

Native Grasses for Landscaping on the Plateau

	Description	Growth Habits	Benefits	Growing Conditions
<p>Big Bluestem <i>Andropogon gerardii</i> (turkey foot)</p> <p>cultivars - Rountree, Kaw, Oz-70</p>	<p>Upright to arching. The seed head has three racemes that resemble a turkey's foot. 4-8' tall with bluish green stems Purplish seed head. Turns purple brown in fall.</p>	<p>Perennial, clumping grass Warm-season. Roots may grow 12' deep. One of the dominant grasses of the tall grass prairie.</p>	<p>Excellent wildlife habitat and quality livestock forage.</p>	<p>Full sun Moist Fertile soil. Very drought tolerant. space 2' apart in garden</p>
<p>Split Beard Bluestem <i>Andropogon terarius</i></p>	<p>Similar to Big Bluestem except silvery - white bloom in V-shape.</p>		<p>Wildlife habitat.</p>	<p>Dry, sandy soil Full-sun to part shade Moderately acid soil</p>
<p>Broomsedge <i>Andropogon virginicus</i></p>	<p>2-4' clumps Inconspicuous flower and seed head Leaves and stems turn coppery brown</p>	<p>Seed or division</p>	<p>Low forage quality.</p>	<p>Poor, dry soil Its presence indicates poor soil.</p>
<p>River Cane <i>Arundinaria gigantea</i></p>	<p>Up to 30'. Rarely blooms. Grows in dense colonies called canebrakes.</p>	<p>Underground rhizomes</p>	<p>Evergreen screen TN's only native bamboo</p>	<p>Moist to wet soils Shade Along river and stream banks</p>
<p>Plantain-leaved Sedge <i>Carex plantaginea</i></p>	<p>Bright green, 10-foliage. Leaves .5-1" wide</p>	<p>Good ground cover</p>		<p>Consistently moist soil. Light to medium shade</p>
<p>River Oats, Spangle Grass <i>Chasmanthium latifolium</i></p>	<p>2.5-4' tall. Upright to arching. Loose cluster of flat seeds. The open flowers hang down from long stalks giving the same appearance as Sea Oats, a close relative.</p>	<p>Perennial, clumping grass Warm-season. Clumps enlarge and self-sow. Seed or division.</p>	<p>Wild Oats is a good choice for landscaping, but it can be aggressive. Used in flower arrangements.</p>	<p>Moist, well-drained soil Part to light shade</p>
<p>Oat Grass <i>Danthonia compressa</i></p>	<p>.</p>			<p>Open ground and in moist or dry woods</p>
<p>Canada Wild Rye <i>Elymus canadensis</i></p>	<p>Coarse bristles on the dense flowers that resemble wheat. Leaves appear early in spring. Flowers July - August. Fruits turn a golden color as they ripen and persist through the winter.</p>			<p>Open prairie, rocky banks, and open woods.</p>

Sugarcane Plumegrass <i>Erianthus giganteus</i>	Hairy leaves on stems 3-5' tall Large plumes rise up to 9' Plumes in fall - reddish purple to silver. Bleaches to straw in winter.	Perennial, warm season Colonizes around a clump	Widely space - 4' Seed or division	Moist to boggy soil Full-sun
Narrow Plumegrass <i>Erianthus strictus</i>	4'-6' stems. Very narrow plumes.	Perennial, warm season Colonizes around a clump	Widely space - 4' Seed or division	Moist to wet soil.
Bottle Brush <i>Hystrix patuta</i> (<i>Elymus hystrix</i>)	Tufts of foliage 8-12" tall with spikes up to 3'. Long bristles give look of bottle brush. Blooms in summer.	Clumping perennial Cool season grass	Germinates slowly but easily from seed.	Moist and well-drained soil Part shade
Switch - Grass <i>Panicum virgatum</i>	Grows up to 7' in big leafy clumps. Lacy flowers rise 2' above leaves. Turns reddish-gold in fall.	Early maturing perennial, warm season Continually spreads by rhizomes into colonies. Must be well spaced.	Spring division or seed	Tolerant of poor, wet conditions or drought. Prefers moist soil and full sun
Indian Grass <i>Sorghastreum nutanx</i> cultivars - Durham, Blackwell	Blue-green foliage 18-24" tall. Bloom stalks up to 7' topped with narrow bright golden clusters. Deep root system.	Clumping, warm-season perennial. Space 3-5' apart	Quality wildlife habitat and forage.	Full sun Moist to dry soil Tolerates drought

Grasses are monocots, having the vascular tissue of the stems in scattered bundles. Grasses have simple linear leaves with sheathing or clasping bases, parallel veins and entire margins. The stems are round and have joints at the nodes. The leaves are clustered at the base with up to 15 joints in the first inch of the stem becoming farther apart as they progress up the stem. The leaves have two main parts, the sheath and the blade. The sheath clasps around the stem and the blade extends outward.

Being wind-pollinated and wind-dispersed, they need no bright colors, fragrances, or nectar to attract insects for pollination. The flowers are small and inconspicuous with the petals and sepals reduced to basic lobes of tissue. The flowering part, situated at the end of the stem, is called the inflorescence. This flower cluster is made up of smaller units called spikelets. Spikelets are made up of florets, numbering from one to 30 or more. The one-seeded fruits are bony or hard and are called grains.

Grass identification is intimidating even to the expert botanist. The basic way to identify grasses is to look for differences in height, shape of leaves, nodes on the stems, hairiness, flower types and appendages on the florets such as bristles.

Growth stature: tall, medium, and short.

- The prairie grasses, such as Big Bluestem, Indian Grass Switchgrass and Eastern Gamagrass can grow from four to eight-feet-tall.
- Little Bluestem, Sideoats Grama, Wild Rye, and fescues grow from two-to-four-feet-tall.
- Shorter grasses, less than 18 inches tall, are usually mat-forming. These grasses, typical of lawns, pastures and golf courses, are Bermuda grass, Bluegrass, and Crabgrass.

Native Grasses

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Cool and Warm Season Grasses

Cool Season grasses complete their cycle before hot weather begins. They are sod-forming, with short branching rhizomes and shallow roots. They include many nonnative grasses such as Bluegrass, Fescue, Bromegrass, Timothy, Red Top, Wheat, and Barley.

Fescue: There are currently about three million acres of Fescue planted in Tennessee. Fescue was introduced from Europe during the late 1800s. Kentucky 31 Fescue has become the predominant grass variety used in the last 50 years. Serious ecological problems are being recognized as a direct result of this introduction. Other plants cannot compete with this short, quick-spreading grass creating a monoculture with no diversity of grasses or other plants. Fescue limits movement and provides little cover for wildlife. It has also proven to be poor quality for livestock grazing.

Warm Season grasses do most of their growing in the summer, hence the term "warm season." They grow in deep-rooted clumps or bunches and bloom from June through September, completing their growth cycle in late summer or fall. Several species of warm-season grasses are native to the eastern two-thirds of the United States. Examples include native species such as the Bluestem grasses, Grama grasses, Indian Grass, Switchgrass and Love Grasses.

Barrens

Early settlers arriving in Tennessee and Kentucky found large, open, grass-dominated, treeless areas that they called "barrens." These prairie-like lands resembled the tallgrass prairie regions in the Great Plains and were dominated by native grasses such as Big Bluestem, Little Bluestem, Indian Grass, and Switchgrass.

The term "barrens" has been used by ecologists locally to include scrub forests, thickets, savanna and woodland with grassy understory. On the Cumberland Plateau, barrens are associated with open areas which were most likely maintained by fires intentionally set by Native Americans and the trampling by herds of herbivores such as bison, elk and deer. Grasslands were very important to the Native Americans for food grains, grazing, and hunting.

The prairies and barrens that occur in Tennessee today are considered remnants of a very important ecosystem. These grasslands are a high priority for protection by state and federal agencies as designated natural areas. May Prairie in Coffee County, Roan Mountain in Carter County, Couchville Cedar Glades in Davidson County and Vesta Glades and Barrens in Wilson County are a few examples. Fort Campbell Military Reservation contains one of the largest and intact barren systems in Kentucky and Tennessee.

Benefits of Native Grasses

- Warm-season native grasses are often more productive on poorer soils than are cool-season grasses. Native grasses are good for soil erosion, soil building and water purification. Being tolerant of soil extremes, warm-season native grasses tolerate pH levels that are above or below neutral. Warm-season grasses are drought-resistant and use less water to produce equal or greater amounts of tonnage as cool-season grasses. Thus, they are more efficient and more productive in the hot, dry months.
- Once established, warm-season grasses require very little maintenance. Warm-season grasses use nitrogen more efficiently than cool-season grasses and require no fertilizer, a benefit to water quality. Properly managed and maintained warm-season grasses should not need replanting. Poor stands are rejuvenated by using the proper management practices. Dense, vigorous stands should not need

weed control.

- The benefits to wildlife are great. Growing up to eight-feet-high and in bunches, native grasses allow animals and birds to move freely, provide good nesting cover and brood areas, and offer a variety of food sources from seeds and insects. Native wildflowers have room to grow in the spaces which also provide food and shelter. In areas where native grasses have been established, non-game animal diversity has increased. Prairie dog, fox, and coyote are associated with grasslands. Birds include prairie chicken, hawks, owls, meadowlarks, sparrows. Grasses and associated sedges and rushes growing in marshes and swamps provide food for migratory birds including ducks and geese. Native grasses invite a great variety of birds and butterflies to nest.
- Native grasses offer a great benefit to livestock. The nutrient value is higher, the cost for fertilizer or pest control is minimal, and the hay production is greater.

TN Wildlife Resource Agency is promoting the return of native grasslands through the Upland Game Bird Habitat Program. They help provide seeds or seedlings and offer a cost share incentive to the private landowner. Many public lands, such as wildlife management areas, are being converted. At this time, the seed sources for these plantings are coming from the northern and Midwestern states. It is hoped that in the near future, seeds from the native Tennessee barrens will be harvested to maintain pure native stock.

Tips on Planting Native Grasses

- Do not dig plants from the wild. Collect and plant grass seeds that are native to Tennessee. Be careful not to collect more than 10 percent of the seeds in an area.
- Most seeds are ready about one month after the plant has finished blooming. Dry the seeds in a paper bag and plant them in the fall deep in the soil.
- The prairie mixes sold by many nurseries contain alien invasive grasses and other wildflowers and should not be planted in Tennessee. The worst invaders of natural areas include Bachelor's Buttons, Dames Rocket, Yarrow, Ox-eye Daisy, Shasta Daisy, Crown Vetch, Cosmos, White and Yellow Sweet Clover, Crimson, Red, and White Clovers, California Poppies, annual Phlox, and many more.
- Native grasslands and "meadows" may appear as weeds to many; be reminded to check ordinances within city limits before converting your manicured lawn into a more desirable and useful landscape. As the prairie plants mature, the undesirable weeds will lessen and beauty will abound.

Resources: Department of Environment and Conservation: "The Return of Native Grasses to Tennessee" (September 1, 1999) by Andrea Brewer Shea. Andrea Brewer Shea is the Rare Species Protection Coordinator with the Tennessee Department of Conservation; Craig Harper, et. al., "A Landowner's Guide to Native Warm-Season Grasses in the Mid-South; Margie Hunter, *Gardening with the Native Plants of TN* (UT Press.).

The Obed Community Association has as its purpose community appreciation and volunteer involvement in ongoing research of the natural and cultural heritage of the Obed River watershed within Cumberland County. Louise Gorenflo, OWCA director, produced this fact sheet. Those wanting to join this membership organization or more information may contact OWCA at 484-2633 or at 185 Hood Drive, Crossville, TN 38555.