Value of Pop Up Fertilizer on Corn

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Objective: To evaluate the impact of applying pop-up, 9-19-3 fertilizer directly to the corn seed at planting on grain yield and moisture, and on initial population.

Background

Cooperator:	Dave Hiltbrand	Soil test: pH 6.8, P 90ppm, K 261 ppm	
County:	Butler	Fertilizer:	See Methods
Township:	St. Clair	Planting date: 5/11/04	
Drainage:	Moderately well drained	Seeding rate seeds/A: 30,000	
Soil type:	Tippecanoe silt loam	Row width:	30 inches
Tillage :	No till	Herbicide rate/A: Cornerstone 1qt., 2-4D1 pt.,	
Previous crop:	Soybeans	Equip 2.8oz., Atrex 1.1 lb., Rifle 1 pt.	
Hybrid:	Mycogen 2652	Harvest date: 11/13/04	

Methods

The study employed a randomized complete block design with four replications. Each plot was 20 feet wide and varied in length. 5.5 gallons of 9-19-3 (5-10-1) was applied with the corn seed at planting in the treated plots. All plots received 54 lbs. of N as 28%, UAN, at planting and were side dressed with 105 lbs. of N as 28%, UAN.

Five weeks after planting, initial plant population was determined for each plot by counting plants in 1/1000 A. area in three different places in each plot. Grain yield of each plot was measured by weighing the grain from plot in a weigh-wagon and adjusted to 14.5% moisture.

Results

Table 1. Corn Plant Population, Moisture and Yield

Treatment	Initial population Plants/A	Yield Bu./A	Moisture %
No pop up	27,375	199.58	14.0
Pop up	28,250	211.20	14.1
LSD (0.05)	NS	6.1	NS

Summary

There was a significant yield difference in the plots that received the pop-up, 9-19-3 placed on the seed. There was no statistical difference in initial plant population or moisture of the corn at harvest. This is the first test where yield increase was significant in 6 trials conducted over three years.

Acknowledgments

The author would like to thank Adam Smith, Pioneer Seeds, for his help with harvesting the plots and Dave Hiltbrand for his cooperation in this project.