

TURFGRASS SELECTION FOR TEXAS

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Turfgrass lawns are a resource: They can provide soil erosion control, filter chemical pollutants, produce oxygen and sequester carbon dioxide, stabilize dust, dissipate heat, enhance property value, and much more. However, the ecosystem services provided by turfgrass are ultimately achieved by proper species selection and proper management of that species.

TURFGRASS SELECTION OVERVIEW

This guide will discuss several different adapted species of turfgrass and different cultivars within those species. This is an important concept to understand when beginning to look for the perfect turfgrass. Not only do different species have different characteristics, but cultivars within those species have varying features as well. Many (yet not all) of those characteristics will be discussed in this guide.

When beginning to select the proper species for a site, it is imperative to ask:

- ▶ What turfgrass suits my macroclimate?
- ▶ What turfgrass suits my microclimate?

The turfgrass has to be adapted to the macroclimate of the general region, but also the microclimate of the site. The microclimate will include the following considerations:

- ▶ Available irrigation
- ▶ Intended use (e.g., lawn, golf course, athletic field)
- ▶ Amount of traffic

- ▶ Shade or sun levels
- ▶ Soil properties
- ▶ Clients' expectations
- ▶ Desired level of maintenance or ability to maintain

The most common issue in the residential landscape is light availability.

The following descriptions are of turfgrass species most common to Texas. Maps indicate areas that the species are adapted to:

- ▶ Green = The species is most adapted in this area.
- ▶ Orange = The species may need extra irrigation and maintenance (i.e., mowing, fertilization) in this area.
- ▶ White = The species is not adapted for this area, though it may be grown with extra irrigation and expert maintenance (other turfgrass species are recommended).

TURFGRASS CULTIVARS

Not all turfgrass cultivars mentioned within each grass species may be available in Texas. Seed stores and garden centers typically carry only a few cultivars of each species from a single supplier. It is impractical for Texas sod producers to produce large volumes of cultivars of a single turfgrass species. Therefore, they try to provide high-quality cultivars of the most improved grasses. For sod availability in Texas, please visit www.texasgrass.com.

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TEXAS WARM-SEASON TURFGRASSES

Warm-season turfgrasses are well adapted to Texas because of their ability to use inputs (i.e., water and fertilizer) efficiently, withstand hot temperatures, and adapt to drought conditions.

The ideal air temperature range for optimal warm-season growth is 80 to 95 degrees F. These turfgrasses also have aboveground and/or belowground vegetative structures that can allow them to recover from stresses associated with harsh environmental conditions. One undesirable trait is that most warm-season turfgrasses will turn straw-colored after the first frost and may go dormant during the winter in some Texas regions.

Bermudagrass

Bermudagrass is widely grown throughout Texas. It is highly drought and traffic tolerant but requires full sunlight. Cultivars are available for lawns, golf courses, and athletic fields. Seed is available for many cultivars, while other cultivars do not produce viable seed and can be established only vegetatively from sod, sprigs, or plugs.

There are many improved seeded cultivars of bermudagrass. These cultivars are called “intraspecific hybrids” and use parental lines within the same species of bermudagrass (*Cynodon dactylon*). These cultivars tend to have a finer texture and create a denser turf than common-type bermudagrasses. Garden centers and turfgrass suppliers typically carry limited cultivars. Examples of seeded cultivars: Arden-15, Arizona Common, Blackjack, Celebration (common selection but must be planted vegetatively), Jackpot, LaPaloma, Majestic, Mohawk, Monaco, NuMex Sahara, Panama, Princess 77, Pyramid, Rio, Savannah, Shanghai, Shangrila, Southern Star, SR 9554, Sunbird, Sundevil II, Sunstar, Sydney, Transcontinental, Veracruz, and Yukon.

The interspecific or clonal hybrid is a cross between *Cynodon dactylon* (common bermudagrass) and *Cynodon transvaalensis* (African bermudagrass). These vegetatively grown bermudagrasses are usually denser, darker green, have a finer texture, and are more aggressive than common bermudagrass cultivars. Also, much of these bermudagrass types require more maintenance (more frequent mowing, more nitrogen fertilizer). The clonal hybrid bermudagrasses are better adapted for use on golf course fairways and sports fields than for home lawns. Examples of vegetative bermudagrasses: Ironcutter, GN-1, Latitude 36, Midiron, Midlawn, Northbridge, Quickstand, Patriot, Sunday, Tahoma 31, TifGrand, TifSport, Tifton 10, TifTuf, Tifway 419, and Tifway II.

For more information about Bermudagrass, see: [Bermudagrass Selection for Athletic Fields \(SCSC-PU-181\)](#).

Buffalograss

Buffalograss is best adapted for areas with an annual rainfall of 25 inches or less. When planted in the high-rainfall areas of East Texas—or when watered excessively—buffalograss is easily invaded by weeds and other grasses. It does best in full sun and has little tolerance of shade. Buffalograss also does well as a low-maintenance lawn grass from Central to West Texas.

Cultivars available from sod in Texas: 609, Density, and Prairie. Seeded buffalograss cultivars: Bowie, Cody, Common, Texoka, Commanche, Plains, and Topgun.

Centipedegrass

Centipedegrass is best suited as a low-maintenance lawn grass and is best adapted to low pH soils in East Texas. It is slow-growing, coarse-textured, and grows well in full sun to light shade but does not tolerate heavy traffic or prolonged drought. It is also low maintenance, requiring minimal fertilizer and infrequent mowing. It is best established with sod but can also be established by seed. Seed germination is approximately 21 days.

There are very few centipedegrass cultivars in the marketplace. Common centipedegrass is available as seed and sod. TifBlair (a relatively new cultivar) is also available as seed and sod.

Seashore Paspalum

Because seashore paspalum does not tolerate prolonged low temperatures, it is best adapted to the Southern one-third of Texas. It is tolerant of salinity in both soil and irrigation water and needs less nitrogen fertilizer than the improved bermudagrass cultivars. It is also most suited to athletic fields, golf course fairways, and high-maintenance lawns where the salinity of irrigation water is a concern.

Vegetative cultivars include Adalayd/Excalibre, Aloha, Platinum TE, Salam, SeaDwarf, Sea Isle I, and Sea Isle 2000. Sea Spray is a seeded cultivar. Seashore paspalum is less readily available than other warm-season grasses but is gaining more popularity in Texas.

St. Augustinegrass

St. Augustinegrass has a coarse texture and is used mainly as a lawn grass and is the most shade tolerant of the warm-season turfgrasses. It can be grown in most of Texas, although it may be killed by more severe winters in the Northern one-third of Texas. St. Augustinegrass is generally less drought tolerant than bermudagrass or zoysiagrass. It can be grown in Central and West Texas with more supplemental irrigation but is best adapted in Southeast Texas. St. Augustinegrass also does not tolerate high traffic. It is currently only established in a vegetative form and seed is not available.

St. Augustinegrass cultivars include Amerishade, Cobalt, Delmar, Floratam, Palmetto, ProVista, Raleigh, Sapphire, and Seville. Compared to the other cultivars, Floratam has wider leaf blades, poorer shade tolerance, the best drought tolerance, and the poorest cold tolerance—which makes it best adapted in Southern Texas and along the Gulf Coast. Cobalt is the most drought tolerant cultivar of St. Augustinegrass that is available.

Zoysiagrass

The area that zoysiagrass is adapted is like that of bermudagrass. Improved cultivars usually require less nitrogen fertilizer than bermudagrass. Zoysiagrasses are drought-tolerant but tend to turn brown sooner than bermudagrass during an extended drought. Zoysiagrass has light to moderate shade tolerance, depending on the cultivar, but is not as shade tolerant as St. Augustinegrass. Zoysiagrass does well on lawns and in recreational areas with only moderate traffic. It is best established from sod but is also established by seed, sprigs, and plugs. Establishment generally takes longer than bermudagrass to completely cover an area when sod is not used. Zoysiagrass cultivars have improved in recent years and there are multiple species being produced in Texas. *Zoysia japonica* is medium-textured and does well with normal lawn maintenance practices. *Zoysia matrella* has a much finer leaf texture that produces a very dense turfgrass and generally requires more maintenance (mainly closer and more frequent mowing) than *Zoysia japonica* cultivars (Table 1).

Traits	<i>Zoysia japonica</i>	<i>Zoysia matrella</i>
Blade width	Medium	Fine
Green color	Medium	Dark
Shade tolerance	Moderate	Good
Mowing heights	1 to 3 inches	1 inch or less
Cold tolerance	Very good	Good
Drought tolerance	Very good	Good

Innovation is the medium-textured interspecific hybrid (cross between two different species) on the zoysiagrass market. It was jointly released by Texas A&M AgriLife Research and Kansas State University. Lazer is a very fine-textured, interspecific hybrid turfgrass developed for golf course greens. Only two seeded cultivars of zoysiagrass are available: Zenith and Compadre. They require warm, well-prepared soils to germinate and emerge in approximately 14 to 21 days.

Table 2. Available Zoysiagrass cultivars in Texas.

<i>Zoysia japonica</i>	<i>Zoysia matrella</i>	<i>Zoysia japonica</i> x <i>matrella</i>	<i>Zoysia matrella</i> x <i>minima</i>
Crowne	Cavalier	Innovation	Lazer
El Toro	Diamond		
Empire	Royal		
Jamur	Y-2		
Meyer	Zeon		
Palisades	Zorro		

TEXAS COOL-SEASON GRASSES

Cool-season grasses grow best in spring and fall and are primarily adapted in North Texas and the Panhandle with ideal air temperatures of 60 to 75 degrees F. They do not tolerate the summer heat and high humidity in most regions of the Texas.

Kentucky Bluegrass

Kentucky bluegrass is a fine-textured turfgrass that is widely used for lawns in northern climates. It is adapted to the Texas Panhandle region but requires supplemental irrigation. In more humid areas of Texas, bluegrass is prone to disease and heat stress, and it is not recommended as a general lawn grass.

Many improved Kentucky bluegrass cultivars are available as seed. There are no growers of Kentucky bluegrass sod in Texas. For best results, a blend of three or four different Kentucky bluegrass cultivars is recommended.

Ryegrass

Perennial, intermediate, and annual ryegrasses are suitable for temporary use in lawns throughout Texas. They can be overseeded into bermudagrass in late September and October to provide winter color or planted on bare ground to prevent erosion until a permanent lawn can be established in the spring. In the Texas High Plains, perennial ryegrass may be used as a permanent turfgrass (with adequate irrigation).

Tall Fescue

Improved cultivars are commonly referred to as “turf-type tall fescues.” Tall fescue sod is moderately tolerant of drought and shade, and its use is limited to North Texas and the Panhandle. It is adapted to a wide range of soil conditions and management programs. However, tall fescue lawns will require more summer irrigation than either warm season turfgrasses or hybrid bluegrass. It is also not well suited to heavily trafficked areas.

Table 3. Relative traits of warm-season turfgrass species when grown in their regions of adaptation with good maintenance programs and adequate rainfall or irrigation ("range" indicates varietal differences).

Trait	Bermudagrass	Buffalograss	Centipede	Seashore Paspalum	St. Augustine	Zoysiagrass
Shade Tolerance	Very Low to Low	Low	Moderate	Low	High	Moderate to High
Water Requirement	Moderate to Low	Very Low	Moderate	Moderate	Moderate	Moderate
Drought Tolerance	Very Good to Excellent	Excellent	Moderate	Good	Good	Very Good
Traffic Tolerance	High	Low	Low	Moderate to High	Low	Moderate to High
Cold Tolerance	Moderate	High	Low	Low	Low	Moderate to High
Salinity Tolerance	Moderate to High	Low	Low to Moderate	Moderate to Very High	Good	Moderate to High
Disease Potential	Low to Moderate	Low	Low to Moderate	Low to Moderate	High	Low to Moderate
Mowing Height (inches)	0.75 to 4.0	2 to not Mowed	1.5 to 2.0	0.75 to 2.0	2.0 to 5.0	0.75 to 4.0
Leaf Texture	Fine	Fine	Coarse	Fine	Coarse	Medium to Fine
Stolons (S) and/or Rhizomes (R)*	S&R	S	S	S&R	S	S&R

*Turfgrasses with stolons (i.e., aboveground stems) can grow laterally. Turfgrasses with rhizomes (i.e., underground stems) can also grow laterally.

The standard tall fescue cultivar K-31, which originated as a forage grass, is still available. However, there are many new turf-type cultivars (more than 70) that perform better and have finer leaf texture. These new cultivars are also more tolerant of heat and shade.

Hybrid Bluegrass

Hybrid bluegrass is the result of crossing Kentucky bluegrass with native Texas bluegrass. Its appearance is much like Kentucky bluegrass, but it is tolerant of Texas heat, sun, and can stay green throughout the year. It needs less irrigation than tall fescue and performs best in lawns with minimal traffic. It is adapted from Central Texas to Southern Oklahoma and is an alternative to tall fescue in North Texas. Southern Blue and Sunbelt Blue are hybrid bluegrass cultivars developed by Texas A&M AgriLife Research and are vegetatively planted since seed is sterile. However, sod is not readily available yet in Texas.

The next steps are to prepare the soil properly for planting and establish a good maintenance program (e.g., mowing, fertilizing, irrigating, and more) for long-term success. Check out the establishment guide for more information on proper establishment.

FOR FURTHER INFORMATION

- ▶ <http://soilcrop.tamu.edu>
- ▶ <http://aggieturf.tamu.edu>
- ▶ <http://agrilifelearn.tamu.edu>