



Effects of Nitrogen Rate on Corn Yield Potential - Iowa

Trial Objective

- This trial was designed to help determine optimum nitrogen rates for new corn products and to demonstrate the interaction of crop inputs with specific corn products. The summary contains two years of results for some products and also results from some products grown only in 2018.

Research Site Details

Year	Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Seeding Rate (seeds/acre)
2017	Victor, IA	Silty clay loam	Soybean	Conventional	4/21/17	10/5/17	220-260	35K
2018	Victor, IA	Silty clay loam	Soybean	Conventional	4/25/18	10/3/18	220-260	35K

- Nitrogen (N) was applied at rates of 110, 140, and 170 total lb N/acre as anhydrous ammonia (NH₃) in the spring 5-9 days before planting.
- Corn products were planted into each NH₃ zone consisting of six 30-inch rows, approximately 370 feet long.

Understanding the Results

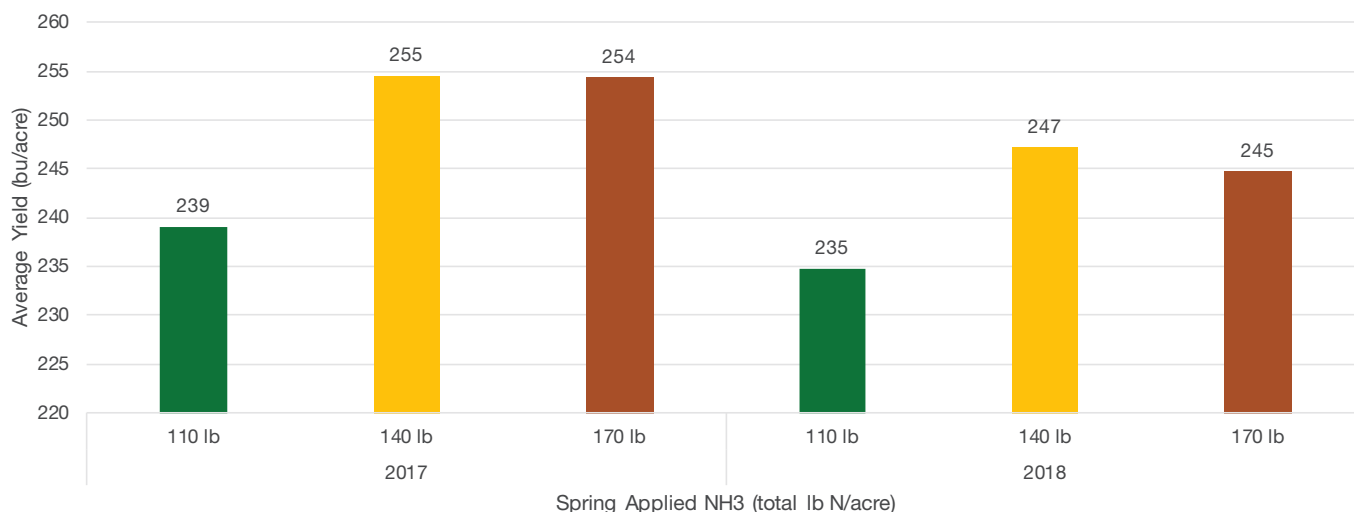


Figure 1. Average yield response of seven DEKALB® corn brand blends at three nitrogen rates over two years.

- The two-year average yield for seven products in a corn-soybean rotation was greatest with 140 lb total N/acre.



Effects of Nitrogen Rate on Corn Yield Potential

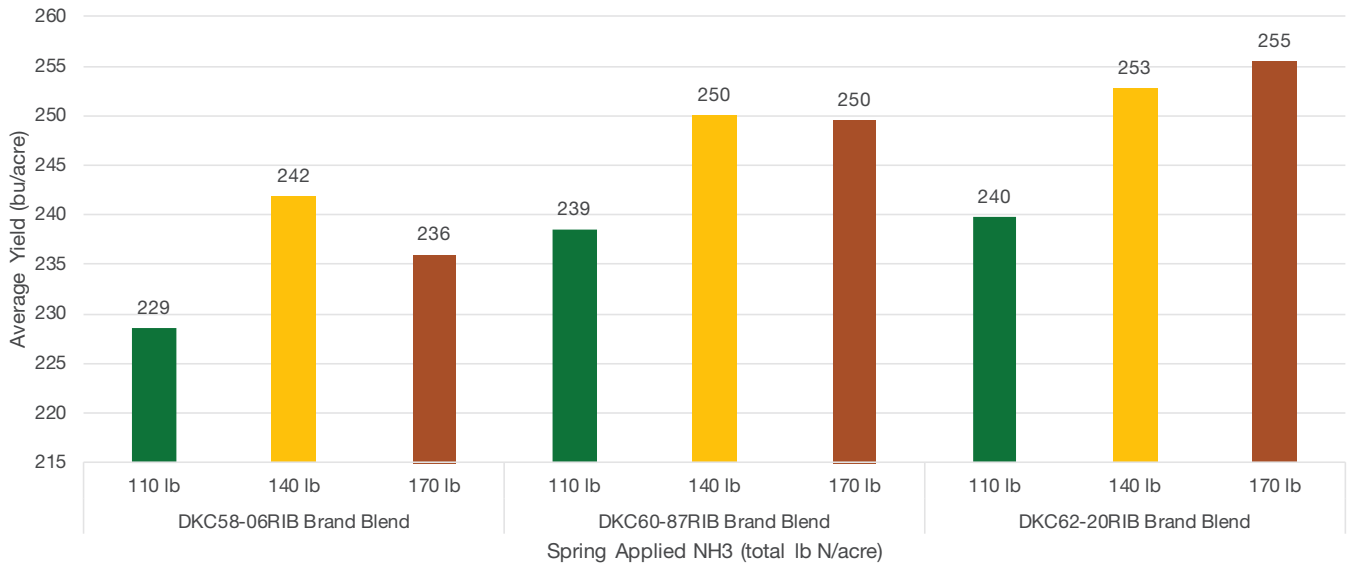


Figure 2. Two-year average yield response of three individual DEKALB® brand blends at three nitrogen rates.

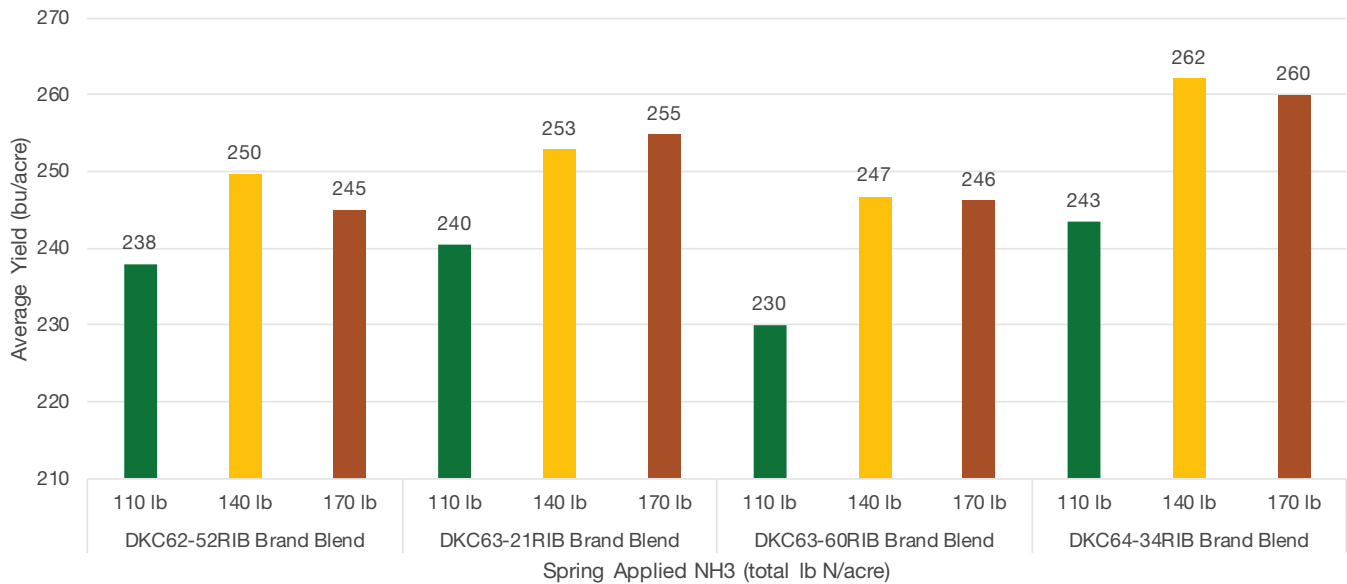


Figure 3. Two-year average yield response of three individual DEKALB® brand blends at three nitrogen rates.



Effects of Nitrogen Rate on Corn Yield Potential

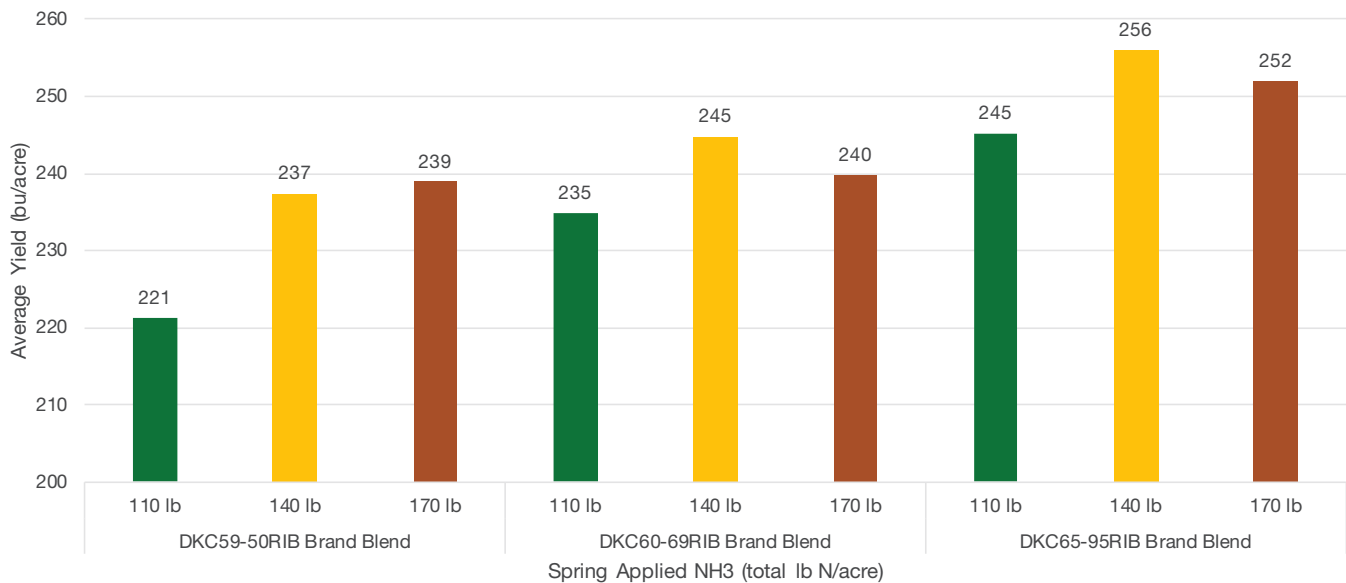


Figure 4. Yield response of three individual DEKALB® brand blends at three nitrogen rates in 2018.

What Does This Mean For Your Farm?

- The crop response to nitrogen is dependent on several variables such as corn product, soil, and environment.
- Low nitrogen rates can limit yield potential, while excess rates are not beneficial for additional crop response and reduce the return on investment.
- The economic return to each additional unit of nitrogen will depend upon grain price and nitrogen price.

Legal Statements

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

B.t. products may not yet be registered in all states. Check with your seed brand representative for the registration status in your state. SmartStax® multi-event technology developed by Monsanto Company and Dow AgroSciences.

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.

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.

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. Asgrow and the A Design®, DEKALB and Design®, Roundup Ready®, Roundup® and SmartStax® are registered trademarks of Bayer Group. 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. ©2019 Bayer Group. All rights reserved. 181130131212 120318JMG

