



Turfgrass Selections for Delaware

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Turfgrasses are divided into two categories

Categories are based on their photosynthetic pathway and climatic adaptations. The growth potential of cool-season grasses (C3) is highest in the spring and fall, with optimum growth occurring when average daily temperatures are 68 °F. Warm-season grasses (C4) grow most rapidly in the summer, with optimum growth occurring at 85 °F+. Delaware is in the northern half of the transition zone, where our winters are too cold for warm-season grasses to avoid dormancy and our summers are quite stressful for cool-season grasses. Nevertheless, tall fescue and zoysiagrass are the recommended species of cool-season and warm-season turfgrasses, respectively, in our region for lawns and general-use settings.



Cool-Season Grasses:

This group of grasses will perform exceptionally well in the shoulder seasons, and they will retain their green color for most months of the year. The summer is considered their stressful period, and more inputs

are needed during this time in order to meet traditional turfgrass quality expectations.

All cool-season grasses are established by seed or sod.

Kentucky Bluegrass - (KYBG) *Poa pratensis*

This species has a nice green color and good recuperative ability due to its production of rhizomes and is frequently used for athletic surfaces. For lawns, it is commonly added to tall fescue seed blends in small quantities (5-10%) to improve stand density and recovery following periods of stress. As a monostand, it has fairly high maintenance requirements in order to retain a high level of turfgrass quality. Being a rhizomatous grass, it has a tendency to develop an excessive thatch layer, and frequent mechanical cultivation (aerification or verticutting) may be required. KYBG has good traffic tolerance but is susceptible to many diseases, especially summer patch and rust, and is fairly intolerant of soils with high salt content. Some cultivars possess moderate shade tolerance, but generally speaking KYBY prefers full sun.

Perennial Ryegrass - (PRG) *Lolium perenne*

This turfgrass establishes rapidly from seed and is often included in grass mixtures to provide a quick groundcover. It has a dark green color and is often considered the most aesthetically pleasing, but input requirements can be significant. It has medium traffic tolerance but poor recuperability. PRG is intolerant of heat, drought, shade, and salt. Perennial ryegrass is susceptible to a moderate number of fungal diseases, and gray leaf spot can be especially problematic. It is not recommended to establish PRG as a monostand.

Tall Fescue - (TF) *Lolium arundinaceum* (FKA: *Festuca arundinacea*)

The new turf-type tall fescues are excellent for Delaware, and they have excellent color, quality, and vigor. TF is considered a clump-type grass, yet it does produce small rhizomes that aid in lateral spread and stand recovery. They are extremely wear resistant; drought-, heat- and salt-tolerant; and moderately shade tolerant. Tall fescue's main fungal pests are brown patch, and as of recently, gray leaf spot. In general, TF requires less input than all of our other cool-season turfgrasses and is the #1 recommended cool-season turfgrass in Delaware for lawns and general-use settings.

Fine-leaf Fescues - (FF) *Festuca* spp.

Fine-leaf fescue, or fine fescue, is an umbrella term to describe 5 species of grasses that all look very similar, and identification is usually only possible by analyzing the seedhead. The 5 species are slender creeping red fescue, strong creeping red fescue, chewings fescue, hard fescue, and sheep fescue. They all have extremely narrow, almost needle-like, leaf blades that can compromise mow quality when mower blades are dull. Oftentimes they will be included in turfgrass seed mixtures ("shade mixes") for their excellent shade tolerance, but they can be used as monostand in heavy shade or full sun environments. Traditional cultivars are susceptible to summer patch, but newer varieties have shown improved tolerance. FF can persist in neglected lawns or where soil pH is extremely acidic or basic. Sheep and hard fescue are excellent additions for native "no-mow" or "low-input" mixes.

Creeping Bentgrass - (CBG) *Agrostis stolonifera*

This fine-textured grass is unique among cool-season grasses in its ability to be cut and managed at heights of 1/4 inch or less, but it can also persist at traditional heights of cut. It has a high disease potential, poor drought and traffic tolerance, and requires a plethora of inputs to remain vigorous, especially at lower

mowing heights. CBG is typically a weed in lawns, and its primary use is as a grass for golf course playing surfaces.



Warm-Season Grasses:

These grasses thrive during the summer months, but they will enter into dormancy shortly after the first frost and remain a straw color until the following spring. Warm-season grasses historically retain green color from approximately May to October, but the duration can vary depending on species and cultivar. When managed as a traditional lawn, these grasses require very few inputs to remain vigorous and they will provide an excellent surface throughout the late spring into early fall.

Both zoysiagrass and bermudagrass are typically established by sod or sprigs, but there are a few seeded varieties that are commercially available.

Zoysiagrass - *Zoysia matrella* and *Zoysia japonica*

There are two species of zoysiagrass grown in Delaware. Some of the newer available cultivars of zoysiagrass are a cross of the two species. In general, *Z. matrella* has a finer leaf blade and darker green color than *Z. japonica* and will provide a denser surface. Large patch of zoysiagrass (aka: zoysia patch) is the primary fungal pathogen and newer cultivars tend to be more resistant. Both make excellent monostand turf for a variety of uses but would be considered an invasive weed in a cool-season grass stand. Be mindful of where these grasses are established, as they can become quite invasive, moving laterally via rhizomes and stolons into a neighboring property. Nevertheless, both zoysiagrass

species are considered low-input grasses for lawns. Zoysiagrass has good traffic tolerance and some shade tolerance, especially during the growing season. Both species are commonly used as a lawn and on golf courses in the region.

Bermudagrass- *Cynodon dactylon*

Bermudagrass is an important turfgrass for use on golf courses, athletic fields, and sporting surfaces due to its ability to recover rapidly from heavy traffic. Bermudagrass encroachment into any other species is usually considered highly undesirable. Control options are limited, and for these reasons, the establishment of bermudagrass as a lawn is not recommended. Consult the National Turfgrass Evaluation database for Bermudagrass cultivar recommendations if constructing an athletic field, golf course, or sporting surface.

Recommended Cultivars

The following lists of recommended cultivars were created by identifying the statistically best performers from the most recent National Turfgrass Evaluation Program (NTEP) trials held at either the University of Delaware, University of Maryland, or Rutgers University. These lists contain the top performers for both turfgrass quality and disease resistance. Cultivar recommendations for zoysiagrass were extrapolated from NTEP sites where the weather most closely resembles the weather in Delaware or when a particular cultivar has a regional history of good performance. All cultivars were commercially available at the time of publication.

These lists will be periodically updated as the evaluation period for a particular species comes to a conclusion or commercial production of a cultivar is terminated.

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