

TRIAL RESULTS

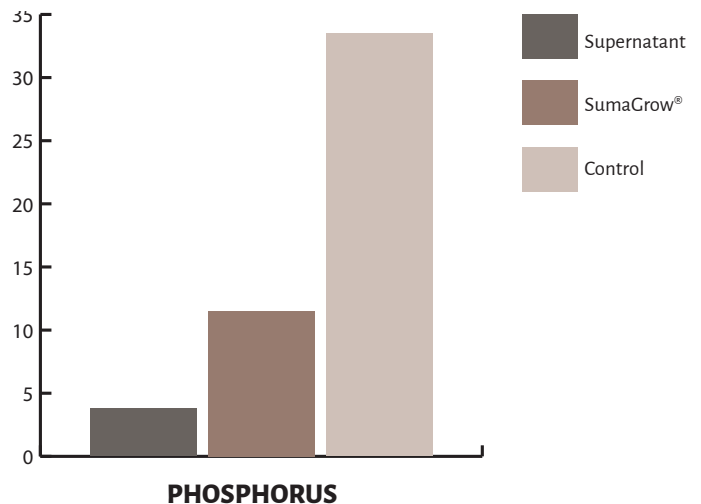
EXECUTIVE SUMMARY



PHOSPHORUS REDUCTION

Research on the effect of Products containing SumaGrow® on Phosphorus Reduction in Mississippi

TOTAL PHOSPHORUS		
Treatment:	Total Phosphorus	% decrease
Supernatant SumaGrow®	3.8	-88.66%
Treated soil SumaGrow®	11.5	-65.67%
Control (no treatment)	33.5	N/A



TRIAL SUMMARY:

A rancher in Mississippi who uses chicken litter as his primary source of nutrients for his cattle pastures asked Bio Soil Enhancers, Inc. (BSEI) to test the effect of a product containing SumaGrow® on phosphorous (P) removal from his soil. He sent samples of his soil to Bio Soil to determine if SumaGrow® products would aid in the removal of P as his soil phosphorous exceeded the allowable limits (15 ppm) for using chicken litter as a source of fertilizer in the State of Mississippi.

The technology of SumaGrow® can mobilize and solubilize phosphorous (P) at both high and low soil pH environments and help make it available for plant uptake. The soil sample that was brought to the BSEI office was air dried first and then a random soil sample was taken for SumaGrow® treatment.

Ten grams of the soil sample was weighed and put into a 1000mL Erlenmeyer flask. 500mL of SumaGrow® liquid was added and incubated on an Orbital Shaker for 2 weeks at 30 °C.

After 2 weeks, the treated soil was filtered using sterile gauze and the residual soil was dried in an incubator at 40 °C. The drying continued until a constant weight was achieved.

Samples of the untreated (control) soil, the dried SumaGrow soil, and the liquid filtrate were sent to EDL Labs, Inc. for total P content analysis. The results are indicated in the above chart and graph.

The average reduction, combining both the treated soil and supernatant, shows 77.16 percent of the phosphorous was converted to phosphate and available for plant uptake.

