Management of New Dwarf Bermudagrasses

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Objectives:

1. Determine the effects of vertical mowing, topdressing, and nitrogen fertility on performance, thatch development, fall and spring overseeding transition, and turf quality of five dwarf bermudagrasses.

Start Date: 2001
Project Duration: 2 years
Total Funding: $21,156

Golf courses in the southern United States continue to explore and use new dwarf bermudagrasses on golf greens. Initial performance of many of the new dwarf bermudagrasses has been excellent. The golfing public has eagerly welcomed the new dwarfs and the quality putting surfaces created by these fine-textured, stoloniferous, high-shoot density bermudagrasses.

Management of the new bermudagrasses continues to be a challenge for many golf course superintendents, particularly as golf greens planted to newer bermudagrass cultivars mature. Thatch and disease management appears to be the major challenges in the culture of the new dwarf bermudagrasses.

A study planted at the Texas A&M University in April, 1997 has documented the performance of five dwarf bermudagrasses under a range of cultural practices. This research has also documented the performance of 15 bermudagrass cultivars and selections and one zoysiagrass at close mowing heights.

Research committee member, Dr. Paul Rieke, examines bermudagrass treatments at the Texas A&M University plots. Frequent, light vertical mowing caused substantial reductions in turf quality for all cultivars except Tifdwarf.

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Evaluation trials focused on performance and reaction to bermudagrass decline in 2000. Thatch accumulation is a major consideration in the culture of all bermudagrass golf greens and the new dwarf bermudagrasses demonstrated aggressive thatch production in this study.

Excessive thatch accumulation was associated with poor spring transition in 2000 and 2001. Spring transition in previous years was excellent. Evidence of poor transition was documented by low bermudagrass shoot density in June, 2001. Poor transition and slow recovery of most cultivars resulted in low turf quality scores for 2001 and reduced turf quality scores when averaged across all years of the study.

Frequent, light topdressing improved quality of all cultivars over the long-term although infrequent, heavy topdressing was equally effective in controlling thatch and aiding recovery following transition. Frequent, light vertical mowing caused substantial reductions in turf quality for all cultivars except Tifdwarf during late-summer 2000 and 2001 compared to infrequent vertical mowing. No consistent difference in thatch depth was observed among vertical mowing treatments.

Recommendations for culture of the new dwarf bermudagrasses are being elucidated through by this study. However, dramatic changes in performance of the cultivars in this study during the summer of 2001, offer the opportunity to discern the long-term effects of specific cultural programs, but limit delineation of specific cultural program recommendations.

Continued monitoring of shifts in performance as they occur will be required in order to recommend the most efficient practices for controlling thatch, producing high shoot density, and developing quality putting surfaces. Golf course professionals should incorporate aggressive thatch control practices, frequent monitoring, and the flexibility to change as growth and environmental conditions dictate.

Summary Points

- Excessive thatch accumulation was associated with poor spring transition in 2000 and 2001.
- Frequent, light topdressing improved quality of all cultivars over the long-term although infrequent, heavy topdressing was equally effective in controlling thatch and aiding recovery following transition.
- Frequent, light vertical mowing caused substantial reductions in turf quality for all cultivars except Tifdwarf during late-summer 2000 and 2001 compared to infrequent vertical mowing.