

Evaluation of Warm–Season Grasses for Putting Greens



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Objectives:

Evaluate three warm–season grass species on USGA specification putting greens at 10–12 locations across the southern U.S.

In 1999, the Golf Course Superintendents Association of America (GCSAA), USGA Green Section (USGA), and the National Turfgrass Evaluation Program (NTEP) cooperated on an initial project to evaluate new bentgrass and bermudagrass cultivars on about a dozen golf course putting greens across the U.S. This trial was limited to putting greens on golf courses only.

With the increased interest in the use of bermudagrass on greens, a new project was developed to evaluate three warm–season grass species on USGA specification putting greens at 10–12 locations across the southern U.S. Information gleaned from the previous trial and other trials showed that there are benefits to testing on both university sites as well as on golf courses.

Entries were received by NTEP from sponsors in mid–June 2013. The trial consists of twenty–eight (28) total entries, with fourteen (14) bermudagrass, eleven (11) zoysiagrass and two (2) seashore paspalum entries. The entries were grown in plastic trays with small plugs. These trays were organized by NTEP and then shipped to the eleven (11) sites via express shipment. Three trays of each entry (one tray per replication) were included in each shipment.

Some trial locations elected to plant their plot immediately, while some locations waited due to plant material ‘yellowing’ from shipment. Trial locations were planted anywhere from late June to early August by our

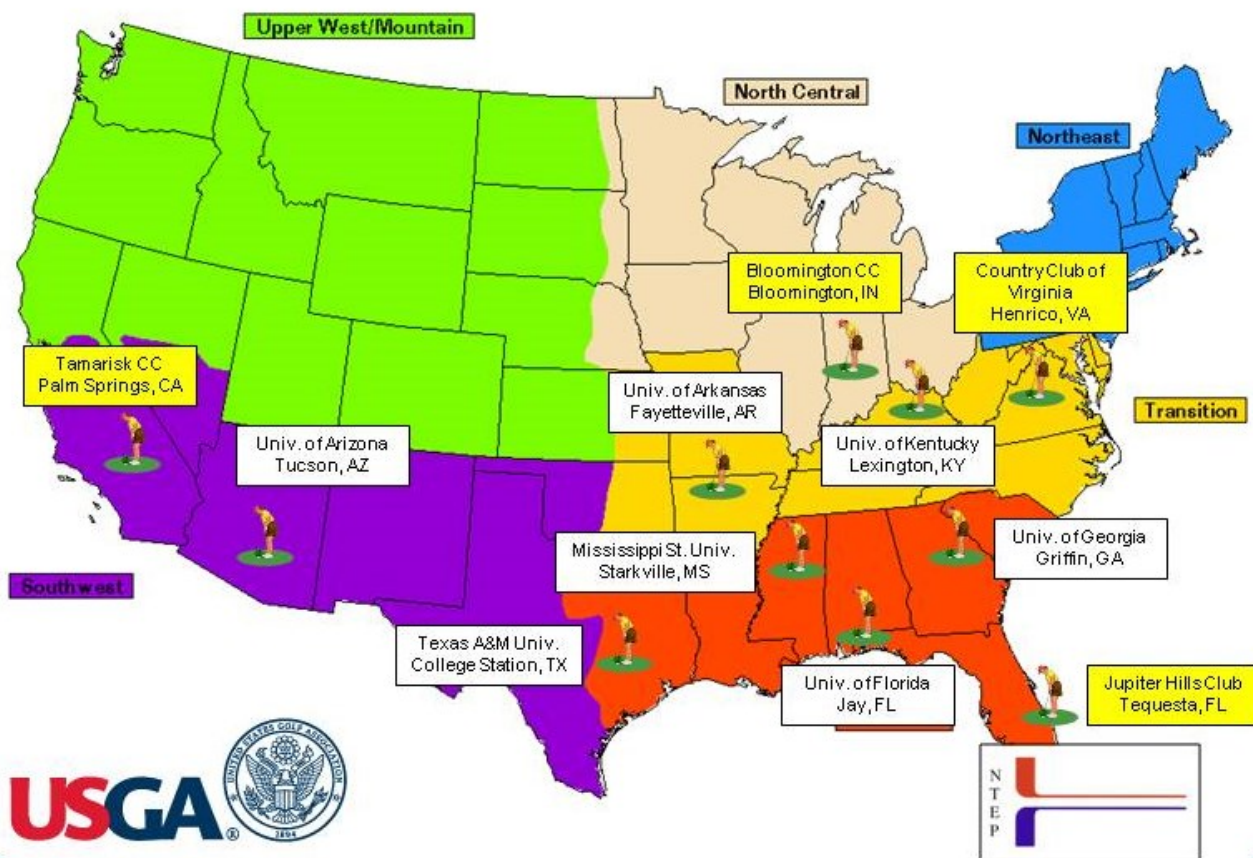
Warm–season putting green trial established at Jupiter Hills, Florida.



university cooperators.

An update provided by cooperators showed excellent establishment, especially by the bermudagrass and seashore paspalum (as expected). Ninety to one hundred percent cover was attained by many bermuda entries during the first eight weeks. The seashore paspalum entries were slightly slower to establish but still provided complete or almost complete cover by the end of the growing season. The zoysias, which were planted as plugs (in contrast to the bermuda and seashore paspalum entries in which the plugs were divided and ‘sprigged’), were much slower

2013 WARM-SEASON PUTTING GREEN LOCATIONS

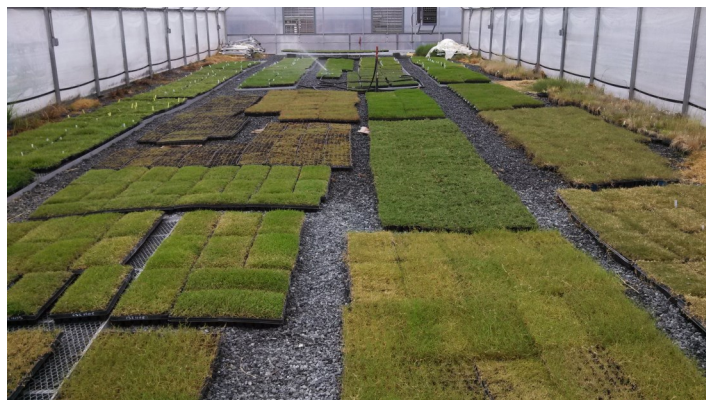


to establish as expected. Zoysia ground cover was probably no more than 50–60% for any entry at any location by the end of the growing season. The zoysia entries will take 3–6 months during the next growing season to completely cover.

A maintenance protocol is being developed to help cooperators manage the different species over the trial period. Much information is available on bermuda putting green management, and adequate information is available for seashore paspalum, but little to no information is available on zoysia putting green management under U.S. conditions. Since zoysiagrass has been used on greens for many years in Japan, we are consulting the Japanese for their insights and guidance.

Protocols have been developed to determine if and when to protect these trials during the winter by covering. However, this first year, with the young plugs just having grown in (or not fully grown in), we are working with the manufacturer Xton to custom make covers for the size needed at the six locations that have

requested a cover. This protection should allow for a smooth transition to next growing season and our first full year of data collection.



Hundreds of flats are grown in the greenhouse facilities at the USDA laboratory in Beltsville, MD. The flats for each cultivar are shipped to each cooperating university.



Warm-season putting green trials established at Tamarisk, CA (Left) and Bloomington, IN (Right).

Summary

- 28 entries, including bermudagrass, zoysiagrass and seashore paspalum were shipped to, and planted by eleven trial locations across the southern or mid-western U.S. Entries of the same species were planted in separate blocks to facilitate the management differences needed among the species.
- Bermuda entries were the fastest to cover, followed by the seashore paspalum entries. Zoysia plots were at most, 50–60% covered by the end of the growing season and will need an additional 3–6 months to cover next year.
- Maintenance protocols have been developed for the bermuda and seashore paspalum entries. Information is being sought from the Japanese on management of zoysiagrass putting greens.
- NTEP will provide winter protective covers for several sites this fall.
- Data collection will commence in spring with quality, color and other parameters, including ball roll being collected in 2014.