

Multi-location Evaluation of New St. Augustinegrass Hybrids

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St. Augustinegrass [*Stenotapharum secundatum* (Walter) Kuntze] is the predominant turfgrass used in Florida landscapes and other Gulf Coast states. It is also utilized through much of the Carolinas, with the cultivar Raleigh having been selected for improved winter survival in North Carolina. In July of 2014 a multi-location small plot turfgrass evaluation experiment was established near Gainesville, FL and near Raleigh, NC. The experiment included 40 selections from North Carolina State University (NCSU) and 41 from the University of Florida (UF) plus Floratam, Palmetto, and Raleigh as check entries. Plots were established by planting 10 rooted plugs of each entry in a 1.2 M square plot and allowing them to fill in. Plots were kept separated with a 30 cm border maintained with a rolling disc cutter. Data collection at the Florida location included rate of cover in 2014; winter survival during the years of 2014-15, 2015-16, and 2017-17; turfgrass quality (TQ) ratings taken 5 to 7 times during the summers of 2015, 2016 and 2017; and disease incidence in all three summer seasons; and percentage cover. The experiment in North Carolina suffered severe winter kill during the 2014-15 winter and was discontinued. Only percentage cover in fall 2014 data are available from North Carolina.

There were significant differences in rate and percentage of cover during the 2014 establishment phase. Most lines showed good winter survival near Gainesville during both the 2014-15 and 2015-16 winters. Hybrids that had been previously selected in North Carolina began to show loss of stand and lower turfgrass quality by the end of the 2016 summer season. The mean percentage cover averaged over the 40 NCSU lines was 38% compared to a 55% mean cover of the 41 UF entries. Disease incidence scores [primarily grey leaf spot (GLS)] varied among the NCSU and UF lines with some particular UF lines showing high level of GLS resistance. By October 2017 only about 10% of the entries showed acceptable turfgrass quality.

Based on the results of these experiments and other multi-state evaluations a UF hybrid line originally identified as 06-2-8-1-1 and now entered into the 2016 NTEP St. Augustinegrass experiment as FSA 1602, was approved for cultivar release in January of 2018. This particular hybrid shows a distinct bluish-green leaf color unique among currently released St. Augustinegrass cultivars. This hybrid is in the aneu-polyploid germplasm pool of St. Augustinegrass similar to Floratam and FX-10 ($2n=ca\ 30$), and distinctly different from diploid cultivars such as Captiva, Palmetto, and Raleigh. A cultivar name has not yet been approved, but limited scale commercial installations planted in spring 2018 have indicated excellent consumer preference and installation success.