

Kikuyugrass quality improvement using Primo growth regulator

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Summary: Primo, at all rates tested, reduced clipping yields and improved turfgrass quality 28 days after treatment. The amount of clipping reduction increased with increasing rates of Primo. The 0.50 and 0.75 oz Primo/1000 sq ft rates provided 50% reduction in clippings 28 days after treatment (DAT). There was no significant difference between the 0.50 and 0.75 oz/1000 sq ft treatments at the 21 and 28 DAT ratings when clipping yields demonstrated the greatest reductions. Visual turfgrass quality was reduced in all treatments at the 7 and 14 DAT ratings compared to the non-treated check, but, visual quality of the treated plots surpassed the non-treated check at 28 DAT. Based upon these results, the 0.5 oz/1000 sq ft treatment provides the best performance at the lowest rate.

Background: Kikuyugrass is frequently an aggressive weed that is costly to control. In other cases, for example at Mesa Verde Country Club, kikuyugrass has been selected as the fairway and rough turfgrass of choice. During the spring and summer, Kikuyugrass can grow so aggressively that daily mowing is needed to maintain a high quality fairway golfing surface. Primo offers the opportunity to reduce the frequency of mowing and clippings disposed of and to reduce the frequency of mowing. In addition, the mechanism of growth reduction provided by Primo when tested on other turfgrass varieties has resulted not only clipping reduction but improvement of turfgrass quality.

Materials and Methods: Primo was applied on 5/31/95 at 0.0, 0.13, 0.25, 0.50, and 0.75 oz/1000 sq ft using a CO₂ powered sprayer delivering 1.2 gal/1000 sq ft at 40 psi with 8004 flat fan Teejet nozzles. Plots were 5 by 20 feet in size.

Clippings were collected by mowing two 20 inch swaths per plot using a McClane reel mower set at 1/2" mowing height. Clippings were immediately placed into a 1 gal Ziploc freezer bag to prevent desiccation. The weight of each bag and clippings was recorded. Visual assessment

was conducted by viewing all of the plots and identifying the highest and lowest quality plots for reference. The highest quality rating for kikuyugrass was set to 5. This rating system provides limited ability to distinguish turfgrass quality variations, however, it provided an adequate representation of turfgrass quality. More objective turfgrass quality evaluation systems are needed.

Results: Analysis of variance and clipping yields are listed in Figure 1. Figure 2 summarizes turfgrass visual quality assessment and reveals the slight reduction in quality within the first two weeks following treatment. Primo provided significant reductions in clipping yields (greater than 50% clipping reduction for the 0.5 and 0.75 oz/1000 sq ft rates) and also improved turfgrass quality 28 days after application.

Turfgrass quality initially dropped until the plant structure was modified and the older leaves had been mowed off or had decayed. Once the internodes were shortened (casual observation, no data collected) and new leaves had reached full cover, the quality was improved. Repeated applications are expected to result in continued dense foliage production and continued higher quality ratings.

Figure 1. Percent reduction in clippings compared to non-treated check. Points at each time of evaluation noted with the same letter are not significantly different (Fisher's LSD, $p < 0.05$).

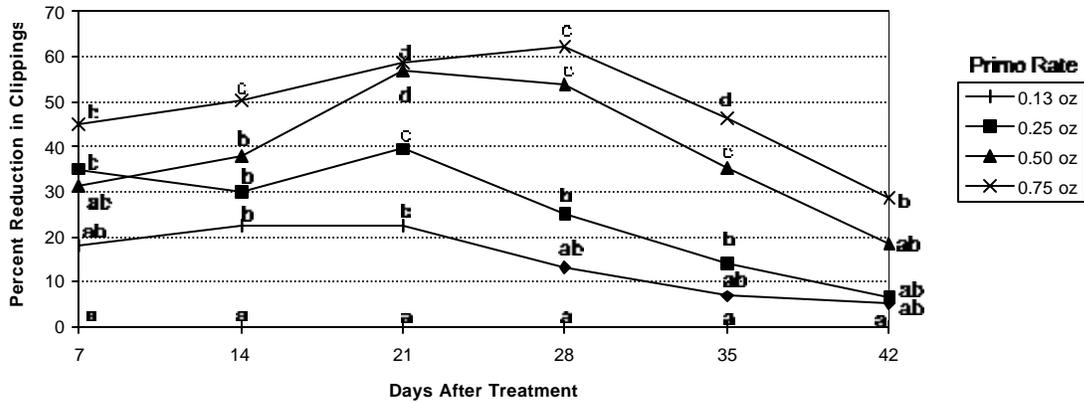


Figure 2. Turfgrass visual quality assessment. Analysis of variance was not conducted due to lack of variance at several of the sampling dates. Primo clearly improved turfgrass quality 28 days after treatment

