

2013-17-478

PROJECT TITLE:

Evaluation of Warm-Season Grasses for Putting Greens

PROJECT LEADER:

Kevin Morris, Executive Director  
National Turfgrass Evaluation Program (NTEP)  
BARC-West, Bldg. 005, Rm. 307  
Beltsville, MD 20705

START DATE:

2013

PROJECT DURATION:

Five years

TOTAL FUNDING:

\$90,000

SUMMARY TEXT:

With the increased interest in the use of bermudagrass on greens, a project was developed to evaluate three warm-season grass species on USGA specification putting greens at eleven locations across the southern and mid-western U.S. Trial sites include university locations (7) and golf courses (4). The trial parameters dictate a higher mowing height and a less intensive management regime as compared to typical ultradwarf bermudagrass management, while targeting green speeds of 9-10 feet.

The trial consists of twenty-eight total entries, with fourteen bermudagrass, eleven zoysiagrass and two seashore paspalum entries. Trials were planted anywhere from mid-June to mid-August 2013. As explained in past reports, winter injury from 2013-14 was significant at some locations. This winter injury caused NTEP to replant some or all entries at four locations in summer 2014. The winter of 2014-15 was also colder than normal in some locations, which delayed some entry development and hence, collection of some of the more advanced data parameters. Also, various issues led to the unfortunate abandonment of the trial at Tequesta, FL.

'MSB-264' and 'MSB-285', experimentals from Mississippi State University continued to perform well, finishing in the top statistical group for turf quality at five and six (of nine) locations, respectively. '11-T-861' also performed well, finishing in the top statistical group at five locations, but only the southern sites. Other experimentals such as '08-T-18', 'OKC-13-78-5' and 'JK 110521' demonstrated good turf quality at several locations, with top statistical group

performance at four sites. Significant differences in genetic color, density, leaf texture and fall color retention were noted among entries, which largely led to the quality ratings separation.

For zoysia in 2016, several experimental entries, particularly from the Texas A&M-Dallas (DALZ) University research program, produced turf quality that rivaled many of the bermudagrasses. ‘DALZ 1308’, one of the best zoysia entries in 2015, showed consistent performance in 2016 with top statistical group finishes in eight of nine trial locations. ‘DALZ 1306’ and ‘DALZ 1307’ also performed well with top statistical groupings at eight and seven locations, respectively. Performing well enough to gain the top statistical group at five locations in 2016 include ‘DALZ 1309’, ‘DALZ 1304’ and ‘ZOYSIU’.

The two seashore paspalum entries again showed good turf quality. As in 2015, ‘UGA 1743’ and the standard entry ‘SeaDwarf’ performed very similarly at almost locations in 2016. Dollar spot tolerance was higher in ‘UGA 1743’ than ‘SeaDwarf’ at the Jay, FL location.

Ball roll measurements were collected at several locations in 2016. Most locations did not record ball roll distances that met our minimum threshold of about 100 inches of roll (250 cm) using the stimpmeter (on at least one rating date). Mississippi State, MS was the only location to achieve ball roll distances on bermuda of at least 100 inches on any rating date. The bermuda entries ‘Tifeagle’, ‘FAES 1302’, ‘Mini-Verde’, ‘Tifdwarf’ and ‘CTF-B10’ delivered 100- inch ball rolls on both rating dates.

In prior years, none of the zoysia or seashore paspalum entries rolled at least 100 inches, however, that changed in 2016. At Tucson, AZ, several of the zoysia entries had greater ball roll distances than the bermuda entries, with ‘10-TZ-74’ rolling greater than 100 inches on both rating dates. ‘DALZ 1305’ and ‘DALZ 1307’ showed ball roll distances of 100 inches on one of two rating dates in Tucson. And ‘10-TZ-74’ was the only entry to roll greater than 100 inches at the Richmond, VA location. The seashore paspalum entry to measure a 100 inch or greater ball roll in 2016 was ‘SeaDwarf’, on one rating date at Tucson, AZ.

## SUMMARY POINTS

- In 2016, several new or experimental bermudagrasses again produced turf quality equal to or better than established standards ‘Tifdwarf’, ‘Tifeagle’ and ‘Mini-Verde’.
- Several zoysia entries also performed very well in 2016, producing turf quality rivaling the best bermuda entries. The two seashore paspalum entries performed similarly in 2016, however, ‘UGA 1743’ did demonstrate better dollar spot tolerance than ‘SeaDwarf’.
- Data from 2017 did not show a significant increase in ball roll, with only a few bermuda entries demonstrating ball roll of least 100 inches at one location under this medium maintenance regime.
- Ball roll distances for some seashore paspalum and zoysia entries did increase in 2016, as ball roll measurements of 100 inches were noted in a few instances in Tucson, AZ and the Richmond, VA sites.



Figure 1. 'DALZ 1309' zoysia and 'UGA 1743' seashore paspalum entries in January 2017 at a site in Tucson, AZ. Note improved color of zoysia (photo courtesy Brian Whitlark).





Figure 2. Site in Griffin, GA in May 2017. Note exceptional plot differences.