Effect of Corn Density on Yield

Study Guidelines

- Fourteen corn products
  - Relative maturities (RM) ranging from 102 to 115 RM
  - Plant densities ranging from 24,000 to 48,000 plants/acre
  - Planted on April 22, 2013
  - Four replications, 2-row plots
  - Corn/soybean rotation with spring strip-tillage
  - Standard irrigated corn production practices
  - Harvested September 30, 2013

Results

- < 109 RM
  - Despite differences in yield levels, yields were maximized at similar plant densities across corn products.

- 110 - 112 RM
  - Corn products evaluated in the 110-112 RM range performed somewhat consistently in regards to the density at which yields were maximized.

- 113 - 115 RM
  - Across 3 corn products, yields were still climbing, despite the increase in density to 48,000 plants/acre.
  - When evaluated by RM group, longer season RM's maximized yield at greater plant densities.

Summary Comments

- Optimum plant density depends on variables such as moisture availability, soil fertility, and the specific corn product planted.
- Individual corn products respond differently to changes in plant density.
- In 2013, several corn products were still increasing yield at 48,000 plants/acre.
- In this study, individual corn products with a lower RM would maximize yield at a lower plant density.
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Figure 3. 113 to 115 RM corn product response to plant density.

Figure 4. Response to plant density by relative maturity groups.
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Figure 5A. Ear size at 24,000 plants/acre.

Figure 5B. Ear size at 48,000 plants/acre.

Figure 6. Ear size comparison at various plant densities for a 109 RM corn product.

Figure 7. Ear size comparison at various plant densities for a 115 RM corn product.

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

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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