

# Evaluating Bermudagrass for Putting Greens

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## **Goals:**

- *Evaluate new bermudagrass cultivars in comparison with TIFGREEN and TIFDWARF on both a USGA green and a native sandy loam soil.*
- *Evaluate management practices including mowing height, irrigation and topdressing frequency.*

## **Cooperators:**

*Coleman Ward*

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Bermudagrass (*Cynodon dactylon*) is the best adapted species for putting greens in the warm humid regions of the United States due to its superior heat tolerance and recuperative ability under low mowing heights. To date, limited effort and resources have been expended to identify or develop bermudagrass cultivars with the quality of creeping bentgrass.

Soon after TIFGREEN was released, distinct *off-types* appeared in greens throughout the Southeast. Although TIFDWARF was the dominant cultivar released, others, such as PEE-DEE and TIFTURF were said to be distinctly different from TIFDWARF. Although TIFDWARF was the only one of the *off-types* to become established in the trade, there is considerable evidence that it is not the only variant existing originally, or at the present time. Turf managers have continually reported the occurrence of variants within TIFGREEN and TIFDWARF greens. In many cases attempts have been made to interest researchers in testing these strains of grasses, which are said to exhibit superior performance under conditions of excess moisture, heavy traffic, or poor soil structure common to the Southeast. To date, there has been little or no evaluation of these unique ecotypes to determine their value. Thus, the objective of this research was to evaluate bermudagrass cultivars or their TIFGREEN TIFDWARF *off-types* on both a USGA green and a native sandy loam soil.

A 5,000 ft<sup>2</sup> USGA-type golf putting green was constructed in August of 1993 at the Auburn University Turfgrass Research Unit. This putting green, along with a similarly sized native soil putting green, were used for evaluation of 12 bermudagrass cultivars. The 12 bermudagrass ecotypes or cultivars, were planted in replicated blocks on USGA and native soil putting greens.

Beginning in June 1996, mowing heights of 1/8 and 3/16 inch were superimposed over the grasses. The green was mowed 6 days per week. The plots receiving the 1/8-inch mowing height treatment were often double-mowed to prevent scalping and poor turf quality.

Data collection included: 1) evaluations of mole cricket damage (no significant difference due to grass type found), 2) quality ratings, 3) Stimpmeter readings, 4) overseed quality ratings, 5) seedhead production counts, and, 6) spring greenup ratings.

An additional study was initiated which evaluated ecotype/cultivar response to herbicide application. Preliminary evidence in this study indicates differences in ecotype/cultivar response to various herbicides.

Average Stimpmeter readings for the grasses were greater at the 1/8 inch mowing height than at the 3/16 inch mowing height. Average Stimpmeter distances at the 1/8 inch height were 6.6 on June 28 and 8.2 feet on Sept.19, and average distance at the 3/16

inch height were 6.4 on June 28 and 7.3 feet on Sept.19. Stimpmeter readings were always higher on the USGA green when compared to those obtained on the native soil green. Grasses with high quality turf that had the best Stimpmeter readings were TW72 and the ecotype Lakewood, a selection from the Lakewood C.C. in New Orleans.

The ecotype from the Mobile #10, from the #10 green of the Mobile C.C. (AL), always had the fastest spring greenup, but this grass also exhibited undesirable traits of seedhead production and poor turf quality later in the season. None of the other *C. dactylon* x *C. transvaalensis* hybrids demonstrated superior ability to green up in the spring. In later quality ratings the grasses TW72, Mobile #9, T596, Texas and TIFDWARF all exhibited high turf quality ratings. The ecotype from the #9 green of the Mobile Country Club and the cultivar TW72 both performed well at the 1/8-inch mowing height. These two grasses did not produce seedheads, as did several of the other grasses (Mobile #10, Lakewood, TIFGREEN, TIFDWARF).

Variants of TIFDWARF showed differences in phenotypic behavior, and some of these ecotypes (Mobile #9) show promise as putting green grasses. The cultivar TW72 performed well in most tests, and tolerates a 1/8 inch mowing height very well. This mowing height was very stressful to many of the grasses, especially TIFGREEN.