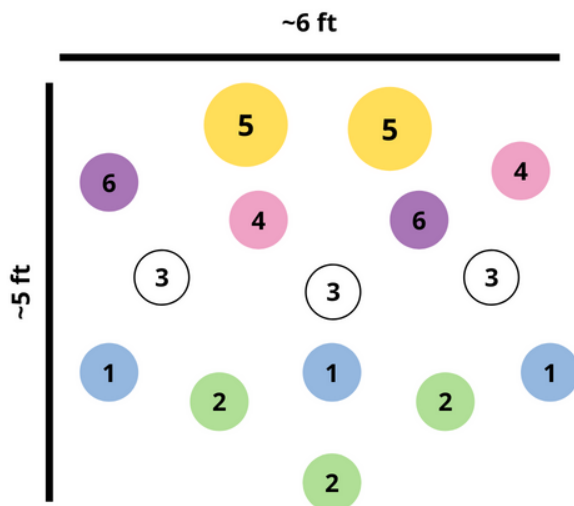
- Gardening with Prairie Plants, Sally Wasowski
- The Humane Gardener, Nancy Lawson
- Planting in a Post-Wild World: Designing Plant Communities for Resilient Landscapes, Thomas Rainer and Claudia West
- The Living Landscape: Designing for Beauty and Biodiversity in the Home Garden by Douglas Tallamy and Rick Darke
- A New Garden Ethic: Cultivating Defiant Compassion for an Uncertain Future by Benjamin Vogt
- Attracting Native Pollinators: The Xerces Society Guide to Conserving North American Bees and Butterflies, The Xerces Society



Example Native Garden Designs

Included are two example native garden landscapes to get you thinking about how you would like your garden to look. Plants can be substituted for similar natives based on what is available to you. Notice how the designs include plants of varying heights, bloom times, and colors. Also, make sure that the plants you choose can thrive in the place where you would like to put your garden, considering both light levels and adequate moisture.

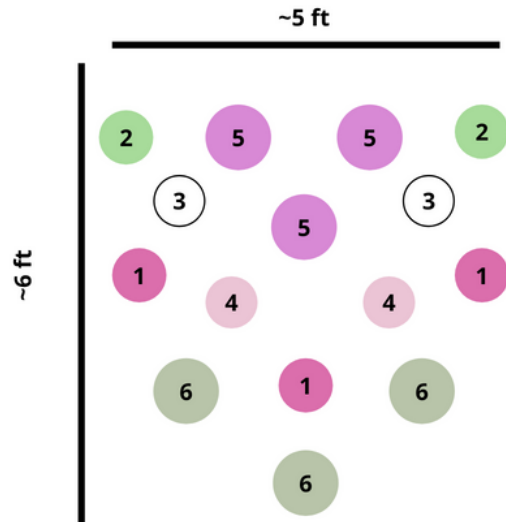
Partial Shade Garden



- 1 - *Phlox divaricata* (Blue/woodland phlox)
- 2 - *Carex radiata* (Curly wood sedge)
- 3 - *Anemone virginiana* (Tall anemone)
- 4 - *Chelone obliqua* (Rose Turtlehead)
- 5 - *Solidago ulmifolia* (Elm-leaved goldenrod)
- 6 - *Scutellaria incarna* (Hoary skullcap)



Full Sun Garden



- 1 - *Phlox pilosa* (Sand prairie phlox)
- 2 - *Koeleria macrantha* (June Grass)
- 3 - *Penstemon digitalis* (Beardtongue)
- 4 - *Allium stellatum* (Prairie Onion)
- 5 - *Liatris aspera* (Rough blazing star)
- 6 - *Sporobolus heterolepis* (Prairie dropseed)



This guide was designed and created by the Grassland Heritage Foundation. Grassland Heritage Foundation is a non-profit 501(c)(3) land trust organization dedicated to preserving prairies in eastern Kansas through education, stewardship, and land protection. We rely on support from our community to fulfil this mission and continue to protect and support the native plants and ecosystems of the tallgrass prairie. To join a community of prairie enthusiasts and protectors, you can become a GHF member at:

www.grasslandheritage.org/support-prairie-protection.



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