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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.

Figure 1. Greenhouse experimental setting

Results

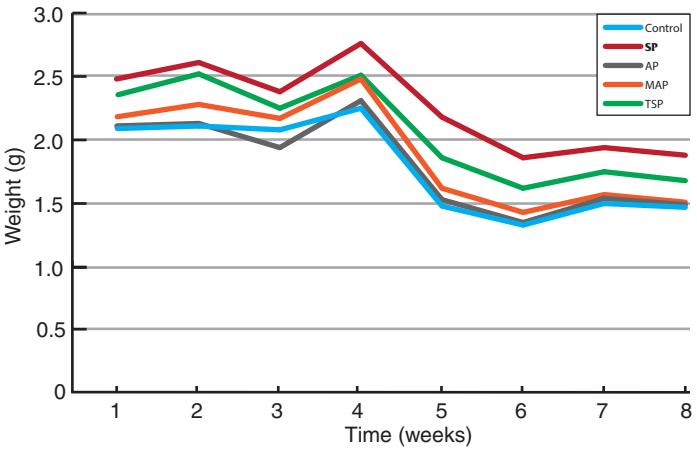

Figure 2. Bermuda Shoot Fresh Weight at 10% P

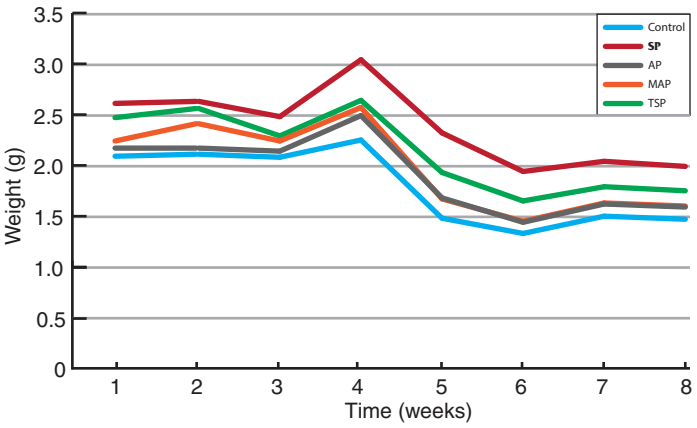

Figure 3. Bermuda Shoot Fresh Weight at 25% P

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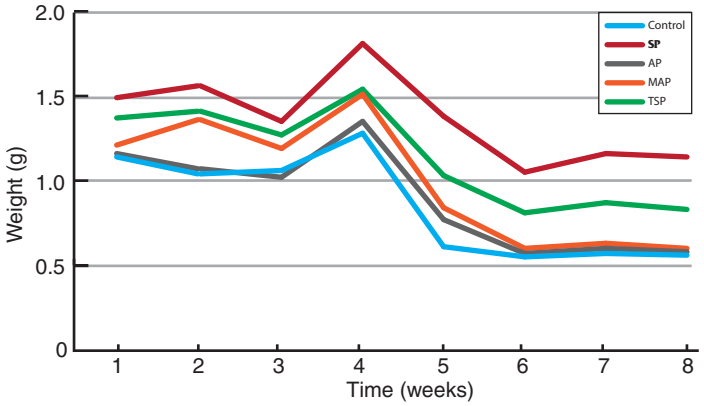

Figure 4. Bermuda Shoot Dry Weight at 10% P

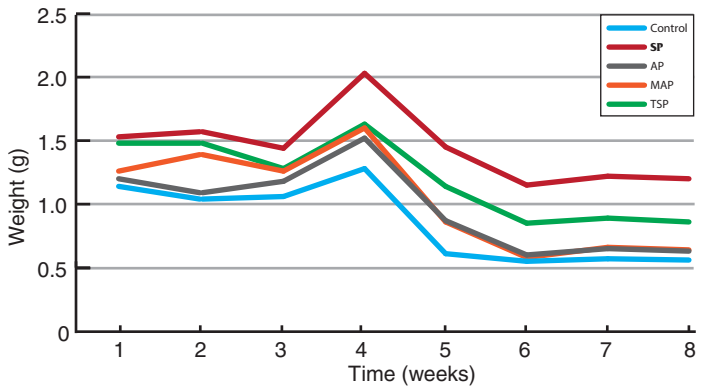

Figure 5. Bermuda Shoot Dry Weight at 25% P

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.

HUMA GRO® TURF Products Are Highly Efficient Due to Our Unique Delivery System

SUPER PHOS® can be applied by foliar application, according to label directions, without the risk of phytotoxicity and, when applied to soil, it keeps phosphate available and soluble in the soil solution for rapid and controlled uptake by plant roots without being blocked by clays or organic matter. Phosphate encourages the production of amino acids, proteins, and carbohydrates necessary for cellular division.

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