



Effects of X-TEND™, FERTIL HUMUS®, MULTI-PURPOSE™ and ZAP® on N & P Stabilization in Fine Sand

Research Report

Purpose: To demonstrate the effect of HUMA GRO® TURF products X-TEND™, FERTIL HUMUS®, MULTI-PURPOSE™, and ZAP® and the reduction of nitrogen and phosphorus leaching in Immokalee fine sand soils.

Location: Immokalee fine sand soil, Florida

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Abstract

The leaching of nitrogen and phosphate fertilizers presents an on-going problem in Florida soils. Agricultural amendments that reduce leaching when applied to soils or when mixed with nitrogen & phosphate fertilizers present a potential solution to this problem. Retaining a greater amount of nutrient in the crop root zone also presents an economic benefit to the grower. Four such amendments from HUMA GRO® TURF were applied to the soil or were mixed with Potassium Nitrate and Phosphoric Acid to evaluate their respective effect on nutrient leaching and increasing nutrient levels in crop root zones.

Experiment

Plastic soil tubes were constructed to accommodate a 36" column of soil. In simulated irrigations the equivalent of 160 lbs of nitrate-nitrogen per acre and 130 lbs of P₂O₅ phosphorus per acre were applied, with the leachate being drained away. In three treatments, X-TEND™ was mixed with the fertilizers to make "complexed" fertilizer. The combinations of FERTIL HUMUS®, MULTI-PURPOSE™, and ZAP® were applied directly to the soil. Sixty days after the application of the fertilizers and a total of 15.5 inches of applied water, the soil columns were separated into 6" sections and analyzed for nitrate nitrogen and phosphate. Three replications of five combinations and one control were evaluated. In the 36" profiles, the combinations of fertilizer plus the HUMA

GRO® TURF amendments lost only 15.6% of the nitrogen and 15.0% of the phosphate. The control lost 40.6% of the nitrogen and 35.6% of the phosphate. In the top 18" of soil, the fertilizer plus the HUMA GRO® TURF treatments had an increase in nitrogen levels of 17.9% to 76.1% and increased phosphate levels of 23.2 to 38.7% when compared to the control. The combination of fertilizer, X-TEND™, FERTIL HUMUS®, ZAP® and MULTI-PURPOSE™, resulted in an increased nitrogen level of 76.1% and an increased phosphate level of 31.2% compared to the control.

Results

Percent Increase of N & P Over the Control in Top 18" Soil

% Increase vs Control:	Nitrogen	Phosphate
Fertilizer + Huma Gro®	76.1%	31.2%

Percent Loss of Nitrogen & Phosphate in 36" Soil Profiles

	Nitrogen % Loss	Phosphate % Loss
Fertilizer + Huma Gro®	15.6%	15.0%
Control	40.6%	35.6%

By complexing the fertilizer and through the addition of the HUMA GRO® TURF amendments to the soil, leaching was significantly reduced and more nitrogen and phosphate remained in the top 18" of soil.

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



If you would like to learn more about these top quality products, contact us directly at 480-423-6815 or visit our website at www.humagroturf.com.