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Evaluation of ecoAgra 300™ for Sweet Corn – Harvest Report

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This field demonstration trial investigated the effects of ecoAgra 300 on sweet corn production on muck soils. The experimental site was at the Everglades Research & Education Center in Belle Glade, FL on Dania muck soil. The experimental design included sweet corn grown using two fertilization rates (80 and 100% of the UF-recommended N,P, and K), and a product test (with and without), with four field replications. Each field plot measured 4 rows by 20 feet, with a total of 16 field plots. See design below.

Treatment	Crop	Fertilization Rate	Product	Replicates
1	Sweet corn	100% NPK	-	4
2	Sweet corn	100% NPK	+	4
3	Sweet corn	80% NPK	-	4
4	Sweet corn	80% NPK	+	4

Field measurements include initial soil testing (pH, plant-available P and K) to determine fertilization rates needed, soil testing at harvest (pH, plant-available P and K), and aboveground leaf tissue testing at harvest (total N, P, K, Ca, Mg, Mn, Fe, Cu, Zn). Other measurements include sweet corn yield (ears) and kernel brix. Fertilizers were applied preplant at 80% and 100% of the UF recommended rates for N, P, and K. Foliar micronutrient application was made 4 times during the growing season. ecoAgra 300 was sprayed onto corn according to manufacturer's guidelines using a 1:300 ratio of ecoAgra 300:water at 12 gallons of the mixture/acre. Pest control (fungicides, insecticides, herbicides) were applied equally among all treatments as needed. Hand weeding was also performed periodically as needed. Corn was planted on Oct. 27, 2014 and harvested on Jan. 22, 2015. ecoAgra 300 applications occurred on Nov. 24 and Dec. 17, at 28 and 51 days after planting. Sweet corn yield and kernel brix results are presented in Table 1.

Table 1. Sweet corn yield and kernel Brix results. sd=standard deviation.

Treatment	Product	Yield (lbs/plot)	sd	Kernel Brix (%)	sd
100% Fertility	-	45.1	1.8	17.5	0.15
100% Fertility	+	48.5	2.5	17.1	0.28
80% Fertility	-	41.3	1.5	17.6	0.86
80% Fertility	+	44.3	4.1	17.4	0.37

For each fertility treatment, corn yields tended to be higher for treatments receiving the product. The 100% fertility treatment yielded 7.4% higher with ecoAgra 300 than without, while the 80% fertility treatment averaged 7.1% higher with ecoAgra 300 than without the product. Application of the product to the treatment receiving 80% of the recommended fertilization rate produced equivalent yield to the treatment receiving 100% of the recommended fertilization rate not receiving the product. Kernel brix was not affected by either fertilization rate or product application.