



Choosing Drought Tolerant Turfgrasses For California

With the implementation of mandatory water restrictions in California one significant target for water savings has been on the landscape, particularly lawns. Contrary to popular belief, lawns do not have to be removed in order to achieve water savings. Choosing the right turfgrass to begin with or replacing a lawn with a more drought tolerant species will often yield water savings of 25% or more.

All grasses are classified as either “warm season” or “cool season” grasses. The Mediterranean climate of California supports both types of grasses. While cool season grasses are more popular because of their year round green color, warm season grasses are better adapted at surviving extreme periods of drought because they are more efficient at using water. Warm season grasses generally save 25% or more water over cool season grasses. Within each category of grasses there are species that exhibit greater drought tolerance than other species.

WARM SEASON GRASSES

General Characteristics. Warm season grasses perform best in southern, hot climates with mild winters. Most go dormant (brown) if the average soil temperature drops

Drought tolerance comparisons of turfgrasses commonly grown in California.

Relative Ranking	Cool-season turfgrasses	Warm season turfgrass
Superior		Bermudagrass Buffalograss
Excellent		Seashore paspalum Zoysiagrass
Good		St. Augustinegrass Kikuyugrass
Medium	Tall Fescue	
Fair	Perennial Ryegrass Kentucky Bluegrass Creeping Bentgrass Hard Fescue Chewings Fescue Red Fescue	

Source: University of California, ANR Publication 8395 “Managing Turfgrasses During Drought” 2009

below 55F.

Bermudagrass. The most widely grown warm season grass in California. Bermudagrass thrives in heat and spreads by both above ground (stolons) and below ground (rhizomes) runners. It is extremely popular for high use applications (sportsfields, golf courses) because of its’ rapid growth and recovery from injury. Improved varieties are Transcontinental, Sultan,

and Yukon. Princess 77 is a seeded hybrid that has shown greater drought tolerance over common bermudagrass.

Buffalograss. Native to the great plains of America it is a very low maintenance grass. According to studies, buffalograss has the lowest water use rate of any commonly used turfgrass. If not irrigated it will turn brown in summer but will recover with irrigation. It is a low growing grass that



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can be either mowed or left unmowed.

Seashore paspalum. Similar in appearance to bermudagrass but does better along the coast. It is highly tolerant of salt water and poor soils. Improved variety "Seaspray" exhibits very good turf quality.

Zoysiagrass. Has a high tolerance to heat, drought and traffic. Moderately tolerant to shade. Slow to establish. Spreads by stolons and rhizomes.

St. Augustinegrass. Vigorous summer grower, heat and drought tolerant. Spreads by stolons. Very good shade tolerance but not for high traffic areas. Not available in seed.

Kikuyugrass. Very similar in appearance to St. Augustine but more aggressive and able to withstand high traffic. Is tolerant of light shade conditions. Very good heat and drought tolerance especially in coastal climates. Unlike the other warm season grasses above, kikuyu has very little to no dormancy in winter months. Improved varieties include AZ-1 and Whittet. Kikuyugrass planting is restricted to Arizona, Hawaii and southern counties of California.

COOL SEASON GRASSES

General characteristics. Cool season grasses perform best in northern and coastal climates in fall and spring but will grow in warmer climates with irrigation. They generally stay green year round unless temperatures are consistently below freezing.

Tall Fescue. In the cool season category, Tall Fescues exhibit the greatest drought tolerance due to the fact that root depth can go to 3 feet or greater. This extensive root system

enables the plant to draw water from a larger soil profile meaning that once the turf becomes established it needs less frequent watering than other cool season grasses and can withstand longer periods of drought. Certain varieties of tall fescue have shown marginal improvements in drought tolerance. Such varieties have been designated as TWCA (Turfgrass Water Conservation Alliance) qualified grasses. TWCA approved varieties include 2nd Millennium and Aquavita. TWCA approved tall fescue blends include "Triple Crown Extreme."

Fine Fescues. These grasses include Creeping Red Fescue, Chewings Fescue and Hard Fescue. These grasses actually use less water than the tall fescues above but because of their shallower root system it has only fair drought tolerance although they exhibit good drought tolerance under shade conditions.

Perennial Ryegrass. Perennial Ryegrass establishes quickly but it exhibits a high water use rate and a shallower root system which impacts its drought tolerance. If perennial ryegrasses are utilized it is recommended that TWCA qualified varieties be used as they exhibit better drought tolerance. TWCA qualified perennial ryegrasses include Manhattan 5 Perennial Ryegrass.

For more information:

For specification sheets on grass varieties visit: www.stoverseed.com
UC Publication "Managing Turfgrass during Drought" <https://anrcatalog.ucdavis.edu/pdf/8395.pdf>

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