



Nitrogen Placement During Sidedressing

Trial Objective

- There is an interest in better understanding nitrogen (N) placement during sidedressing and the potential effect on N uptake and yield.
- Nitrogen is a substantial cost in corn production. Understanding the optimal placement of sidedressed N can help farmers determine the application method best suited for their operation.

Research Site Details

Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Seeding Rate (seeds/acre)
Monmouth, IL	Silt loam	Corn	Conventional	4/25/19	10/9/19	250	36K

- A 114-day RM SmartStax® RIB Complete® corn blend product was selected for this trial.
- The form of N used for all treatments was 32-0-0 UAN.
- 80 lb N/acre was applied prior to planting and incorporated.
- 100 lb N/acre was sidedressed with a urease inhibitor. Two sidedressing methods were used on June 26, 2019 at the V6 growth stage.
 - A rolling coultter applied N in the center of the row (Figure 1).
 - A 360 Y-DROP® system applied N next to the base of the plants (Figures 2 and 3).
- This trial included four replications.
- This trial has been conducted at the Bayer Learning Center at Monmouth, IL over the last four years (from 2016-2019).



Figure 1

A rolling coultter applying N in the center of the row.



Figure 2

A 360 Y-DROP® system applying N next to the base of the plants.



Figure 3

The location (dark line next to the base of the plants) where the 360 Y-DROP® system applied N.



Nitrogen Placement During Sidedressing

Understanding the Results

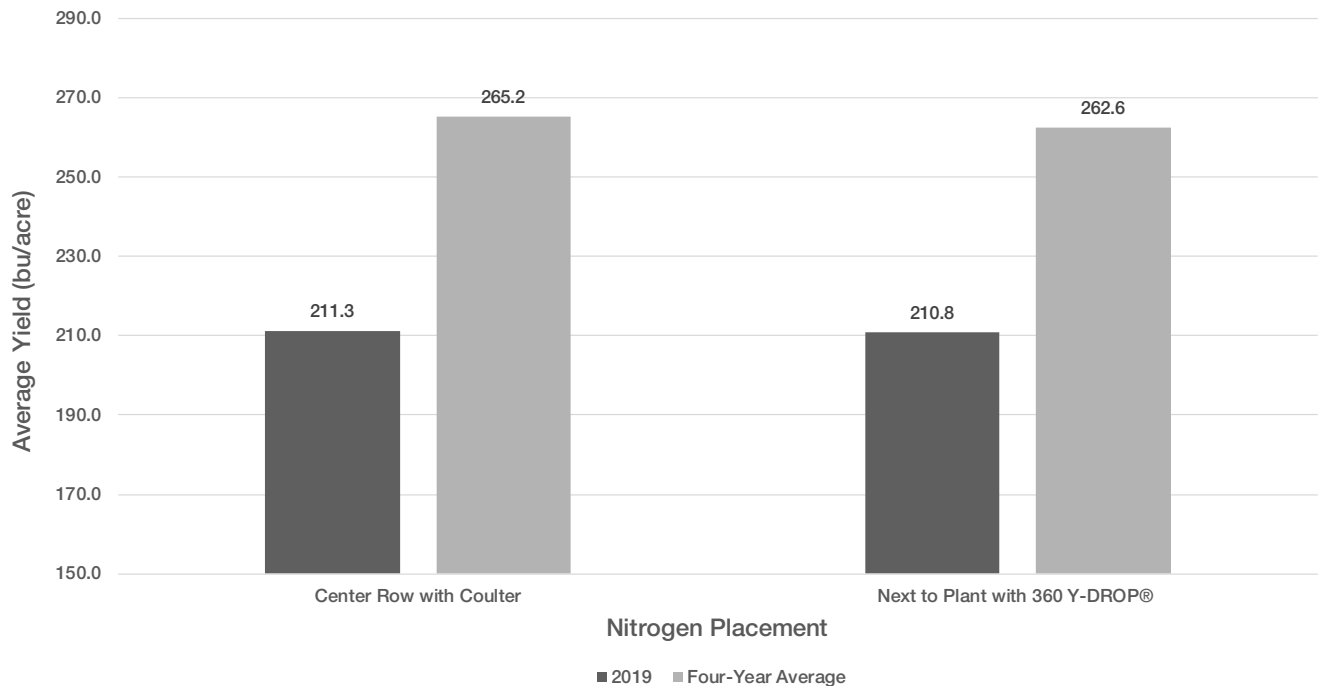


Figure 4. Average corn yield for N sidedressing placement in the center of the row with a coulter and next to the base of the plant with 360 Y-DROP® for 2019 and the four-year average.

- At this location, no clear advantage to either N application method has been seen at V6.
- This year at this location dry conditions followed application, but the data shows no effect with applying the N directly beside the row.

Key Learnings

- The timing for a rolling coulter application can be limited due to the height of the corn crop.
- 360 Y-DROP® can allow a wider application window for sidedressing later in the season.
- Yield differences may not be economically feasible when all costs are considered. Consider all local costs when making N management decisions.
- Individual corn products may have different responses to N application timing. Consult your local Field Sales Representative or Technical Agronomist for recommendations.



Nitrogen Placement During Sidedressing

Legal Statements

The information discussed in this report is from a single site, 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.

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.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. B.t. products may not yet be registered in all states. Check with your seed brand 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. See the IRM/Grower Guide for additional information. Always read and follow IRM requirements.

Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

Roundup Ready® 2 Technology contains genes that confer tolerance to glyphosate. Glyphosate will kill crops that are not tolerant to glyphosate. Herculex® is a registered trademark of Dow AgroSciences LLC. LibertyLink® and the Water Droplet Design® is a trademark of BASF Corporation. Respect the Refuge and Corn Design® and Respect the Refuge® are registered trademarks of National Corn Growers Association. RIB Complete®, Roundup Ready 2 Technology and Design™, Roundup Ready® and SmartStax® are trademarks of Bayer Group. All other trademarks are the property of their respective owners. ©2019 Bayer Group. All rights reserved. 4010_R1



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.

