

Management Practices and Prediction Models for Controlling Seedheads on Warm Seashore Turfgrasses



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Objectives:

The proposed research will develop prediction models and management recommendations for suppressing seedheads of bermudagrass, seashore paspalum, and zoysiagrass at various mowing heights.

A three-year experiment is being conducted at the University of Georgia Griffin Campus to evaluate effects of mowing regimens on seedhead emergence of 'TifGrand' bermudagrass, 'Sea Isle 1' seashore paspalum, and 'Diamond' zoysiagrass. These three grasses were chosen because of use in the golf industry and prolific seedhead emergence issues reported by superintendents. Experiments are also being conducted to evaluate five application timings of Embark and Proxy + Primo for controlling seedheads on these grasses in spring. For mowing experiments, bermudagrass, seashore paspalum, and zoysiagrass maintenance was modified in fall 2012 in one of four regimens including mowing at 0.25" 2 d wk⁻¹, 0.5" 2 d wk⁻¹, 1.5" weekly, or no mowing. All three species were mowed under these four programs until dormancy, and mowing resumed upon active growth in spring 2013. Beginning on January 14, seedhead cover of plots was visually measured weekly. For each rating date, growing-degree days (heating units) were determined at each evaluation to help provide a relative emergence timing for seedheads on the three grasses, rather than calendar dates.

For PGR experiments, five application timings of Embark or Proxy + Primo were made based on growing



Seedheads on warm-season grasses are sometimes a nuisance on golf course tees, fairways, and surrounds. Bermudagrass, zoysiagrass, and seashore paspalum cultivars are evaluated at different cutting heights using a growing degree day model to estimate when seedheads emerge in the spring. Five application timings of plant growth regulators are under evaluation for seedhead suppression.

degree-days from a base temperature of 50° F on January 1. Applications were made at 500, 1000, 1500, 2000, or 2500 GDD on all three fields, and control, injury, and turf quality were rated weekly. The PGR timing experiments are being conducted on all three species maintained at a 0.5" height with a reel-mower.



Diamond zoysiagrass plots under four mowing regimens including 0.25" 2 d wk⁻¹, 0.5" 2 d wk⁻¹, 1.5" weekly, or no mowing.



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Summary Points

- 'TifGrand' bermudagrass and 'Sea Isle' seashore paspalum produced seedheads from ≈ 700 to 4200 growing degree-days (GDD). 'Diamond' zoysiagrass produced seedheads from ≈ 300 to 1500 GDD, and again starting at ≈ 3600 GDD in fall (with a base of 50° F starting January 1st).
- Bermudagrass and zoysiagrass seedheads emerged earliest in spring for nonmowed plots compared to lower mowing heights. Conversely, seashore paspalum maintained at low mowing heights (0.25 to 0.5") generally had seedheads emerge earlier than higher heights (1.5" or no mow).
- Application timing of PGRs significantly influenced seedhead control. Proxy + Primo applications more effectively controlled seedheads than Embark on all three grasses, but applications provided poor (<70%) control of zoysiagrass