



# 2014 DEMONSTRATION REPORT

## Monsanto Learning Center at Monmouth, IL

# Effects of Corn Product, Population, and Row Width on Yield

## Introduction

Over time, optimum planting populations have been increasing steadily. This leads to decreased space and increased competition between individual plants within the row. Narrower row spacing may be able to alleviate some of this increased competition stress.

As recommended plant populations increase, narrow row widths become more desirable for several reasons:

- Less in-row crowding from neighboring plants
- Increased soil shading
- Reduced weed competition
- Same planting equipment for corn and soybean

Yield penalties are not associated with narrow row widths.<sup>1</sup> In northern states, a yield response is generally expected from using narrow rows, likely due to a shorter growing season.<sup>1</sup> Seeding rate is often a decision based on the range specified for individual corn products. Therefore, a corn product and population interaction could occur when comparing row width configurations. The purpose of this trial is to observe if there is a yield response to row spacing and populations for different corn products.

## Materials and Methods

### Corn Products

- 105 day Genuity® SmartStax® RIB Complete® corn blend
- 113 day Genuity® SmartStax® RIB Complete® corn blend
- 112 day Genuity® VT Triple PRO® RIB Complete® corn blend

### Seeding Rates (seeds per acre)

- 27,000
- 35,000
- 42,000

### Row Configurations

- 20-inch
- 30-inch
- Twin row

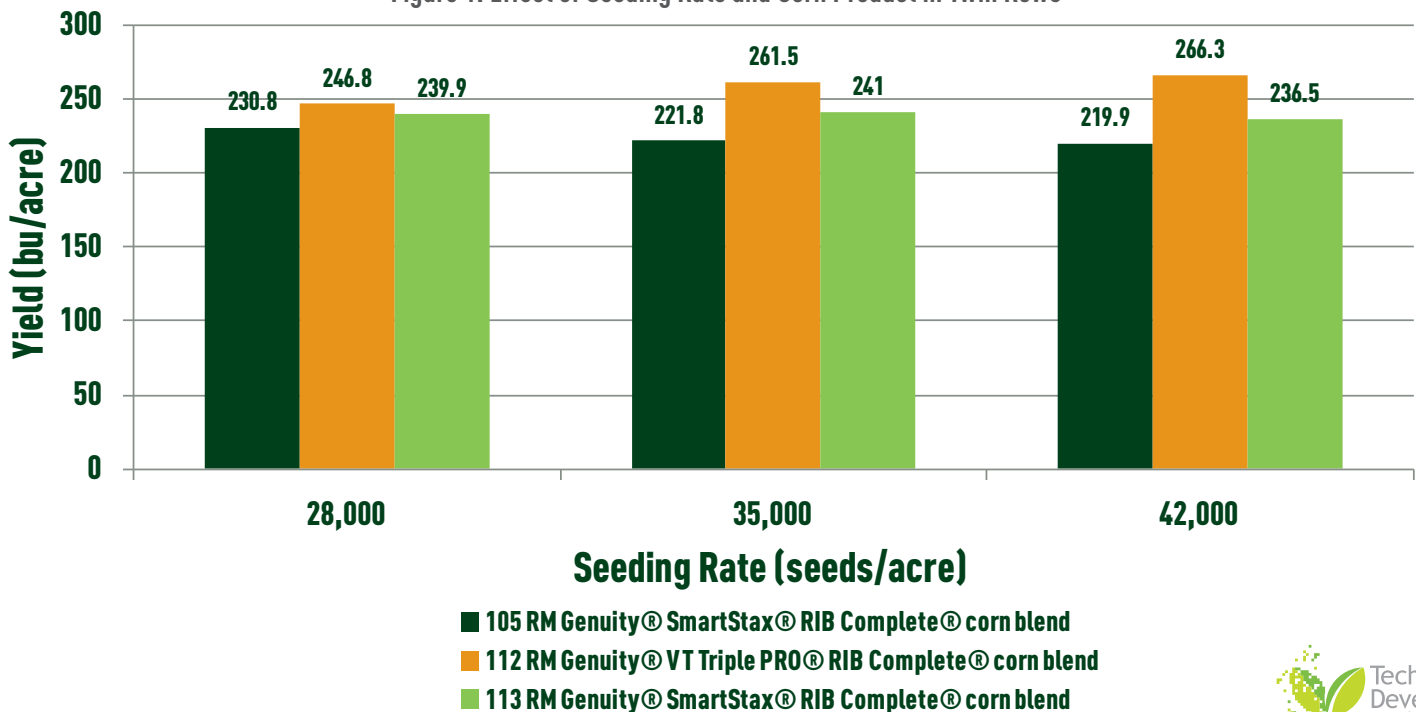
### Plot Design

Each corn product was planted at each population in each row width.

- 3x3x3: 3 corn products by 3 seeding rates by 3 row configurations

Plots were planted on May 7, 2014. Soil was previously planted to soybean, and received conventional tillage with chisel plow in the fall and soil finisher in the spring. Crop was harvested October 7, 2014.

Figure 1. Effect of Seeding Rate and Corn Product in Twin Rows





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Figure 2. Effect of Seeding Rate and Corn Product in 30-inch rows.

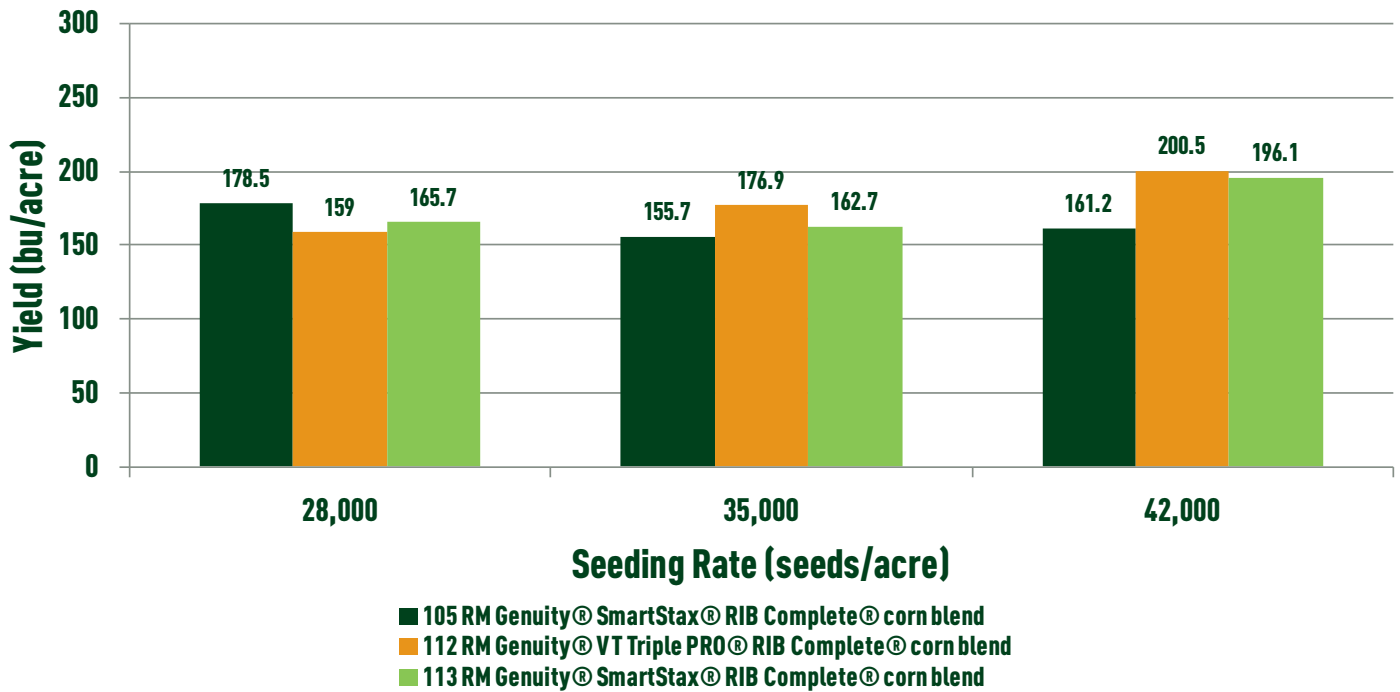
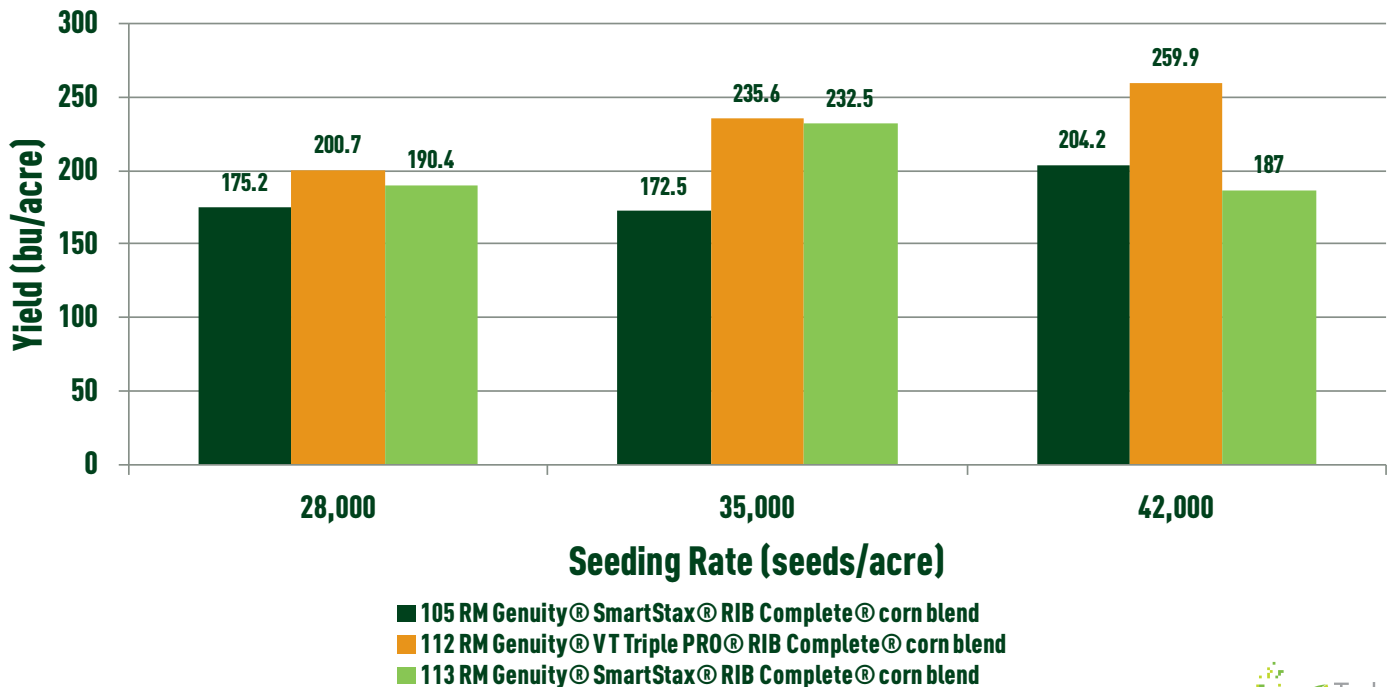


Figure 3. Effect of Seeding Rate and Corn Product in 20-inch rows.





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## Key Messages

- Data from this demonstration supports that each corn product had a unique response to population and row spacing. Additional studies are needed to look at narrow row planting in corn to determine which plant population and row configuration is the best fit for each corn product in an area.
- In the 2014 demonstration, twin rows were the highest yielding row configuration; however, in past studies at the Monmouth Learning Center, results have been inconsistent with respect to twin rows.
- Local seed brand representatives may be the best source for local recommendations on plant population and row spacing for individual corn products.

## Source

<sup>1</sup>Abendroth, L. and Elmore, R. 2006. What row spacing is best? Iowa State University.

## Legal

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**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:** Genuity® 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.

**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.

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20 inch rows



30 inch rows



Twin rows

