EFFECT OF STARTER FERTILIZER ON CORN GROWTH, DEVELOPMENT, AND YIELD

TRIAL OVERVIEW

• There are several reasons for applying starter fertilizer; it is important to study the outcome of an application of starter fertilizer in fields.
• These data did not support a clear yield benefit for starter fertilizer in corn; although, height and vigor seemed to improve with the use of starter fertilizer.

RESEARCH OBJECTIVE

• The objective of this research was to evaluate the effect of starter fertilizer on corn growth and yield.

<table>
<thead>
<tr>
<th>Location</th>
<th>Soil</th>
<th>Previous Crop</th>
<th>Tillage Type</th>
<th>Planting Date</th>
<th>Harvest Date</th>
<th>Potential Yield/Acre</th>
<th>Planting Rate/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monmouth, IL</td>
<td>Silt loam</td>
<td>Soybeans</td>
<td>Conventional</td>
<td>05/10/2017</td>
<td>10/02/2017</td>
<td>N/A</td>
<td>36,000 seeds/acre</td>
</tr>
</tbody>
</table>

SITE NOTES:
• There were 10 replicates.
• Half of the plots received 3.5 gal/acre of 10-34-0 fertilizer plus 1 qt of a chelated 0.7% zinc (Zn) product in-furrow at planting time. The other half received no starter fertilizer. All other conditions were the same between the two sets of plots.
• A 114-day relative maturity SmartStax® RIB Complete® corn blend product was used in all plots.

UNDERSTANDING THE RESULTS

Figure 1. Effect of starter fertilizer on corn yield when comparing the untreated check (UTC).

• During the early season, plots with starter fertilizer were taller and exhibited more vigor. This was visually apparent through the majority of the growing season.
• However, this difference in seedling height and vigor did not translate into a yield difference.
• These results are similar to university trials, which generally indicate starter fertilizer may benefit yield in fields with an underlying fertility issue, reduced tillage systems, and cool soils.¹
WHAT DOES THIS MEAN FOR YOUR FARM?

- Starter fertilizer can increase seedling height and vigor, but this does not necessarily translate into a yield benefit.
- Starter fertilizer may increase yield in soils with an underlying fertility issue. In these cases, it is important to try to identify and treat the underlying issue.

SOURCES