The Effect of Huma Gro® Turf SUPER PHOS® and Competitive Products on Bermuda Grass Shoot Biomass
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Research Report

Objectives
The objective of this trial was to compare the effects of Huma Gro® Turf SUPER PHOS® with competitive phosphorus fertilizers on the shoot biomass of Bermuda grass (Cynodon dactylon L.), a common warm-season turf grass species.

Materials and Methods
The Bermuda grasses (Cynodon dactylon L.), variety Tifway were grown in a randomized complete block design in cups suspended over polyethylene tubs that are filled with half-strength Hoagland solution prepared without phosphorus (P) or nitrogen (N) and replaced with a fresh solution every other week (Fig. 1). The treatments replicated four times consisted of the following fertilizers at two rates of P, 10% and 25%: (1) Huma Gro® SUPER PHOS® (SP) solution (0-50-0), (2) ammonium polyphosphate (AP) solution (10-34-0), (3) monoammonium phosphate granular (MAP) (11-52-0), (4) triple superphosphate (TSP) granular (0-45-0), and (5) a control. The granular fertilizers were dissolved in distilled water to make stock solutions. N was added to SP and TSP to ensure a uniform amount of N throughout the treatments. Grasses were grown for approximately two months, shoots and roots were clipped at the beginning of the trial to uniformly distribute grasses in all the experimental units (cups), and the clippings were discarded. Weekly, the shoots were harvested and their fresh and dry weights (oven-dried at 70°C) were measured and recorded for eight weeks.

Results

Figure 2. Bermuda Shoot Fresh Weight at 10% P

Figure 3. Bermuda Shoot Fresh Weight at 25% P

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Conclusion

Huma Gro® Turf SUPER PHOS® contributed to a higher Bermuda grass shoot biomass than the competitive products at the same reduced rate of applied P. The beneficial effect on shoot fresh and dry weights were classified as follows: SP > TSP > MAP > AP > control.

Full research report available upon request.

Figure 4. Bermuda Shoot Dry Weight at 10% P

Figure 5. Bermuda Shoot Dry Weight at 25% P