Huma® Products on Sugar Cane Result in 14x Less P and 32x Less K Required, Plus Increased Yield and Net Return

Research Report

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Huma® Products: Fertil Soil®, Breakout®, Super Phos®, Super Potassium®, X-Tend®

Background

Humates and plant growth stimulators can positively influence a crop such as sugar cane to produce a higher yield.

Objective

The focus of this study was to observe how fall application of Huma® products Fertil Soil®, a source of soil nutrients and humates, and Breakout®, which stimulates growth, would affect sugar cane production. The second objective was to observe the effects of replacing triple super phosphate (TSP) and muriate of potash (MOP) with the Huma® products Super Phos® and Super Potassium®, respectively, in combination.

Materials & Methods

The sugar cane cultivar L01-299 was planted at the Louisiana State University (LSU) Ag Center Sugar Research Station in St. Gabriel, Louisiana, on August 18. A total of 3 rows, each being 6-ft wide x 50-ft long with row spacing of 72 inches, formed a plot. Three treatments were arranged in a complete randomized design with four replications.

Table 1. Treatment description and the timing of application of materials to plots.

Treatment	October Year 1	Following Spring
Grower Standard	None	45 units P_2O_5 from 102 lb TSP, broadcast 80 units K_2O from 133 lb MOP, broadcast 120 units N as UAN32, subsurface band
Huma-1	**Breakout®** 1 qt/ac in 30 gal/ac, surface band **Fertil Soil®** 1 qt/ac in 30 gal/ac, surface band	45 units P_2O_5 from 102 lb TSP, broadcast 80 units K_2O from 133 lb MOP, broadcast 120 units N as UAN32, subsurface band
Huma-2	**Breakout®** 1 qt/ac in 30 gal/ac, surface band **Fertil Soil®** 1 qt/ac in 30 gal/ac, surface band	**Super Phos®** 2 qt/ac in 30 gal/acre, foliar **Super Potassium®** 2 qt/ac in 30 gal/acre, foliar 120 units N as UAN32 or about 11 gal of UAN32, plus **X-tend®**, subsurface band

About 1.5 months after planting, on October 1, one set of plots (Huma-1) received the Huma® products Fertil Soil® (1 qt/acre) plus Breakout® (1 qt/acre) by surface broadcast method (Table 1).

Nine months after planting, the grower standard TSP and MOP were applied to shoulders of each bed in an "off-barred" narrow furrow, and then UAN32 was sprayed on the same narrow furrow.

For the Huma-2 treatment, Huma® X-Tend® was added to the UAN32 at 1:135 ratio. (X-Tend® is concentrated Micro Carbon Technology® with high levels of organic acids and nutrients that is formulated to be added into liquid fertilizers or to be impregnated onto dry fertilizers.) After the soil surface was reshaped to form the beds, the Super Phos® (0-50-0) and Super Potassium® (0-0-40)—two Huma® liquid fertilizers enhanced with Miro Carbon Technology®—replaced the TSP and MOP, respectively. The crop was harvested about 15 months after planting, on November 15.

Results

Fall treatment of the soil with Huma® products resulted in higher sugar yield comparing with grower standard (Figure 1). Huma-1 gave 4% higher and Huma-2 a 2% higher sugar yield than the grower standard.

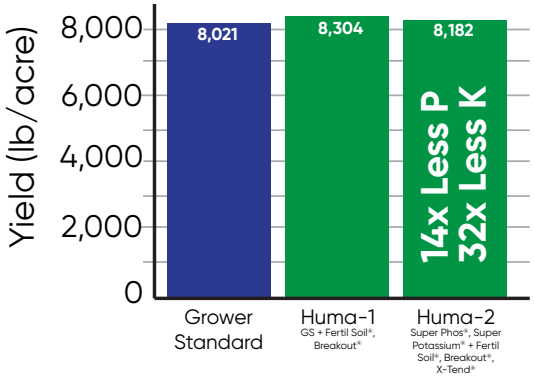

Figure 1. Effects of treating soil with Huma® Products.

In addition to higher yield, the Huma® fertilizer program gave the sugar cane slightly higher Brix and sucrose than the grower standard program (Table 2).

Table 2. Quality components of L01-299 plant cane in response to Huma® products.

Treatment	Brix %	Sucrose %
Grower Standard	19.0	15.80
Huma-1	19.3	16.03
Huma-2	19.2	15.79

Conclusions

The addition of Huma® products Fertil Soil® and Breakout® at planting and the complete replacement of TSP and MOP with **14x less P** in the form of Super Phos® and **32x less K** in the form of Super Potassium®, plus the enhancement of UAN-32 with X-Tend®, maintained or improved sugar cane yield and quality (Brix and Sucrose levels) at a net income advantage of $40/acre (Huma-1) and $43.84 (Huma-2) over the grower standard fertilizer program.

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