

Response of Three Bermudagrass Genotypes to Mowing Height and Nitrogen or Growth Regulators

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Objectives:

1. To determine the response of three bermudagrass genotypes to mowing heights and nitrogen/growth regulator rates.

Start Date: 2006

Project Duration: three years

Total Funding: \$9,000

'TifSport' bermudagrass (established in 2004) and two experimental vegetatively propagated bermudagrasses ('Tifton 11' and 'Tift 97-4') were established in 2005. The design was a strip plot test with four replications. Treatments included: 0.5, 1.0, and 1.5 lbs. N/1000 sq. ft. per month. There were also 1.0 and 1.5 lbs. N /1000 sq. ft. treatments with only Primo (9 oz./acre) and with a combination of Primo (4.5 oz./acre) + Cutlass 50W (4 oz./acre). Treatments were applied from May to October.

Mowing height treatments included 12, 25, and 37 mm, three times per week and 37 mm, once per week. Quality and color ratings were usually taken at the end of the month before the new treatments were applied. Ball lie measurements were taken by dropping two golf balls into each plot from a height of six feet and then measuring the distance the ball sank into the turf.

Data were collected in both 2005 and 2006 on 'TifSport', but only in 2006 for 'Tifton 11' and 'Tift 97-4'. There were only small differences in turf quality due to most treatments except for the 0.5



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lb.N/1000 sq. ft. where turf quality was reduced, as might be expected. One pound of N per 1000 sq. ft. appeared adequate for maintaining desirable turf quality in 'TifSport' and 'Tifton 11'. However, 0.5 lb. N/1000 sq. ft. per month was adequate for 'Tift 97-4', a dense naturally dark green shade-resistant genotype.

Neither Primo nor Cutlass improved overall turf quality in this test. However, clipping removal (not measured in this test) would probably have been reduced by the growth regulators. Turf quality tended to improve for 'TifSport' from 2005 to 2006 as the turf matured.

Treatments with Cutlass (at the rate used) caused browning and swirling of the turf at 25 and 37 mm mowing heights for about a week after treatment in 'TifSport' and 'Tift 97-4', which was especially pronounced at the October treatment. There were only small differences in turf quality due to mowing heights, especially in 2006.

Turf color was similar for all treatments, except for the 0.5 lb. N/1000 sq. ft. treatment which tended to be lighter

green. Cutlass appeared to discolor 'Tift 97-4' more than the other genotypes, probably because this cultivar is the most naturally dense grass of the three being tested.

Treatments with Primo or Primo + Cutlass were the most effective for preventing the golf ball from sinking into the 'TifSport' turf. Nitrogen level by itself appeared to have little effect on ball lie. 'Tifton 11' was exceptional at all treatment levels and mowing heights for keeping the ball from sinking into the turf.

Summary Points

- Treatments with 1 or 1.5 lbs. N/1000 ft² produced similar turf quality and color in all three cultivars.
- Treatments with nitrogen plus Primo or nitrogen +Primo +Cutlass did not have major effects on improving turf quality or color.
- Application of Primo or Primo +Cutlass produced a denser turf which gave a higher ball lie in 'TifSport'. Ball lie for 'Tifton 11' was similar for all treatments.