

# Effects of Nitrogen Rate on Corn Yield Potential

## Trial Objective

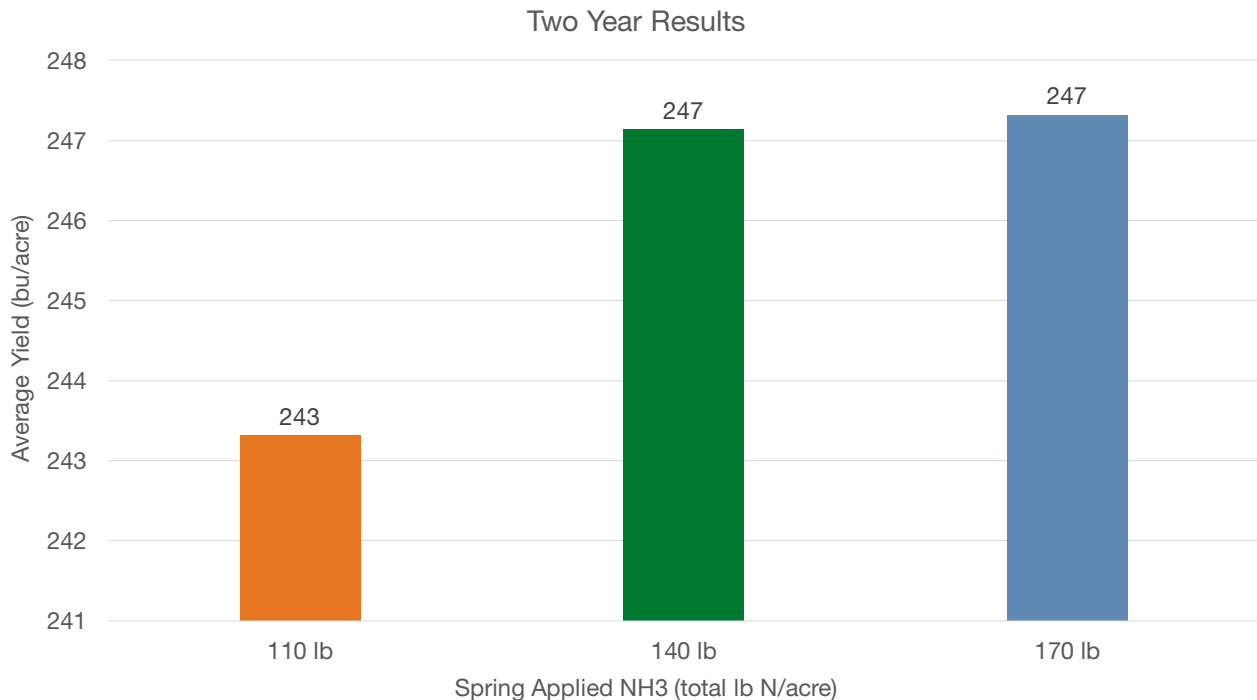
- This trial was designed to help determine optimum nitrogen rates for new corn products and to demonstrate the interaction of crop inputs with specific corn products. The summary contains two years of results for some products and also results from some products grown only in 2018.

## 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 | 4/21/2017     | 10/5/2017    | 220-260                   | 35K                       |
| 2018 | Victor, IA | Silty clay loam | Soybean       | Conventional | 4/25/2018     | 10/3/2018    | 220-260                   | 35K                       |

- Nitrogen (N) was applied at rates of 110, 140, and 170 total lb N/acre as anhydrous ammonia (NH<sub>3</sub>) in the spring 5-9 days before planting.
- Corn products were planted into each NH<sub>3</sub> zone consisting of six 30-inch rows, approximately 370 feet long.

## Understanding the Results



**Figure 1. Average yield response of Kruger Seeds™ brand blends at three nitrogen rates over two years.**

- The two-year average yield for products in a corn-soybean rotation was most economical at 140 lb total N/acre.

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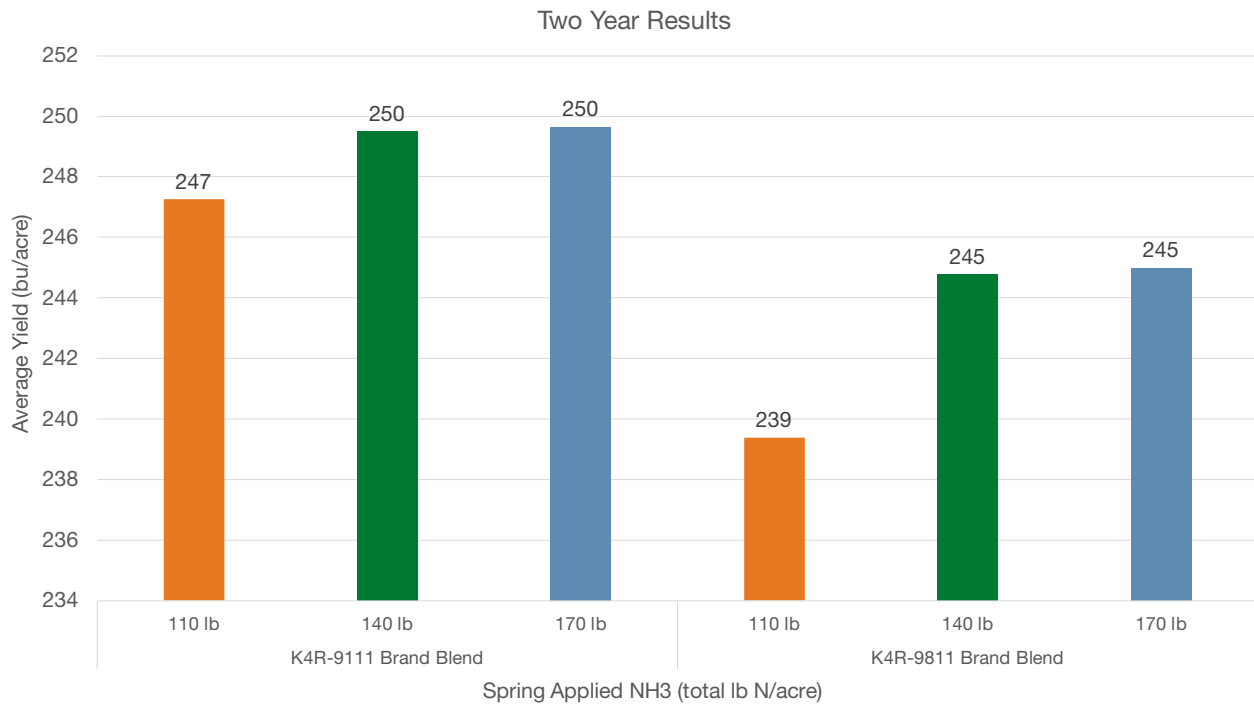


Figure 2. Two-year average yield response of two individual Kruger Seeds™ brand blends at three nitrogen rates.

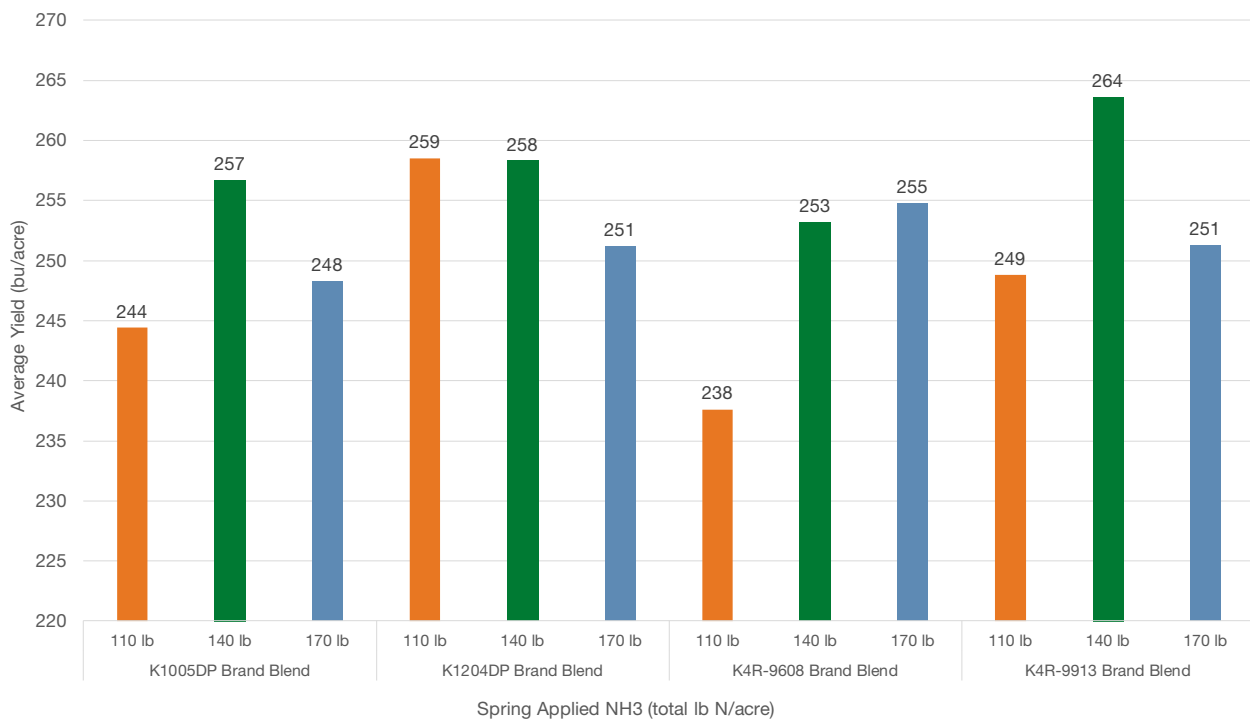


Figure 3. Yield response of four individual Kruger Seeds™ brand blends at three nitrogen rates in 2018.

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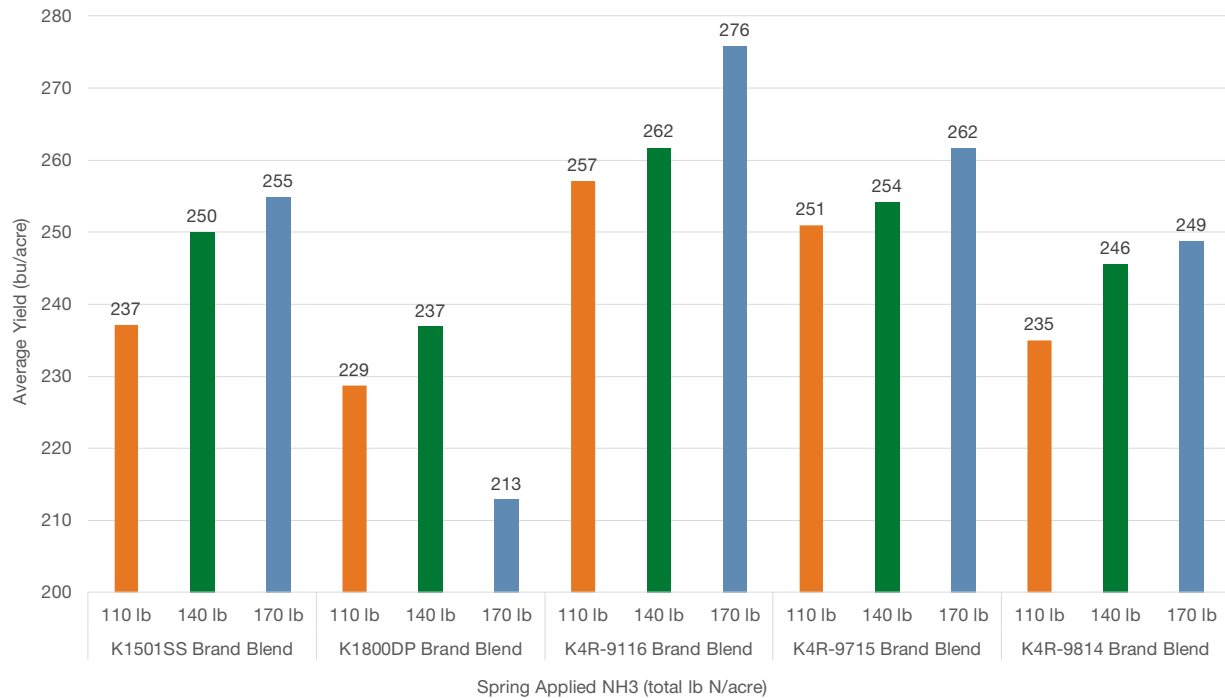


Figure 4. Yield response of four individual Kruger Seeds™ brand blends at three nitrogen rates in 2018.

## 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.

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