

Nitrogen Source in Corn

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Objective

To determine the optimal source of nitrogen to be applied to corn at the V5-6 growth stage to produce the best economic return to inputs.

Background

Crop Year:	2017	Previous Crop:	Soybeans
Location:	Bosh Valley Farms LLC	Tillage:	Conventional
County/Town:	Fayette/Washington Courthouse	Planting Date:	May 17, 2017
Soil Type:	Brookstone, Crosby, Celina	Nitrogen:	190 lb/ac
Drainage:	Surface Only	Seeding Rate:	36,000
		Harvest Date:	November 11, 2017

Methods

This was a randomized complete block design with three replications. A pre-plant application of 30 pounds of nitrogen per acre in the form of 28% UAN was applied to the whole field. Treatments consisted of four sources of nitrogen applied at the V5 growth stage: urea, 28% UAN, anhydrous ammonia, and Extreme N¹. The plots with urea, anhydrous, and Extreme N were injected into the soil profile. The 28% UAN was applied with a slit/spray application. All treatments were applied to add an additional 160 pounds of nitrogen per acre for a total application of 190 pounds N/acre.

Results

Corn Yields based on Nitrogen Source

<u>Treatment</u>	<u>Yield</u>
Urea	225.57 ^A
UAN 28%	208.00 ^B
Anhydrous	230.84 ^A
Extreme N	240.08 ^A
ANOVA	p=0.10 Significant
	LSD
	16.27

Summary

Results showed that yield differences in plots receiving Urea, Anhydrous, and Extreme N were not statistically significant. However, plots receiving 28% UAN had statistically significantly lower yield. In examining the application method and weather patterns following application, the yield difference could be due to application differences and not nitrogen source. This trail will be repeated in 2018 with the 28% being knifed into the soil profile to eliminate this potential factor.



Acknowledgement

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¹Xtreme-N Stabilized Nitrogen Fertilizer is a trademarked product at Precision Ag. Formulated precisely to our liking, Xtreme-N is a versatile urea nitrogen product with top notch stabilization traits.



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