

Value of Pop Up Fertilizer on Corn

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Objective

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

Background

Cooperator: Gerber Farms	Soil Test: pH 6.8, P 49 ppm, K 130 ppm
County: Butler	Fertilization: See Methods
Township: Wayne	Herbicide: Atrazine .9 lb,
Drainage: Somewhat poorly drained	Steadfast .75 oz, Clarity 2 ozs
Soil type: Fincastle	Row width: 30 inches
Tillage: No till	Planting date: April 15
Previous crop: Soybeans	Planting rate (seeds/A): 34,000
Hybrid: Golden Harvest 9563BT	Harvest date: October 24

Methods

This study used a randomized complete block design with four replications. Each plot was 20 feet wide and various lengths. Four gallons of 9-19-9 fertilizer (4-8-4) was applied with the corn seed at planting in the treated plots. All plots received 150 lbs 21-0-0-26 [(NH₄)₂SO₄] and 150 lbs 0-0-60 in the fall prior to planting. Anhydrous ammonia was applied at the rate of 160 lbs N/ acre in the spring prior to planting.

Five weeks after planting, initial plant populations were determined for each plot by counting plants in 1/1000 acre in three different locations within each plot. Grain yield was measured by weighing the grain in a weigh wagon and adjusting to 15.5 percent moisture.

A harvest error in one of the plots eliminated one block so that results are determined by using the 3 remaining replications.

Results

Table 1. Effect of Pop-up, 9-19-9 Fertilizer, Placed on Corn Seed on Initial Plant Stand, Grain Yield and Moisture

Treatment	Population	Yield	Moisture
	Plants/A	Bu/A	%
Pop-up	27,833	204.4	18.8
None	28,277	203.5	18.8
	NS	NS	NS

Summary

There was no significant difference in yield, moisture of the grain at harvest, or in initial plant population. Even though there was a very slight increase in yield when using the pop-up treatment, the added production did not pay for the increase in cost. The best value should be received in not using a pop-up program.