

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.

Location	Soil	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield/Acre	Planting Rate/Acre
Monmouth, IL	Silt loam	Soybeans	Conventional	05/10/2017	10/02/2017	N/A	36,000 seeds/acre

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

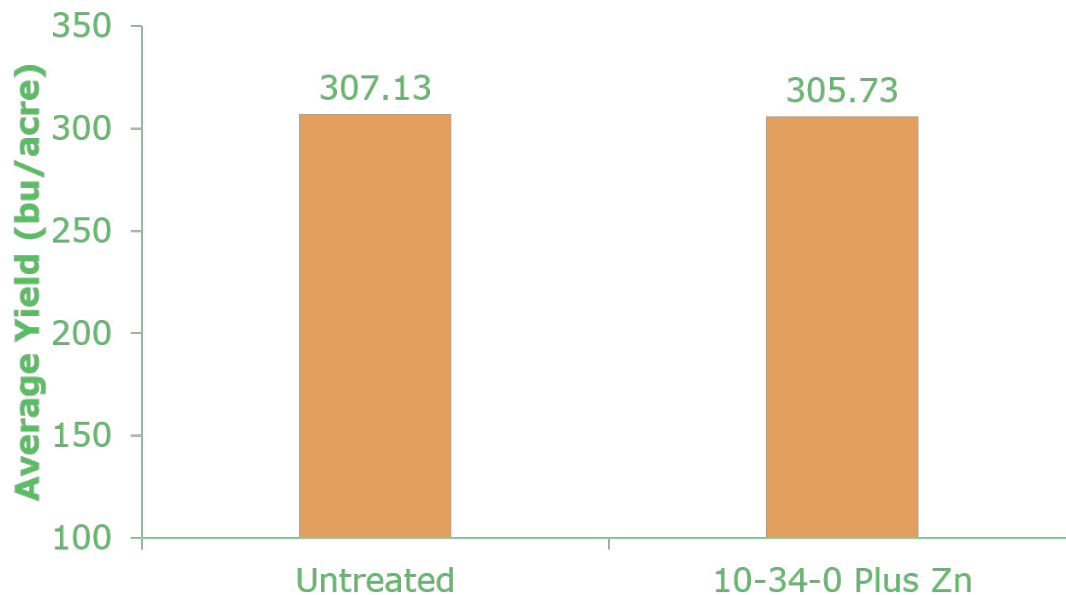


Figure 1. Effect of starter fertilizer on corn yield when comparing the untreated check (UTC).

- 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



Figure 2. Corn receiving starter fertilizer may have a visual difference (left) compared to untreated check (UNT).

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

1 Hoelt, R. 2000. Will starter fertilizer increase yield? University of Illinois. bulletin.ipm.illinois.edu.

LEGAL STATEMENT

The information discussed in this report is from a single site, single year, replicated demonstration. This informational piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly. Developed in partnership with Technology Development & Agronomy by Monsanto. Monsanto Company is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. This product has been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship. B.t. products may not yet be registered in all states. Check with your Monsanto representative for the registration status in your state. **IMPORTANT IRM INFORMATION:** RIB Complete® corn blend products do not require the planting of a structured refuge except in the Cotton-Growing Area where corn earworm is a significant pest. SmartStax® RIB Complete® corn blend is not allowed to be sold for planting in the Cotton-Growing Area. See the IRM/Grower Guide for additional information. Always read and follow IRM requirements. Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** Roundup Ready technology contains genes that confer tolerance to glyphosate, an active ingredient in Roundup® brand agricultural herbicides. Agricultural herbicides containing glyphosate will kill crops that are not tolerant to glyphosate. Monsanto and Vine Design®, RIB Complete®, Roundup Ready 2 Technology and Design®, Roundup Ready®, Roundup® and SmartStax® are trademarks of Monsanto Technology LLC. LibertyLink® and the Water Droplet Design® is a registered trademark of Bayer. Herculex® is a registered trademark of Dow AgroSciences LLC. Respect the Refuge and Corn Design® and Respect the Refuge® are registered trademarks of National Corn Growers Association. All other trademarks are the property of their respective owners. ©2017 Monsanto Company All Rights Reserved 171013113255 103017SEK



Before opening a bag of seed, be sure to read, understand and accept the stewardship requirements, including applicable refuge requirements for insect resistance management, for the biotechnology traits expressed in the seed as set forth in the Monsanto Technology/Stewardship Agreement that you sign. By opening and using a bag of seed, you are reaffirming your obligation to comply with the most recent stewardship requirements.

