

## PLACEMENT OF NITROGEN DURING SIDEDRESSING

### TRIAL OVERVIEW

- Nitrogen (N) placement and its effect on N uptake and potential yield is a management concern of farmers.
- Nitrogen is a major investment in corn production. Knowing where to place sidedressed N can help farmers decide which method of application is best for their operation.

### RESEARCH OBJECTIVE

- The objective of this study was to determine if an advantage exists for placing N at the base of the plants vs. down the center of the row at the V6 growth stage (six leaf collars).

Location	Soil	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield/Acre	Planting Rate/Acre
Monmouth, IL	Silt Loam	Corn	Conventional	04/25/2017	09/28/2017	290 bu/acre	36,000 seeds/acre

#### SITE NOTES:

- A 114 RM SmartStax® RIB Complete® corn blend product was planted.
- The N form used for all treatments was 32-0-0 UAN.
  - 80 lbs/acre was applied before planting and incorporated.
  - 100 lbs/acre was sidedressed with a urease inhibitor.
- Two sidedress application methods were used on 6/16/17 when plants were at the V6 growth stage.
  - A rolling coultter with a shallow knife in the center of the row (Figure 3 - top right).
  - 360 Y-Drop® (Figure 3 - bottom pictures).
- The trial consisted of 4 replications.
- The data from 2016 was added to show 2 years of data.

### UNDERSTANDING THE RESULTS

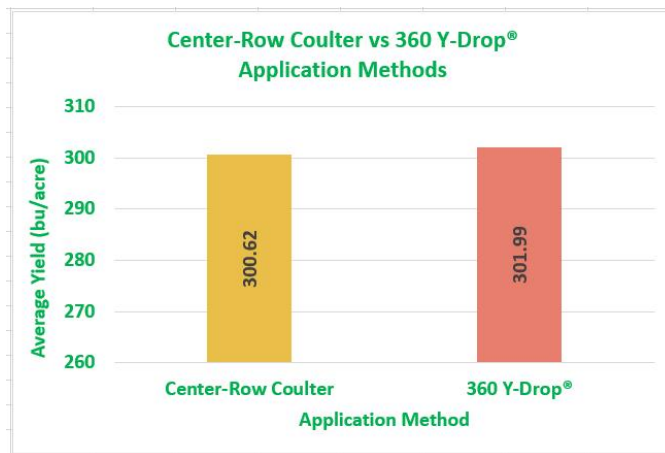


Figure 1. Average Yield in 2017 for Center-Row Coultter vs. 360 Y-Drop® Application Methods

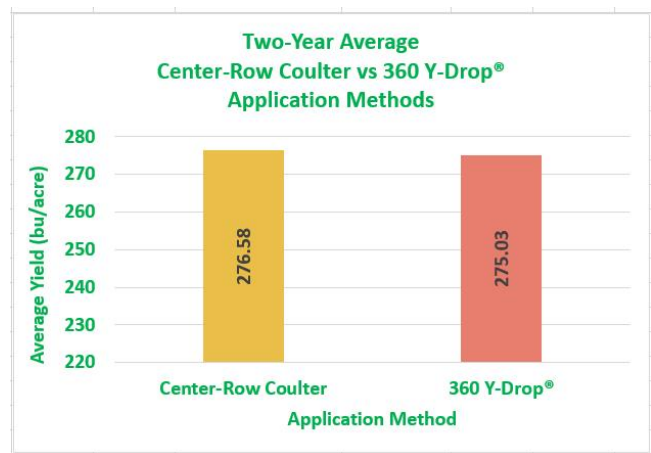


Figure 2. Two-year (2016 and 2017) Average Yield for Center-Row Coultter vs. 360 Y-Drop® Application Methods

- The average yields for both methods were similar in 2017 (Figure 1).
- The two-year average yields for both methods are similar (Figure 2).
- Application at the V6 growth stage by either method showed no clear advantage.
- Rolling coultter applications should be made before plant height exceeds toolbar height.
- Individual corn products may respond differently to application timing.



Figure 3. The 360 Y-Drop® unit applies nitrogen (N) to the base of the plants (top left), rolling coultter applicator applies the N behind the coultter as it cuts through the soil (top right), 360 Y-Drop® unit (bottom left), and 360 Y-Drop® applicator (bottom right).

## WHAT DOES THIS MEAN FOR YOUR FARM?

- The use of a rolling coultter with a shallow knife is limited due to corn height.
- 360 Y-Drop® applicators allow a wider application window and are not limited to early-season sidedressing.
- The ideal placement of sidedressed N could change from year to year due to weather and environment.
- Individual products may respond differently to the timing of N application. Consult your local seed specialists for recommendations.
- Yield differences may not be economically feasible when all costs are considered. Local costs should be evaluated when making N management decisions.

### LEGAL STATEMENT

For additional agronomic information, please contact your local brand representative. Developed in partnership with Technology Development & Agronomy by Monsanto. The information discussed in this report is from a single-site demonstration trial. 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. **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. RIB Complete®, 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.

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