

# On-site Testing of Grasses for Overseeding of Bermudagrass Fairways

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## Objectives:

1. To determine the best cultivars, blends, mixtures, and species for fairway overseeding. We want to obtain specific information on establishment, color, density, spring transition, response to poor quality irrigation water, disease, and other problems. Our project is unique in being the only coordinated overseeding trial, national in scope, covering broad geographic areas with extensive data collection.

**Start Date:** 2005

**Project Duration:** two years

**Total Funding:** \$40,000

This is our second national on-site fairway overseeding trial, and it was needed as new grasses, including intermediate and annual ryegrasses, have been developed recently that may be useful in overseeding. These new grasses may reduce spring transition problems that are a primary concern of golf course superintendents. This project evaluated new cultivars on bermudagrass fairways at golf courses in the southern and western U.S. This on-site testing program provides scientific information of a more applied nature about cultivars for overseeding.

Trial sites were located on golf courses near a land grant university with a turfgrass research program or in a major metropolitan area which is readily accessible to a university turfgrass scientist. Twelve evaluation trial sites were chosen. Trials were positioned strategically in the following areas: southern California, Arizona, Houston, TX, Mississippi, central Florida, Florida Gulf Coast, Myrtle Beach, SC, Virginia, North Carolina, Atlanta, GA, New Mexico, and Oklahoma.

The twelve trial locations were seeded in September or October 2004 and again in fall 2005 with the twenty-seven submitted entries and four standards. No establishment problems with any particular entry were noted. However, a mistake was made after seeding in 2005 at the Myrtle Beach site which caused us to drop that site from data collection for that year. Data collected from fall and winter 2005 through spring 2006 were analyzed separately from each trial site.

Variations in entry performance are expected because of differences in geography, weather patterns, and trial management among the trial locations. However, definite trends in the data are



Overseeding trials are being conducted on golf courses where they will receive "real world" traffic stresses.

apparent. First, all locations had a large percentage of the entries fall into the top statistical group, meaning that there are many entries that can provide equal turfgrass quality to even the highest ranking entry.

Second, the perennial ryegrass single cultivar entries and perennial ryegrass blends continue to provide the highest quality averaged over the entire growing season. Only one of the eleven trial locations did not have perennial ryegrass entries finishing with the highest average turfgrass quality.

At most locations, all four *Poa trivialis* entries had the lowest turfgrass quality ratings. This is mainly due to the inherent lighter green color of *P. trivialis* and its slow establishment rate compared to perennial ryegrass. Two intermediate ryegrass entries (annual x perennial ryegrass crosses) were in the study and generally performed better than *P. trivialis* entries, and either equal to or poorer than most perennial ryegrasses.

In the two years of this study, we have noticed that perennial ryegrass generally transitions better in spring than other species. This means that the turf area moves from green overseeding grass and dormant bermudagrass to green, growing

bermudagrass and reduced cover of the overseeding grass in a more natural progression, retaining green cover throughout. This is generally not true for *P. trivialis*, as our data shows that often *P. trivialis* will decline and disappear from the turf stand before the bermudagrass is green and ready to cover the area. This leaves a partially brown, unappealing turf that is less playable and open to weed invasion.

## Summary Points

- These trials evaluated many entries of perennial ryegrass, intermediate ryegrass, and *Poa trivialis* for their usefulness in overseeding bermudagrass fairways.
- Perennial ryegrasses were generally the best performers, either as single cultivars or in blends. Perennial ryegrass establishes quickly, is medium to dark green in color, and transitions well in spring. Many perennial ryegrasses performed well in trials at twelve locations over two years.
- Intermediate ryegrass may have potential for improved spring transition. However, our data on this trait was inconclusive.
- *Poa trivialis* entries had the lowest overall quality ratings at most locations and did not provide a smooth transition back to bermudagrass in spring.