

# Turfgrass Selection for Texas

David R. Chalmers, Ph.D. and James McAfee Ph.D.

Professor and State Extension Turfgrass Specialist, Associate Professor and Extension Turfgrass Specialist,  
The Texas A&M University System

Turfgrass selection involves deciding on an adapted grass type or species (e.g., bermudagrass, St. Augustinegrass, or zoysiagrass, etc.) and varieties of each species. Establishing a “turf to your liking” is a result of 1) selecting a grass adapted to the climate, intended use and site specific conditions (e.g., shade vs. sun, soil depth/quality, irrigated vs. non-irrigated, amount of traffic, level of maintenance) 2) doing what is necessary in soil preparation and grow-in; and 3) establishing a good cultural program (mowing, fertilization, irrigation, etc.) for long-term success. The maps and brief descriptions to follow indicate the grass species most common to Texas.

## KEY TO COLOR ON MAPS

The colored Texas maps for each grass reflect areas of adaptation. Colors indicate: **Green** - most adapted in these areas; **Orange** - may require significant supplemental irrigation and additional cultural practices; **White** - not truly adapted in these areas without greater inputs (e.g., irrigation or expert maintenance) - more adapted grass species are recommended. Relative traits of warm-season turfgrass species are presented in Table 2.

## Turfgrass Varieties

Not all turfgrass varieties mentioned with each grass type (species) may be available in Texas. Seed suppliers and garden centers typically carry only a few varieties from a single manufacturer. Texas sod producers select the grass varieties they grow and try and provide a quality product of the most improved grasses. It is impractical for sod producers to produce a great number of varieties of a single grass species.

## TEXAS WARM SEASON GRASSES

Warm-season grasses turn straw-colored at the first frost and may go dormant in the winter in Texas.

### Bermudagrass

Bermudagrass is grown throughout Texas. It is very drought and traffic tolerant and requires full sunlight. Varieties are available for use as lawns, golf courses, and



athletic fields. Many seeded types are available. Other varieties are only vegetatively established from sod, sprigs, or plugs since they do not produce viable seed.

### *Bermudagrass Varieties Established from Seed.*

There are many “named” seeded varieties of bermuda that have been introduced into the marketplace. These varieties tend to have a bit finer texture and provide a denser turf than common-types of bermudagrass. Since there are many seeded bermudagrass varieties, garden centers and turf suppliers typically carry only a few varieties unique to who supplies their seed. This avoids confusing purchasers by offering too much selection!

Seeded bermudagrasses include: Arizona Common, Blackjack, Blue-muda, Contessa, Jackpot, LaPaloma, Majestic, Mohawk, NuMex Sahara, Panama, Princess 77, Pyramid, Riviera, Savannah, Shanghai, Shangri-la, Southern Star, SR 9554, Sunbird, Sundevil II, Sunstar, Sydney, Transcontinental, Veracruz, and Yukon

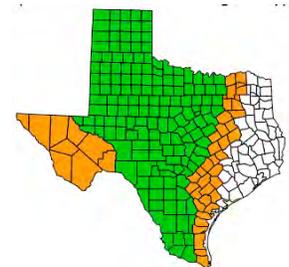
### *Bermudagrass Varieties Established Vegetatively*

The hybrid or vegetative (planted only as sod or sprigs – not available as seed) bermudagrasses are usually darker green in color, finer textured and more aggressive than the common-type bermudagrass varieties. The hybrid bermudagrasses are better adapted for use on golf course fairways and sports fields than for home lawns. Generally, the maintenance requirement (mowing frequency, nitrogen fertility, etc.) for the hybrid bermudagrasses is higher than for the common-type bermudagrasses.

Examples of hybrid or vegetative bermudagrass available from Texas sod producers include, but are not limited to: Baby, Celebration, CT-2, Common, GN-1, Grimes EXP, Quickstand, Tifgreen, Tifway, TifSport, and Tifton 10.

### Buffalograss

Buffalograss is best adapted for areas with low annual rainfall (25 inches or less). Buffalograss has a very low irrigation requirement. Yet when planted in the higher rainfall areas of eastern Texas



or with excess irrigation, other grass species and weeds easily invade buffalograss. It does best in open sun but has only slight tolerance of shade. It functions well on low maintenance lawns from Central to West Texas. It is best established vegetatively from sod.

**Buffalograss Varieties.** The more popular varieties do not produce viable seed are only established vegetatively as sod. They include: Density, Prairie, Prestige, and 609. "Tech Turf" is a recently marketed buffalograss that appears to only be available as sod plugs. Seeded buffalograss varieties include, but are not limited to: Common, Texoka, Commanche, Plains, and Topgun.

### Centipedegrass

Centipedegrass is a warm season grass that turns straw-colored at the first frost and may go dormant in the winter in Texas. Centipedegrass is suitable as a low maintenance lawngrass and is best adapted in eastern Texas. It is slow-growing and coarse-leafed. Growing well in full sun to light shade, it does not tolerate traffic or prolonged drought. It nevertheless requires little fertilizer and infrequent mowing. It is best vegetatively established through sod.



**Centipedegrass Varieties.** There are very few Centipedegrass varieties in the marketplace. Common Centipedegrass is available as seed and sod. TifBlair, a relatively new variety, is also available as seed and sod.

### Seashore Paspalum

Seashore paspalum has received attention due its tolerance to saline soil condition and irrigation water of high salt content. It is best adapted to the southern one-third of Texas since it does not tolerate prolonged low winter temperatures. Nitrogen fertility requirement is less than the improved bermudagrass cultivars and it tolerates close mowing but current varieties are best maintained at heights of 1 inch or less. The marketplace has not yet embraced seashore paspalum in Texas. As such seed or sod has not been readily available. It is most suited to sports turf, golf course



fairways and higher maintenance lawns where tolerance to saline irrigation is a prime concern. It can be vegetatively established by sod or sprigs.

**Seashore Paspalum Varieties.** Vegetative varieties include: Adalayd/Excalibre, Aloha, Salam, SeaDwarf, Sea Isle I, and Sea Isle 2000. Seeded variety: Sea Spray

### St. Augustinegrass

St. Augustinegrass is a coarse species. It functions mainly as a lawn grass and is the most shade tolerant among the warm-season turfgrasses. It can be grown in most of Texas. Lack of cold hardiness limits its use in the northern 1/3 of Texas since it may winter-kill in those areas from time to time. Adaptation from Central to West Texas is limited due to reduced drought tolerance compared to bermudagrass and zoysiagrass. It can be grown in Central and West Texas with greater amounts of supplemental irrigation. It performs very well in Southeast Texas. St. Augustinegrass is a low to moderate to high maintenance lawn grass that does not tolerate high amounts of traffic. It is best established by sod.



**St. Augustinegrass Varieties.** There are relatively few varieties of St. Augustinegrass that include: Amerishade, Captiva, Delmar, Floratam, Palmetto, Raleigh, Sapphire, and Seville. Characteristics important to note center on Floratam 1) having wider leaf blades 2) poorer shade tolerance 3) best drought tolerance and 4) poorest cold tolerance among currently available St Augustinegrass varieties. Floratam is therefore best adapted in southern Texas and along the Gulf Coast.

### Zoysiagrass

Zoysiagrass has an area of adaption is similar to that of bermudagrass in Texas. Improved varieties typically require less nitrogen fertilizer than bermudagrass. Zoysiagrasses are drought tolerant, yet they tend to discolor and turn brown sooner than bermudagrass during an extended drought. Varieties have light to moderate shade tolerance. Zoysiagrasses are



not as shade tolerant as St. Augustinegrass. Zoysiagrass does well on lawns and only moderately trafficked recreational areas where excessive traffic is not anticipated. It is best established from sod. Seed, sprigs, and plugs generally require longer "grow-in" periods than bermudagrass to provide complete cover. Zoysiagrasses varieties have improved in recent years over the older Meyer variety. Two species of zoysiagrass are in sod production in Texas. *Zoysia japonica* types are medium textured and do well with "normal" lawn maintenance practices. The *Zoysia matrella* types have a much finer leaf texture that produces a very dense turf that will likely require higher maintenance (mainly closer and more frequent mowing) than *Zoysia japonica* varieties (Table 1).

Table 1. Comparing traits for *Z. japonica* versus *Z. matrella*

Traits	<i>Z. japonica</i>	<i>Z. matrella</i>
Blade width	medium	fine
Green color	medium	darker
Shade tolerance	moderate	good
Mowing heights	1 to 2 inches	1 inch or less
Cold tolerance	very good	good

**Zoysiagrass Seeded varieties.** Currently, there are only two seeded varieties in the marketplace; Zenith and Compadre. Seeded types require warm and well-prepared soils to germinate and are much slower to establish a lawn compared to a seeded bermudagrass.

**Zoysiagrass varieties available as sod.** *Zoysia japonica* varieties include: Carrizo, Crowne, El Toro, Empire, GN-Z, Jamur, Meyer and Palisades. The *Zoysia matrella* varieties include Cavalier, Diamond, Royal, Y-2, Zeon, and Zorro. Emerald is an older variety that is similar to *Z. matrella* types in appearance and growth.

## TEXAS COOL SEASON GRASSES

Cool season grasses have lower optimum temperatures and grow best in spring and fall in North Texas. The high stress period for cool-season grasses is during summer and is related to tolerance of heat and high humidity.

### Kentucky Bluegrass

Kentucky bluegrass is a fine-leaved, rhizomatous perennial turfgrass widely used for lawns in the northern states. In Texas, it is adapted with higher maintenance in the

Panhandle region on irrigated sites. In the more humid areas of Texas, bluegrass is thinned-out by diseases. Its use as a general lawn grass is not recommended in the more humid areas of Texas.



**Kentucky Bluegrass Varieties.** Many improved Kentucky bluegrass varieties are commercially 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 varieties is recommended.

### Ryegrass

Perennial, intermediate, and annual ryegrasses are all seeded and 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 is established. In the High Plains of the Texas Panhandle, perennial ryegrass may be used as a permanent turfgrass if it is watered.

### Tall Fescue

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



**Tall Fescue Varieties.** The old standard tall fescue variety K-31, which originated as a forage grass, is still available. However, many new turf-type varieties have much finer leaf texture and better turf performance than K-31. These turf-type tall fescues can offer improved heat and shade tolerance over older types. There are many varieties (>70) of turf-type tall fescues available.

## Texas Bluegrass

Texas bluegrass is a cool season grass; the result of crossing Kentucky bluegrass with native Texas bluegrass. This grass has the appearance of near that of Kentucky bluegrass but is tolerant of Texas heat and sun. It is a cool-season grass that can stay green throughout the year. Its irrigation requirement is less than tall fescue and is adapted from Central Texas to Southern Oklahoma. This is a recently developed grass best adapted in low traffic lawns and is an alternative to tall fescue in North Texas. The marketplace has not yet embraced Texas bluegrass as having significant value over tall fescue in northern Texas. As such seed or sod is not readily available. Reveille and Tejas are Texas bluegrass varieties, developed by Texas A&M University, that may find their way into turf sites.



Table 2. Relative traits of warm season turfgrass species when grown in their region of adaptation. This assumes good maintenance programs and adequate rainfall or irrigation. When a range is provided it 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 Frequency (Days)	3 to 7 Days	7 to 14 Days if mowed	7 to 10 Days	3 to 7 Days	5 to 7 Days	5 to 10 Days
Mowing Height (Inches)	1.0 to 2.0	2.5 to 3	1.5 to 2.0	0.5 to 1.0	2.5 to 3	0.5 to 2.0
Leaf Texture	Fine	Fine	Coarse	Fine	Coarse	Medium to Fine

For recommendations on how to best establish turfgrass, refer to publication number SCS-2009-06, "Turfgrass Establishment in Texas," available from <http://soilcrop.tamu.edu/publications.html>.

Produced by the Department of Soil and Crop Sciences, Texas A&M University, College Station, Texas. For further information go to [www.soilcrop.tamu.edu](http://www.soilcrop.tamu.edu) or <http://aggieturf.tamu.edu>. Search for other lawn and turf publications at <http://agrilifebookstore.org/>. The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas AgriLife Extension Service is implied.

Educational programs conducted by the Texas AgriLife Extension Service are open to all people without regard to race, color, sex, disability, religion, age, or national origin.

Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Edward G. Smith, Director, Texas AgriLife Extension Service, Texas A&M System.