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# The Effect of MaxiGro on Corn Yield

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**The Study**

This study was conducted in 2009 on the Everett farm near Kinston, NC on a Goldsboro sandy loam soil. The site was previously planted to soybean and was tilled using a disk and finishing harrow prior to planting. On 30 April Dekalb DKC 68-08 treated with Poncho 1250$^{TM}$ was planted in 30 inch rows at a seeding rate of 33,000 seeds acre$^{-1}$. A starter fertilizer, 12-12-4, was placed beside the seed in a 2 X 2 band at a rate of 10 gal acre$^{-1}$. At growth stage V6-7 40 gal acre$^{-1}$ of 30% UAN solution was broadcast using drop nozzles. No other fertilizer was applied, Weeds were controlled with a layby application of 0.6 oz of Stout mixed with 1 qt of atrazine per acre. Weed control was good with the exception of some pigweeds scattered in the alleys between the plots.

**The Experiment**

Experimental design consisted of a randomized complete block arrangement with four replications. Plots were four rows wide and ~37 ft long. The two treatments consisted of either a non-treated check or MaxiGro applied twice at 12 oz acre$^{-1}$ at growth stage V6-7 and again at V10. Each time MaxiGro was applied it was mixed with water and applied over the top of the corn canopy in a broadcast application using 20 gal of spray solution per acre. At harvest grain yield, moisture, and test weight were measured on the center two rows of each plot using a K2 Gleaner combine equipped with a HarvestMaster grain guage. The grain weight from each plot was adjusted to 15.5% moisture before calculating yield. Because of variability in the site due to slope position statistical comparisons were made using the REML option in Proc Mixed with a spherical model to determine the effects of spatial correlation.

**Results**

Early growing conditions at the site were ideal with adequate rainfall and moderate temperatures. However, dry weather from June 1 to July 7 resulted in stress during the early grain fill period. This stress had more impact on the sideslope area of the field resulting in a large amount of variability within the study area as evidenced by a CV for grain yield of 13.1%.

Analysis of the data found that grain moisture and test weight were identical for both the untreated check and the 2X application of MaxiGro (moisture = 15.5% and test weight = 54.5 lbs bu$^{-1}$) Figure 1 shows the difference in grain yield between the nontreated check and MaxiGro treatments. While there was a numerical yield advantage when MaxiGro was applied of 14 bu acre$^{-1}$ (135 vs 149 bu acre$^{-1}$) the statistical analysis indicated that this difference was not large enough to overcome the spatial variability at the study site

**Summary**

While it is unfortunate that the variability in the field site made it difficult to determine if there was a true yield advantage from the use of MaxiGro on corn, the numerical difference was large enough to warrant further investigation of this product. Certainly, a fourteen bushel yield advantage would be enough to pay for the product; particularly if it could be applied with other inputs such as herbicides or nitrogen. Based on this test we suggest a wider evaluation of MaxiGro on corn that will allow us to isolate the impact this product has on yield.

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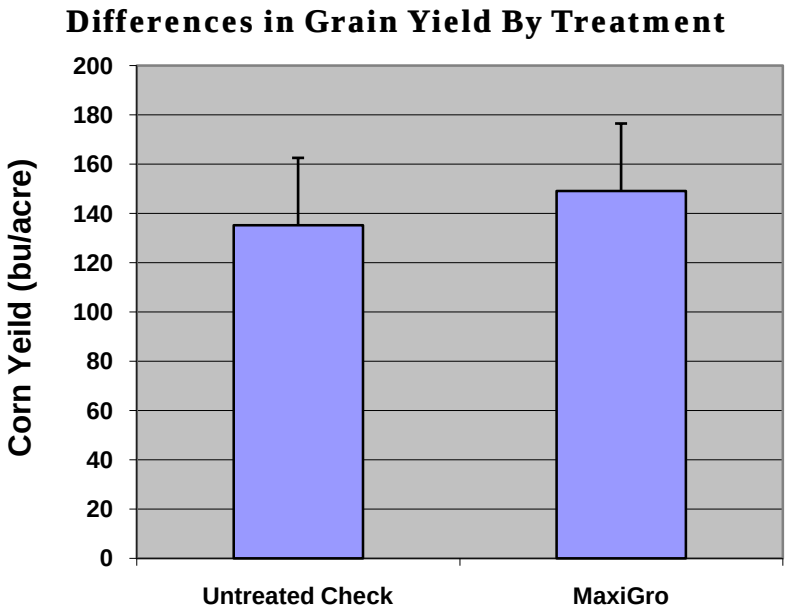


Figure 1. Differences in corn yield with and without MaxiGro. Anything between the top of the colored bar to the top of the error line would not be considered statistically different.