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 6.5, P 53 ppm, K106 ppm
County: Butler                 Fertilizer: See Methods
Township: Wayne                     Planting Date: 4/28/04
Drainage: Somewhat poorly drained  Seeding Rate seeds/A: 33,000
Soil Type: Raub & Fincastle silt loam  Row Width: 30 inch
Tillage: Reduced Till              Herbicide rate/A: Steadfast75 DF .75oz,
Previous Crop: Soybeans               Atrex 90DF 1 lb.
Hybrid: Golden Harvest 9229            Harvest Date: 11/16/04

Methods

The study employed a randomized complete block design with three replications. Each plot was 20 foot wide and varied in length. 4 gallons of 9-19-9 (3-7-3) was applied with the corn seed at planting in the treated plots. All plots received 150 lbs. of 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 185 lbs N/acre in the spring prior to planting.

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

Results

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Initial Population Plants/Acre</th>
<th>Yield Bu./A</th>
<th>Moisture %</th>
</tr>
</thead>
<tbody>
<tr>
<td>No pop up treatment</td>
<td>31,916</td>
<td>207.1</td>
<td>15.86</td>
</tr>
<tr>
<td>Pop Up</td>
<td>32,250</td>
<td>208.9</td>
<td>15.90</td>
</tr>
<tr>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
</tbody>
</table>
Summary

There was no significant difference in any of the parameters tested. Not using the pop-up fertilizer was the most cost effective.

Acknowledgements

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