

# Interaction of Nitrogen Rate with Seeding Rate and Corn Product

## Trial Objective

- Nitrogen is a significant input cost for corn production. Knowing if agronomic practices, such as seeding rates and nitrogen application rates, are influenced by the specific product can help farmers manage nitrogen costs more efficiently.
- This study was conducted to determine if the response to nitrogen application rates and seeding rates are consistent across different corn products.

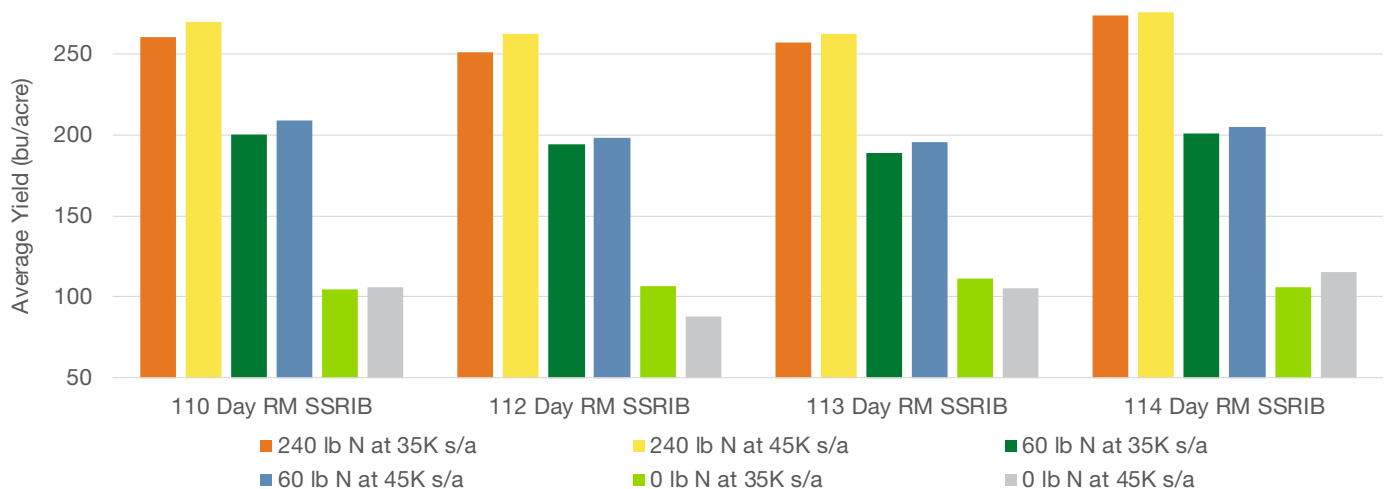
## Research Site Details

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	05/08/18	09/28/18	250	35K, 45K

- Four corn products with relative maturities of 110, 112, 113, and 114 were planted at 35,000 and 45,000 seeds/acre.
- The nitrogen source used was 32% urea and ammonium nitrate (UAN) (32-0-0) applied before planting and incorporated at three different rates: 240, 60, and 0 lb/acre.
- There were two replications for each treatment.

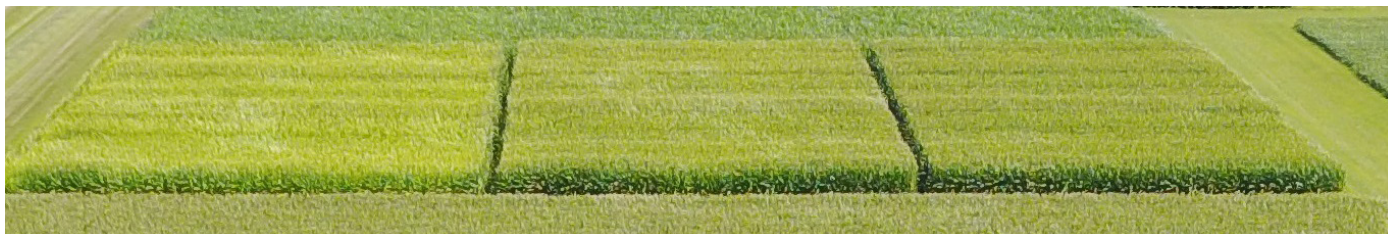
## Understanding the Results

- The response to nitrogen and seeding rates was consistent across the four corn products evaluated.
- At the higher nitrogen rates, the 45,000 seeds/acre seeding rate showed a yield increase; however, in terms of profit, the additional seed costs need to be considered.
- The response to nitrogen rate provided the largest yield increase when compared to seeding rate.



**Figure 1. Average yields of corn products in the different nitrogen strategies.**

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*Figure 2. Nitrogen rate X Population X Hybrid, (from left to right) 0lb/acre, 60lb/acre, 240lb/acre.*

## What Does This Mean For Your Farm

- Yields increased with increasing nitrogen rate across all corn products.
- Higher populations take advantage of higher nitrogen rates.
- Individual corn products have unique interactions between nitrogen rate and seeding rate. Consult your local DSM or Technical Agronomist for recommendations.
- Increased inputs may not be economically feasible when all costs are considered.

## Legal Statements

The information discussed in this report is from a single site, replicated demonstration. This information piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

**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.

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