Value of Pop Up Fertilizer on Corn

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Objective

To evaluate the benefits of applying 9-19-9 fertilizer directly to the seeds as a pop-up fertilization program in corn. This was measured by comparison of initial stand and yield at harvest.

Background

Cooperator:	David Hiltbrand	Soil test:	pH 7.0, P 99 ppm, K 244 ppm, CEC 19 meq/100g
County:	Butler		
Township:	St. Clair	Fertilizer:	See Methods
Drainage:	Moderately well drained	Planting Date:	May 28, 2002
Soil type:	Tippecanoe silt loam	Planting Rate:	27,700 seeds/A
Tillage:	Reduced till	Row width:	30 inch
Previous crop:	Wheat	Herbicide:	Bicep II Magnum 1 qt/A, AAtrex90 1 lb/A, Distinct 4 oz/ A
Variety:	Pioneer 34M94		
		Harvest date:	October 3 and 4

Methods

Plots either received pop-up application of 5.5 gallons of 9-19-9 (4.5-10.5-4.5 lb/ A) applied directly on the seed or they received no starter fertilizer. All plots received 185 lb/ A of anhydrous ammonia.

The stand counts were evaluated by counting plants within 1/ 196 of an acre in three locations within each plot. The yield was determined by weighing all the corn from each 0.57 acre plot. Each plot was 30 feet wide.

The experiment design is a completely randomized block design with four replications.

Results

Table 1. Corn Plant Population and Yield.

Treatment	Initial Population (plants/A)	Yield (bu/A)	Moisture (%)
No pop up	26,166	92	16.4
Pop up	26,083	95.2	16.4
LSD (0.05)	NS	NS	NS
F test	<1	1.6	<1

Summary

The cost of the pop-up treatment was $13.20/ A. While there was measured increase in yield for the pop-up treatment, the difference between the two treatments was not significant.
This year yields were lower than expected. We may see a difference between treatments in a normal or better yielding year.

The difference in stand also was not statistically significant. This is noteworthy since the pop-up programs sometimes reduce stands. The rates were within the guidelines of the Tri-State Fertilizer Recommendations (Extension Bulletin E-2567).

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