

# Evaluation of Ultradwarf Bermudagrass Cultural Management Practices

John Cisar  
University of Florida

## Objectives:

1. To evaluate the effects of verticutting, topdressing, and nitrogen:potassium ratios on the three most popular ultradwarfs in Florida (TifEagle, Champion, and Floradwarf).

**Start Date:** 2001

**Project Duration:** 3 years

**Total Funding:** \$32,480

As Florida leads the USA in numbers of golf courses and with over 66 million rounds of golf played annually, there is great interest in improved putting surfaces. New ultradwarf bermudagrasses have been developed for better putting performance and are being planted in new and reconstructed greens. We are conducting research to develop information on ultradwarfs from which to base sound cultural management recommendations for golf course superintendents.

Thanks to the great support of the Florida turfgrass industry, we initiated in late September, 1999 an ultradwarf cultural management research trial in south Florida at the Ft. Lauderdale Research and Education Center. The United States Golf Association has provided funds for the past two years to continue the research project. This project was designed to identify the optimal cultural practices for best performance of three popular ultradwarfs and thus form the basis for management recommendations of these grasses under Florida

conditions.

The grasses were selected based upon their usage in Florida: Champion, Tifeagle, and Floradwarf. The grasses were planted into an existing USGA green soil mix on a site near the Otto Schmeisser Research Green at the University of Florida's, Fort Lauderdale Research and Education Center in south Florida.

Cultural management practices evaluated included two nitrogen rates (30 and 60 g N m<sup>-2</sup>) which translated to 6 and 12 lbs N/1000 ft<sup>2</sup> and three N:K ratios (1:1, 2:1, and 1:2). In April of 2001, the fertilizer component was changed to 60, 90, and 120 g N m<sup>-2</sup> and the N:K ratios were reduced to 1:1 and 2:1 in order to evaluate a greater range of N rates.

This fertilizer regime was continued through 2002. Other cultural management treatments were light topdressing frequen-



Presence of fairy ring on ultradwarf varieties during the summer months

cy (weekly vs bi-weekly) and shallow verticut frequency (0.13 inch setting weekly vs. bi-weekly). There were four replication of each treatment. The daily mowing height was set at 0.13-0.14 inches during the period.

Because of the number treatments (288 plots), the size of the new green was approximately 1/4 acre. Evaluations were based upon visual turfgrass quality ratings, visual disease ratings, thatch ratings, turf leaf blade clippings and shoot counts. Significant treatment effects were observed for all parameters.



Evaluations were based upon visual turfgrass quality ratings, visual disease ratings, thatch ratings, turf leaf blade clippings and shoot counts.

## Summary Points

- Increased N improved turfgrass quality and turf leaf blade clippings.
- Tifeagle and/or Floradwarf provided the highest turfgrass quality during summer stress months in south Florida.
- Careful management is needed especially during summer stress periods when frequent verticutting could reduce turfgrass quality.
- There were varietal differences for fairy ring.
- Higher disease ratings were noted during the summer for Champion and, on some dates, for Floradwarf compared to Tifeagle.