

Vegetation Management Section

Materials

Turfgrass Descriptions

The NCDOT uses both warm-season and cool-season grasses. Warm-season grasses grow best during the summer months, go dormant after the first heavy frost and gradually green-up in the spring. Cool-season grasses grow best in the spring and fall, stay generally green in the winter months and are less active during the summer months. The diverse topography and climatic conditions in North Carolina do not allow for one type of grass to do well in all situations. Cool-season grasses are adapted best to the northern and western sections of the state, while warm-season grasses perform better in the southern and eastern sections. The piedmont area of North Carolina is in a transition zone where neither warm-season or cool-season grasses do exceptionally well. Seed mixtures combining warm-season and cool-season grass species are often used to provide variability and selective benefits that the different species have to offer. The NCDOT works closely with North Carolina State University on species selection. The most common turfgrass species utilized by the NCDOT follow.

Cool-Season Grasses



Tall Fescue (*Festuca arundinacea*)

Tall fescue is a coarse-textured grass with a bunch-type growth habit. It does not spread readily and, therefore, must be overseeded periodically to maintain an adequate stand. It is a deeply rooted perennial with strong wear tolerance, and it is the most heat tolerant of the cool-season grasses. It grows well over a wide range of soil conditions and tolerates both bright sun and moderate shade. Tall fescue is sensitive to close mowing. The NCDOT uses tall fescue in both cool-season and warm-season grass mixes.

Kentucky bluegrass (*Poa pratensis*)

Kentucky bluegrass has a medium-fine texture, a deep blue-green color and the ability to spread by rhizomes. It has moderate wear tolerance with good recuperative ability. Drought tolerance is good but shade tolerance is rather poor. Kentucky bluegrass does not tolerate heat as well as tall fescue and its use in North Carolina is generally restricted to the western piedmont and mountain areas.

Hard fescue (*Festuca longifolia*)

Hard fescue is a low-growing, non-spreading bunch-type grass. It has a very fine texture and is very drought tolerant. It is also the most shade tolerant of the cool-season grasses. Wear tolerance is moderate and recuperative potential is fair to poor. It grows very slowly and is well adapted to poor soils. The NCDOT uses hard fescue in cool-season mixes from the central piedmont west to the mountain areas of the state.

Warm-Season Grasses



Bahiagrass (*Paspalum notatum*)

Bahiagrass is a low-density turfgrass with coarse, tough leaf blades. It has moderate wear characteristics and spreads by short rhizomes and stolons. It has poor to fair recuperative ability, but tolerates poor soils well. It is deep-rooted and very drought resistant. Bahiagrass is easily identified by its numerous, long V-shaped seed heads. Shade tolerance is fair. The NCDOT uses bahiagrass in seed mixes throughout North Carolina.



Centipedegrass (*Eremochloa ophiuroides*)

Centipedegrass is a slow-growing, medium-textured grass that spreads by stolons. It can tolerate a wide range of soil conditions and does well on acidic, infertile soils. Drought tolerance is poor because of a shallow root system. It has the least wear tolerance of the warm-season grasses and has poor recuperative ability. Centipedegrass has fair shade tolerance and a strong tendency to exclude other vegetation. Due to its low-growing nature and inconspicuous seedheads, centipedegrass requires only infrequent mowing. It is well-adapted to the eastern piedmont and coastal

plain of North Carolina.



Bermudagrass (*Cynodon dactylon*)

Bermudagrass is a low-growing, dense turfgrass with a fine texture. It spreads by aggressive stolons and, to a lesser extent, by rhizomes. Bermudagrass tolerates a wide range of soil conditions. It has a rapid establishment rate and excellent recuperative potential because of its ability to spread quickly. Bermudagrass has excellent drought tolerance but is the least shade tolerant of the warm-season grasses.