

NATIVE PLANTS

HOW TO ATTRACT
FUN-TO-WATCH
WILDLIFE

FOR YOUR

Landscape

Whether you have a balcony garden, a small urban lot, a four-acre parcel or a sprawling ranch, you can include native plants in your landscape. There are many reasons to embrace the use of Missouri's wonderful native plants. They create beauty and interest with a progression of flowers and fruits and they furnish food and cover for butterflies, birds and other wildlife. In addition, they:

- 🌿 are adapted to our climate
- 🌿 are adapted to our soils
- 🌿 require little or no irrigation
- 🌿 seldom require fertilizer or pesticides



Missouri Department of Conservation
Missouri Department of Agriculture



What is Native and Why it Matters

- 🌿 The current mix of Missouri native plants has been here since the last Ice Age, about 10,000 years ago.
- 🌿 Native plants evolved with Missouri's geology, climate and wildlife.
- 🌿 Many wildlife species prefer native plants for habitat and depend on them for survival.
- 🌿 Well-established and -maintained native-plant communities help resist invasive non-natives that threaten wildlife habitat and crops.
- 🌿 Native plants help preserve our natural diversity.

Facts about lawns

- 🌿 A lawn mower pollutes as much in one hour as driving a car 20 miles.
- 🌿 580 million gallons of gasoline are used in lawnmowers each year.
- 🌿 30–60 percent of urban fresh water is used for watering lawns.
- 🌿 67 million pounds of pesticides are used on U.S. lawns each year.

The majority of our nation's bird and butterfly habitat is on private land. Your landscape can make a big difference to local bird and butterfly populations. MDC has Habitat Helper programs in St. Louis, Kansas City and Cape Girardeau that help you help the habitat.

Reduce mowing and increase biodiversity with these environmentally friendly practices

Plant buffalo grass. This low-growing Missouri native requires only ½ inch of water a week, compared with most turf grasses that need 1 to 1½ inches. Buffalo grass turf takes little or no fertilizer, and it is insect- and disease-resistant. Because it reaches a mature height of 4 to 6 inches, you can forget mowing, unless you want a manicured look. Then mow it once a month. Buffalo grass grows well in full sun and likes dry, clay or average soil (not sandy). Tawny beige in winter and early spring, it starts to green in mid-April.

Try a prairie meadow. A diverse prairie planting can showcase Missouri's beautiful wildflowers and sturdy native grasses. It provides year 'round habitat for wildlife that includes songbirds, small mammals and beneficial insects. Meadows, which can be planted in areas 1,000 square feet and larger, can include native grasses such as little bluestem and wildflowers such as prairie blazing star. Be sure to include a mowed border to create a transition zone between your house and meadow.



Indian grass and little bluestem

Getting started on your landscape

Including native plants in your landscape can be as simple as adding a native plant or two to existing flower beds or as challenging as starting with a blank slate. The basic steps, however, are the same for both.

Know your sun and soil conditions

If your site receives six to eight hours of sun, it's sunny—less than that, it's shady. There are three basic types of soil structure: sandy, clay and loam. Much of Missouri is cursed with clay soils that are sticky when wet, form hard lumps when dry and crack in hot weather. Sandy soils let moisture drain away quickly, taking nutrients with it. Both sandy and clay soil can be improved with the addition of organic matter such as composted plant material.

Consider your purpose and your property

If you're adding native plants to an existing bed, you need only to look for plants that will thrive in that location. If you have a blank slate, evaluate your space. Walk around your house and sketch existing trees, shrubs and flower beds, if they exist. Sketch in walkways, patios, driveways and make note of easements and drain pipes that might limit your landscaping. For guidance with a major conversion project, contact your MDC private land conservationist by visiting www.mdc.mo.gov. Type "private land conservationist" in the search box and click "Go."

Develop a plan

As you design your native plant garden, think in layers and begin with trees, which form the highest layer. Next consider small trees, shrubs and vines that will thrive in the filtered light of trees and create the second layer. Finally, consider the third layer (the floor), which you can fill with perennials. An area with full sun has no layers and

For in-depth information on the relationship between plants and wildlife, see *Native Landscaping for Wildlife and People*—a Missouri Department of Conservation publication written by Dave Tylka.



is perfect for a prairie planting. Continue by considering the birds, butterflies and small mammals you want to attract to your property. Hummingbirds and butterflies are attracted by nectar-producing plants; songbirds are attracted by fruit-producing shrubs in the summer and the seed heads of flowers in the fall.

Choose materials and methods

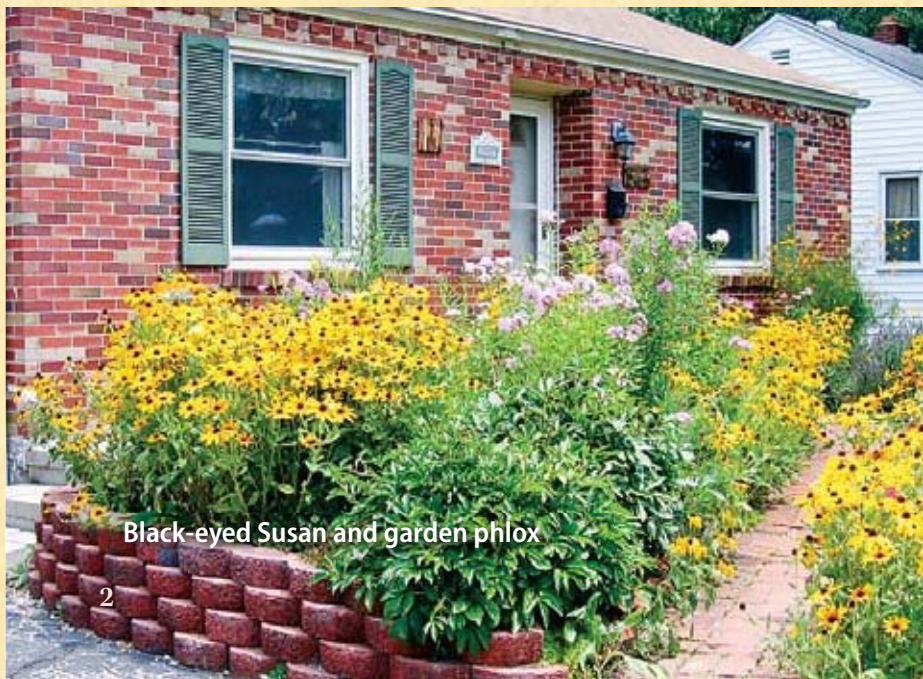
Follow this simple, tried-and-true adage: "Put the right plants in the right places, the right time, in the right way." For example, a glade species planted in a boggy area will "drown," and prairie seeded into live sod will fail. Once you've determined the soil conditions on your planting site, use the Grow Native! Web site to help learn which species will work for your project.

For large projects, work in phases

Native-plant conversion projects take time. Seeding a few acres of prairie involves distinct phases and seasons of installation: preparation, seeding and weed control. Plans that call for new features such as rain gardens or shrub rows should be undertaken one project at a time.



Red buckeye



Black-eyed Susan and garden phlox

Add Life to Your Landscape

Well-designed native landscapes create eye appeal and attract watchable wildlife to your yard. Wildlife species evolved with their favorite native plant species and prefer them for food and shelter. For design ideas, take a look at these diagrams and adapt them to fit your needs. While your space may be smaller or larger, the plant palette for attracting certain species of wildlife remains the same.



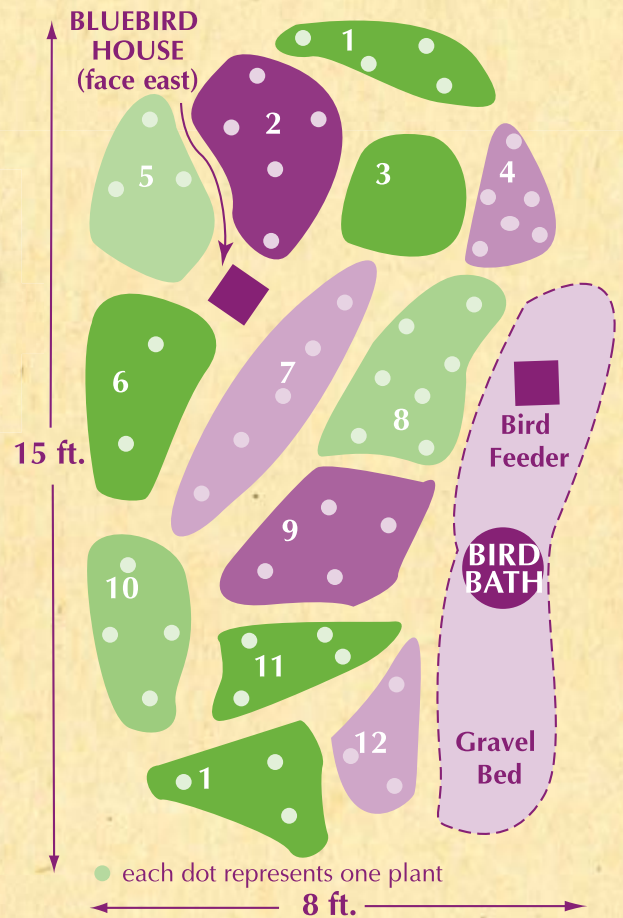
Finch feast

Another wildlife theme garden is a **finch's feast**, which concentrates on fruiting trees, shrubs, perennials and grasses with seed heads. Add a birdhouse, birdbath or feeder for even more attraction.

Legend

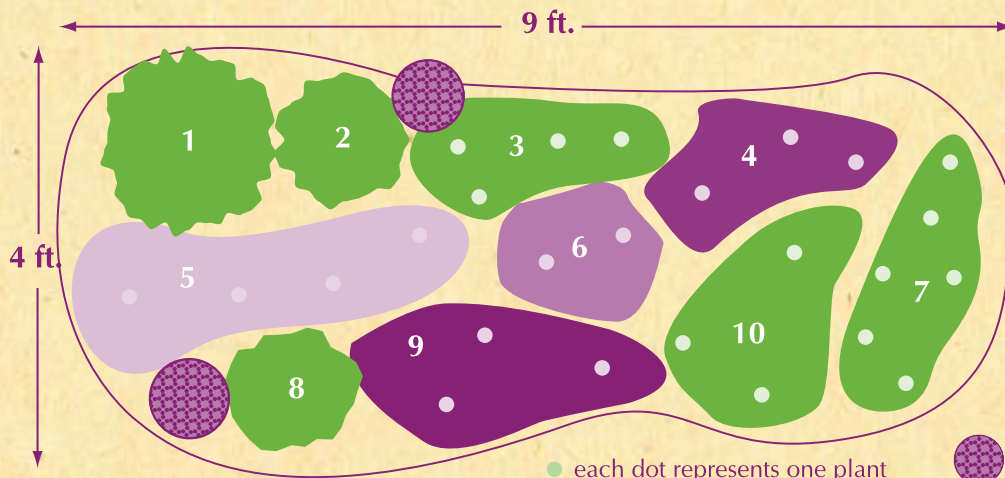
- | | |
|-----------------------|----------------------------|
| 1. Prairie dropseed | 7. Prairie blazing star |
| 2. Purple coneflower | 8. Orange coneflower |
| 3. Rose verbena | 9. Blue false indigo |
| 4. Missouri primrose | 10. Grey-headed coneflower |
| 5. Showy goldenrod | 11. Lanceleaf coreopsis |
| 6. Eastern gama grass | 12. Purple poppy mallow |

Note: plant in sun, but near one or more fruiting shrubs or small trees to provide food, cover and nesting.



Butterfly berm

The **butterfly berm** is an easy family project with colorful, nectar-rich natives such as New Jersey tea, prairie blazing star and butterfly weed. Add a shallow saucer or old birdbath filled with sand, gravel and water for a butterfly "watering hole." Berms in general are good design elements for an urban or suburban yard. These independent beds can be created in a day or a weekend by adding a low mound of topsoil. It's best if there is no vegetation growing in the area where the berm will be placed. This gives you an immediate clean slate, and the slight elevation really sets off plants.



Legend

1. Buttonbush
2. New Jersey tea
3. Rose verbena
4. Purple coneflower
5. Aromatic aster
6. Prairie blazing star
7. Butterfly weed
8. Lanceleaf coreopsis
9. Downy phlox
10. Shining blue star

● each dot represents one plant ● Butterfly watering hole


Hummingbird haven

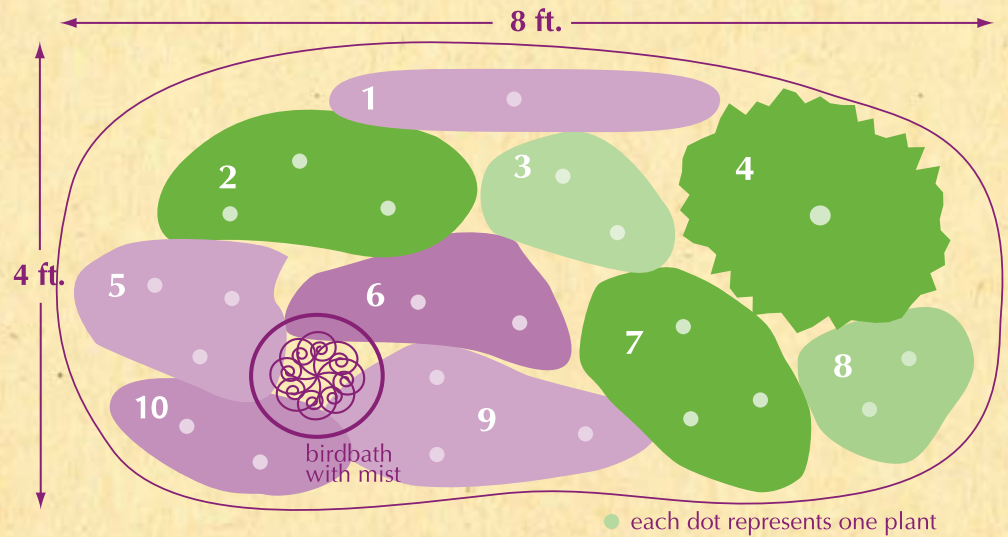


The **hummingbird haven** is similar to the butterfly berm. It concentrates on masses of nectar-producing flowers of various, vibrant hues including blue sage, yellow honeysuckle, foxglove beardtongue, cardinal flower and red buckeye. The addition of a hummingbird feeder or water mister can keep the ruby-throated wonders around from mid-spring to early fall.

Legend

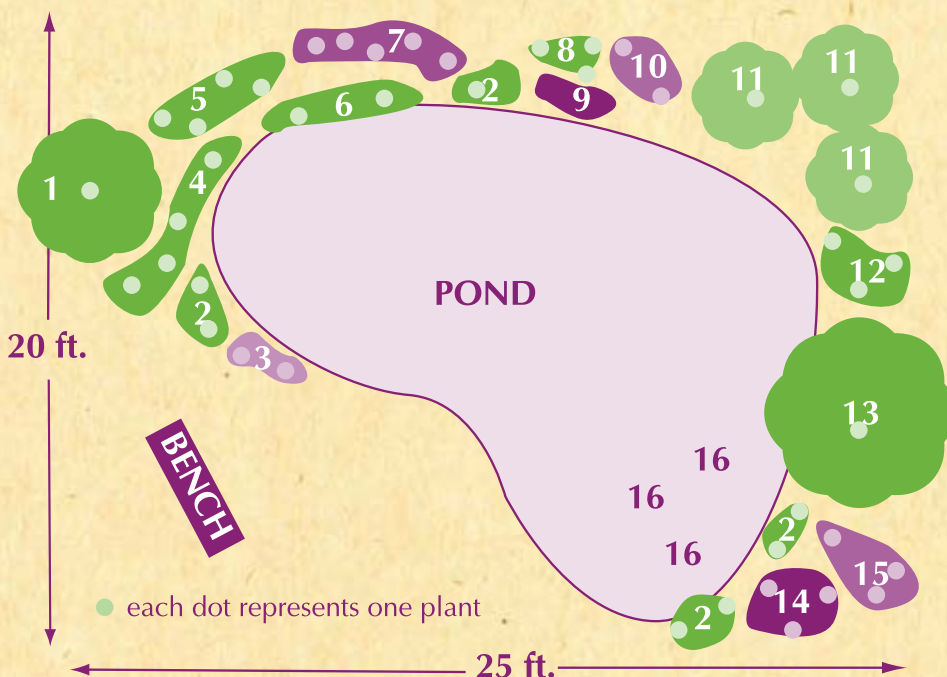
1. Yellow honeysuckle (on trellis)
2. Royal catchfly
3. Blue sage
4. Red buckeye
5. Columbine
6. Wild bergamot
7. Garden phlox
8. Foxglove beardtongue
9. Purple beardtongue
10. Rose verbena

 Fountain mist in birdbath allows hummers to clean their feathers



Frog pond

If you want a perennial water feature, you might install a small **frog pond** edged with dazzling cardinal flower, blue lobelia, pickerel plant and wild canna. A fringe of tussock sedge and southern blue flag completes the design. These natives also flourish in boggy, damp areas—or ones with heavy, wet and clay soils—where many other species cannot survive. Your “frog pond” can be made with a pre-formed or sheet liner, but one with a simple clay bottom will allow amphibians to over-winter.



Legend

1. Buttonbush
2. Tussock sedge
3. Swamp milkweed
4. Downy skullcap
5. Cliff goldenrod
6. Pickerel plant
7. Blue lobelia
8. Garden phlox
9. Southern blue flag
10. Silky dogwood
11. American beautyberry
12. Golden ragwort
13. Ninebark
14. Cardinal flower
15. Copper iris
16. Water canna



Native plants offer superior wildlife habitat and easy-care perennial beauty. However, these benefits depend on deep, hardy root systems that may take two to three years to develop. Once they're established, these roots will stand up to flood, drought and harsh winters, rewarding your patience for years to come.

Get acquainted with invaders that destroy habitat

Missouri roadsides sport miles of frothy, white Queen Ann's lace and sky-blue chicory. Neither is a Missouri native, but both seem to be harmless. Other non-native plants, however, are a menace. Bush honeysuckle and garlic mustard have invaded woodlands and destroyed native vegetation. Some foresters are forecasting the demise of woodlands because tree seedlings are being shaded out by these invasive plants. Native prairies are being invaded by *sericea lespedeza*, which was introduced in Missouri as a pasture plant and for erosion control along roadways. There are many other bad actors in Missouri. To learn more about them and how to avoid

them, visit www.mdc.mo.gov/conmag/2001/04/ and click on *Plants That Won't Stay Put*.

To learn how to control bush honeysuckle, ask for *Curse of the Bush Honeysuckle*, MDC Publication W00001. It tells how to eradicate this invasive shrub and includes a list of native shrubs that can be used in its place. It also tells how to distinguish native honeysuckle from non-native honeysuckle.



Garlic mustard



Sericea lespedeza



Bush honeysuckle

Ready, Set, Go

You've evaluated your site, created a plan, selected plants and are ready to plant. Remember that site preparation is crucial to the success of the project.

Prepare

Even if you're planting a bed of native forest plants, you must kill competing vegetation first. You can dig out competitors (if there aren't too many) or kill them with a glyphosate herbicide.

For small areas, you can cover the area with newspapers. Without light, weed seed cannot sprout and growing vegetation will die. If you are using seeds, put the barrier in place at least two months before planting. If containerized plants are used, you can put the barrier down and plant at the same time. Cover the newspaper with finely ground mulch for a finished appearance.

If seeding a large area, site preparation begins in the spring before seeding in early winter. For best results, begin in May with an application of non-selective herbicide. If (or when) weeds sprout, mow them before they produce seed heads. In September, evaluate the site. If a healthy stand of vegetation is present, apply a second application of non-selective herbicide. In December, plant native grass and forb seed.

Install

Decide whether you're going to plant or seed. Small projects are best established with plants or plugs, while larger installations are best done by seeding—either by broadcasting or drilling. If you plant in December, freezing and thawing will work the seed into the ground. For spring installations, follow seeding with a roller to ensure good seed-to-soil contact. Water until the planting is established.

To use fire to manage a rural landscape, contact MDC or the Natural Resource Conservation Service to learn about burn classes and prescribed fire assistance.



Maintain

Any time soil is disturbed, a burst of weed growth is triggered. These weeds can quickly shade our new native seedlings.

For weed control in small plantings of containerized plants, apply mulch immediately after planting to a depth of two inches. Remove clods that might allow light to penetrate the mulch and hand weed anything that might escape.

For large areas, mowing is the best option. The first year, mow when vegetation is 6 to 12 inches high. Native plants are sending down roots and will be shorter than non-desirable vegetation. It may be necessary to mow several times to keep vegetation below 12 inches. The second year, continue to mow, but less frequently. By the third year, native grasses and forbs should be able to hold their own. In future years, plan to burn or mow every third year.



Plants to Try

Plants that need *full sun*

Missouri primrose 🌸 *Oenothera macrocarpa*

Flowers: May–August

Mature height, 10 inches; spread, 24–26 inches

Also called glade lily, this plant of Missouri's glades, bluffs and rocky prairies has multiple stems that trail along the ground. Flowers open in late afternoon for night pollination by moths. Lemon-yellow flowers are up to 4 inches wide.

Missouri black-eyed Susan 🌸 *Rudbeckia missouriensis*

Flowers: June–October

Mature height, 12–30 inches; spread 16–24 inches

Also called Missouri coneflower, this plant is found throughout the Ozarks on limestone and dolomite glades and in rocky prairies. It can dominate barren, rocky areas in full sun. In home landscapes, it thrives in well-drained soil with full sun.

Butterfly milkweed 🌸 *Asclepias tuberosa*

Flowers: May–September

Mature height, 18–24 inches; spread, 24 inches

A vibrant wildflower, butterfly milkweed inhabits prairies, glades and rocky, open places such as roadsides throughout the state. It is one of 15 species of milkweed native to Missouri. It is an excellent source of nectar for many butterflies and is food for monarch butterfly larva. It grows best on well-drained soil.

Prairie blazing star 🌸 *Liatriis pycnostachya*

Flowers: July–October

Mature height, 36–48 inches; spread, 12–14 inches

Found on prairies and rocky, open ground, this plant grows wild nearly statewide and makes an excellent landscape choice. Bumblebees, butterflies and other insects are frequent summer visitors to prairie blazing star, which prefers average to moist soils. Older plants can produce 10 or more flowering stems.

Purple prairie clover 🌸 *Dalea purpurea*

Flowers: May–September

Mature height, 18–24 inches; spread, 16–20 inches

A legume of prairies, glades and other open habitats, purple prairie clover grows wild throughout the state, with the exception of the lowland counties in southeastern Missouri. It grows well in dry soils. Finely cut leaves make it a favorite for home landscapes.



Missouri primrose



Missouri black-eyed Susan



Butterfly milkweed



Prairie blazing star



Purple prairie clover

Plants for *shady areas*

Celandine poppy 🌸 *Stylophorum diphyllum*

Flowers: March–May

Mature height, 16 inches; spread, 18 inches

Found on wooded slopes and moist, wooded valleys of central and southeast Missouri, celandine poppy is an excellent choice for a garden if provided with humus-rich soil. Plants will go dormant in the summer if the soil dries out or if they receive afternoon sun.

Cardinal flower 🌸 *Lobelia cardinalis*

Flowers: July–October

Mature height, 24–48 inches; spread, 12–18

Late summer canoeists often see the brilliant plumes of cardinal flower growing along mud or gravel banks of Ozark streams. Cardinal flower also inhabits other wet sites throughout much of the state. It is a hummingbird magnet and also attracts butterflies. It needs moderate shade and tolerates sun in rich, organic soil. Unless planted in a moist location, it requires watering through dry periods.

Columbine 🌸 *Aquilegia canadensis*

Flowers: April–July

Mature height, 24 inches; spread, 12 inches

This plant grows throughout most of Missouri. Found on limestone or dolomite ledges in the Ozarks, it inhabits moist woodlands and other habitats elsewhere in the state. Columbine spreads readily from seed in flower beds. It tolerates shade or sun in average to moist soils. The red, tubular flowers are a popular nectar source for hummingbirds.

Purple coneflower 🌸 *Echinacea purpurea*

Flowers: May–October

Mature height, 24–36 inches; spread, 18–24 inches

The large, showy flower heads of purple coneflower can appear in open woodlands throughout most of Missouri. A single older plant can have many stems of flowers, which are a good nectar source for butterflies. The plant grows well in light shade and tolerates full sun in average to moist soil. Many gardeners use this plant for cut flowers.

Crested iris 🌸 *Iris cristata*

Flowers: April–May

Mature height, 5–10 inches; spread, 12–16 inches

Found along streams in lowland woods, crested iris (also called dwarf crested iris) makes a delightful ground cover in a partially shaded area. It also can be used as a border in home landscapes. Crested iris prefers well-drained soil and attracts hummingbirds.



Celandine poppy



Cardinal flower



Columbine



Purple coneflower



Crested iris

Landscape-friendly *grasses and sedges*

Prairie dropseed 🌿 *Sporobolus heterolepis*

Mature height, 12 inches (flowering stems 2–3 feet); spread, 36 inches

Prairie dropseed forms dense mounds of narrow, rich-green, fountain-shaped foliage. For a good, medium-height groundcover, plant it 2 feet apart in full sun. It has a distinctive odor when it blooms in September. It's difficult to establish by direct seeding, so use plugs to establish it.

Little bluestem 🌿 *Schizachyrium scoparium*

Mature height, 24–26 inches; spread, 12 inches

Little bluestem is perfect for creating a prairie patch in the landscape. This clump-forming, blue-green grass is non-spreading and turns a rich russet color in the fall. It stands erect throughout the winter, providing texture in the garden and cover for wildlife.

Tussock sedge 🌿 *Carex stricta*

Mature height, 12–18 inches; spread, 18–30 inches

This sedge has dense mounds of narrow, rich green, fountain-shaped foliage similar to prairie dropseed. It, however, needs moist soil conditions, making it a good choice for water gardens, rain gardens, swales and pond edges. It provides cover and nest sites for birds.



Prairie dropseed



Little bluestem



Tussock sedge



Tried and true

Hundreds of plants call Missouri home and each fills a niche in its natural environment, but not all are suitable to small-scale gardening. Native plants featured in this photo gallery are well-suited to home landscapes and are readily available from nurseries throughout the state. For a more extensive list of native plants and their characteristics, take a look at *Tried and True: Missouri Native Plants for Your Yard* or visit www.grownative.org and click on the Plant Info link. To find a nursery near you, visit www.grownative.org and click on the Buyer's Guide link.

Buy Missouri first

Let the Show-Me state's suppliers show you locally produced native plant materials that will naturally do better in your landscape. Grow Native! member nurseries have knowledgeable staff who help you choose from a large array of colorful and resilient native plants, trees and flowers. Grow Native! members proudly display the Grow Native! logo on plant tags and displays. The Grow Native! logo is your guarantee of local-source, nursery-propagated stock. For a list of suppliers, go to the Grow Native! Web site (www.grownative.org) and click on the Buyer's Guide link.

Suggestions for a *shrub row or hedge*

Golden currant 🌿 *Ribes odoratum*

Flowers: Mid-March–mid-April

Mature height, 4–6 feet; spread 5–8 feet

In spring, golden yellow flowers emit a strong, clovelike fragrance. Blue-black fruit, favored by birds and small mammals, appears in June–August. Golden currant is thornless and has arching branches.

Rusty black haw 🌿 *Viburnum rufidulum*

Flowers: March–April

Mature height, 10–15 feet; spread, 5–10 feet

With glossy green, leathery leaves, rusty black haw can be grown as a shrub or pruned to form a small tree. Drooping clusters of blue-black fruit appear in September (perfect timing for migratory birds) and leaves turn rich burgundy as days shorten.

Spice bush 🌿 *Lindera benzoin*

Flowers: Late March–April

Mature height, 9–15 feet; spread, 6–10 feet

A broad, rounded, multi-stemmed shrub, spice bush is covered with fragrant yellow-green flowers in early spring. Its aromatic leaves turn deep yellow-gold in fall. Red berries appear in late summer. Larva of the spicebush swallowtail butterfly feed on the leaves.



Golden currant



Rusty black haw



Spice bush

The key to success

We can't repeat this enough! For success, put the right plant in the right place. For full sun and open spaces, consider prairie plants. There's a long list of them. For hot, dry, rocky sites, look for drought-tolerant glade species. For sites so shady even grass won't grow, choose plants that typically cover the forest floor. For a wet, soggy spot, consider wetland species that routinely have "wet feet."



Prairie—Black-eyed Susan,
wild bergamot



Glade—Trelease's larkspur



Wetland—Pickerel weed



Purple coneflower



Know More

For computer-savvy gardeners, help is as close as www.grownative.org. The site offers detailed information on more than 200 native plants. It includes a plant search feature that allows visitors to specify plant characteristics such as bloom time, blossom color, mature height and more. Click the search button and a list of plants that meet those specifications is generated.

To order Missouri Department of Conservation publications mentioned in this pamphlet or other material related to native plants, write to:

Publications

**Missouri Department of Conservation
P.O. Box 180
Jefferson City, MO 65102-0180**

Ask for any of these free publications:

- 🌿 *Native Plant Rain Gardens* 🌿 *Native Plant Alternatives*
- 🌿 *Native Plants for Your Farm* 🌿 *Butterfly Gardening*
- 🌿 *Plants That Won't Stay Put* 🌿 *Curse of the Bush Honeysuckle*

Order these following for-sale items on-line from the MDC Nature Shop (www.mdcnatureshop.com) or call toll-free, 877-521-8632:

- 🌿 *Native Landscaping for Wildlife and People*
- 🌿 *Tried and True: Native Plants for Your Yard*
- 🌿 *Missouri Wildflowers*
- 🌿 *Native Plant Seedling ID Guide*
- 🌿 *Water Plants for Missouri Ponds*
- 🌿 *Shrubs and Woody Vines of Missouri*
- 🌿 *Trees of Missouri*
- 🌿 *Trees of Missouri Field Guide*
- 🌿 *Missouri's Tallgrass Prairie DVD*

Grow Native! is a joint program of the Missouri Department of Conservation and the Missouri Department of Agriculture. For educational information, contact us at (573) 522-4115, ext. 3833 or write to:

**Grow Native!
P.O. Box 180
Jefferson City, MO 65102**

For business and marketing development, contact us at (573) 422-4170 or write to:

**Grow Native!
P.O. Box 630
Jefferson City, MO 65102**



Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, national origin, sex, age or disability. Questions should be directed to the Department of Conservation, P.O. Box 180, Jefferson City, MO 65102, (573) 751-4115 (voice) or 800-735-2966 (TTY), or to the U.S. Fish and Wildlife Service Division of Federal Assistance, 4401 N. Fairfax Drive, Mail Stop: MBSP-4020, Arlington, VA 22203.

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www.grownative.org