Fungicide and Root Stimulator Application in V5 Corn

Chris Bruynis, Ohio State University Extension Educator, Ross County and Emily Bauman, Ohio State University ACRE Intern, Ross County

Objective
The objective of this research was to determine if the corn yield response to Stratego YLD (fungicide) and Radiate (root growth simulator) applied at the V5 growth stage was sufficient to offset the cost of applying these products.

Background
Crop Year: 2017
Location: McKee Farms
County/Town: Ross/Chillicothe
Soil Type: Gessie Silt Loam
Drainage: Systematic Clay Tile
Previous Crop: Soybeans
Tillage: Chisel Plow/Field Cultivator

Soil Test: pH 6.5, OM 2.7, CEC 17.5
P 43 M3, K 160 M3
Planting Date: 4-20-2017
Treatment Date: 5-23-2017
Seeding Rate: 34,000
Harvest Date: 10-31-2017

Methods
The experimental design was a randomized complete block with three replications. Treatment strips were sprayed with a tank mix of the fungicide Stratego YLD (4 oz/ac) and the root growth stimulator Radiate (2 oz/ac) at V5. Control strips did not receive either the fungicide or growth stimulator. Each strip was 60 feet wide 1,000 feet long, with the center 30 feet harvested and measured. A second application of the fungicide was made to the whole field at VT.

Results
Compared to the control, yield, adjusted for moisture (13.5%), showed an average increase of 6.95 bushel per acre with the treatment of Stratego YLD and Radiate applied at V5. Costs of the Stratego YLD was $18.75 and Radiate $3.67, for a total investment per acre of $22.42. Using a $3.75 corn price, the increase revenue was $26.06 for a net gain of $3.64 per acre.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield (lbs/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>223.48</td>
</tr>
<tr>
<td>Stratego YLD/Radiate</td>
<td>230.43</td>
</tr>
</tbody>
</table>

LSD (0.10) 4.5

Summary
The field is located in a river flood plain that frequently has had high disease pressure in previous years. It is common for the fog to settle into the valley where this field lies. For that reason, the hypothesis was we would see a significant yield response with fungicide application. There were no additional charges for making the second fungicide application, since it was tank
mixed and applied with the second application of herbicides. Costs of the products were set at $600 per gallon for Stratego YLD and $235 per gallon for Radiate. Corn was valued at the farm gate at $3.75 per bushel. The economic benefit to applying this treatment, although positive, was not very large and would disappear at lower corn prices.

Acknowledgement
The author expresses appreciation to Sean McKee for his cooperation in conducting this research.