



## Cool And Warm Season Grasses

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**W**hat is the difference between cool-season and warm-season grasses? Extreme summer heat and the current drought have prompted discussions about replacement turfgrass on our fairways.

The difference between cool-season and warm-season turfgrasses comes down to basic plant physiology. More specifically, it is how the plant performs photosynthesis, or the conversion of carbon dioxide and light into oxygen and carbohydrates, the latter which serves as food energy for the plant. Cool-season turfgrasses use the C<sub>3</sub> photosynthetic pathway and respond differently to temperature extremes and environmental stresses than warm-season plants that use the C<sub>4</sub> pathway. If you've ever heard a plant referenced as either a C<sub>3</sub> or C<sub>4</sub> plant, now you know why.

Practically speaking, and as their names suggest, every turfgrass species has a specific temperature range in which it maintains growth. Cool-season turfgrasses grow best in cooler climates or during cool, moist periods of the year when soil temperatures are between 60 and 75°F. Bentgrasses, bluegrasses, fescues and perennial ryegrass are typical cool-season turfgrass species used for fairways in the U.S. In contrast, warm-season turfgrasses perform optimally in warmer climates or during warmer parts of the year when temperatures are between 80 and 95°F. Popular warm-season turfgrasses include zoysiagrass, bermudagrass, buffalograss and seashore paspalum.

Obviously these are general temperature ranges and every turfgrass species is best adapted to particular climatic zones or regions. Cool-season turfgrasses lack the heat tolerance to be extensively used throughout the southern U.S. and poor cold tolerance limits the use of warm-season species in the north. The regions of the U.S. where both cool-season and warm-season turfgrasses are utilized are often collectively referred to as the transition zone. Not surprisingly, selecting a fairway turfgrass for use in the transition zone can be a difficult decision.

When it comes to selecting the best turfgrass for fairways, understanding the basic difference between cool-season turfgrasses and warm-season species is important, but there are many factors that must be considered.

### Useful Resources:

[Fairway Grass Options for the Transition Zone](#)  
[Selecting the Right Grass](#)