



Corn Product Interactions with Planting Date and Seeding Depth

Trial Objective

- Planting corn involves careful planning to obtain optimal results.
- Product selection, planting date, and seeding depth are critical to crop success.
- Previous Learning Center data has shown planting date to potentially have either positive or negative effects on yields, depending on the growing conditions immediately following planting. Very early planting can expose the crop to chilling or frost injury, but early planting can also help complete pollination prior to the June heat in the Delta.
- Increased seeding depth has been shown to positively influence corn plant establishment. Many growers choose shallow corn seeding depths “to get a better stand”, often with detrimental effects to the crop.

These trials demonstrate yields derived from combining proper planting date and seed depth for typical products in the south.

Research Site Details

- All fieldwork, tillage, and herbicides were per local standards.
 - » 250 lb nitrogen was applied to both experiments as liquid 30-0-0-2.5 fertilizer.
- Planting Dates
 - » March 7, 2023 (early)
 - » March 28, 2023 (mid)
 - » April 17, 2023 (late)
- Seeding Depth
 - » 1.25 inches
 - » 2.5 inches
- Statistical design and data collection
 - » Single-replication strip plot: 12 rows, 140 feet long, plots were 0.122 acre
 - » Stand establishment averaged near 92 percent post emergence
 - » Yield collected with commercial harvest machinery
 - » Yields were corrected to 15.5% moisture for data presentation

Table 1. Corn products evaluated against planting date and seeding depth.

DEKALB® Brand	Traits	Relative Maturity (days)
DKC62-70	VT Double PRO® RIB Complete® corn blend	112
DKC65-99	Trecepta® Technology	115
DKC66-06	Trecepta® Technology	116
DKC68-35	VT Double PRO® RIB Complete® corn blend	118

Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Seeding Rate (seeds/acre)
Scott, MS	Mixed Clay Loam	Cotton	Conventional	3/7/2023 3/28/2023 4/17/2023	8/20/2023	250	36,000

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Understanding the Results

- Planting Date
 - » Each product demonstrated increased yield with earlier planting dates. Corn grain yields were:
 - 238 bu/acre for early planting date
 - 224 bu/acre for mid planting date
 - 214 bu/acre for late planting date
 - » This is a potential net return of \$120.48/acre more from the early planting date compared to the late planting date, using \$5.02/bu as grain price.
- Planting Depth
 - » Deeper seeding depths resulted in yields trending greater than yields from shallower seeding depths. Across dates, corn with deeper seeding depth yielded 16 bu/acre more than shallow seeded corn (Figure 1). This is a potential net return of \$80.32/acre on a cultural practice that does not incur additional cost. This yield response is likely related to reduced bird predation, increased rooting, and improved standability.

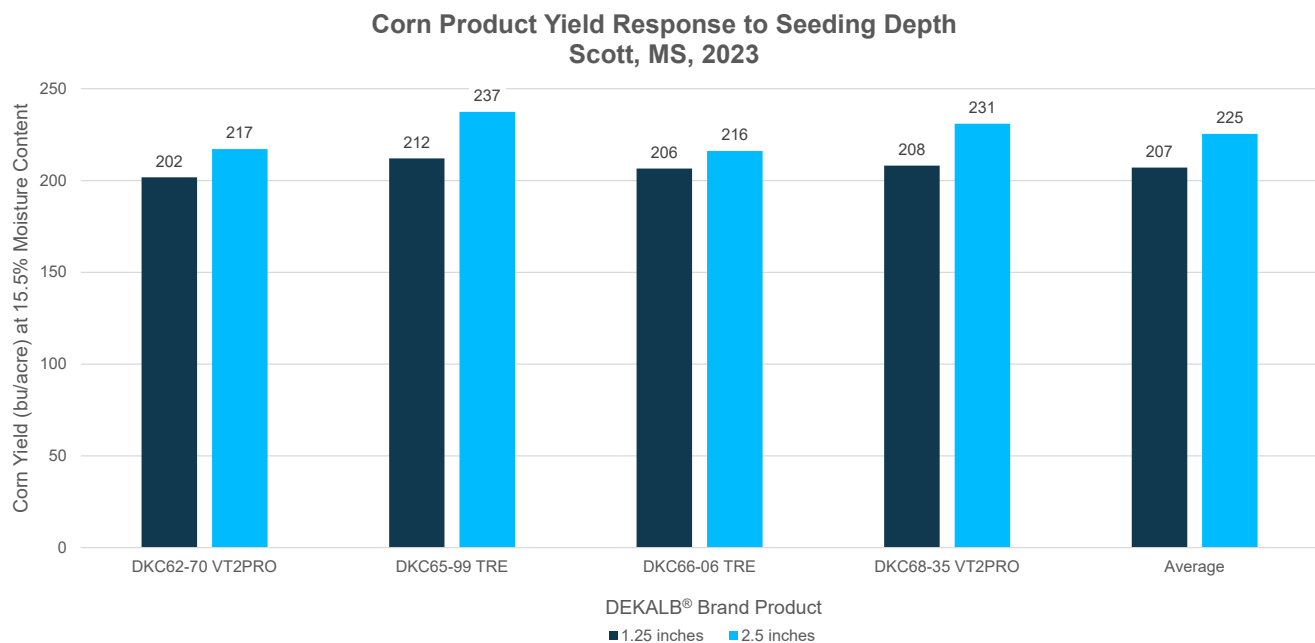


Figure 1. Corn product yield response to seeding depth, data combined from all three planting dates.



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- Product Performance

- » The tested products appeared to perform very well across this testing series with DKC65-99 brand and DKC68-35 brand leading the group, particularly on the early (March 7th) planting date (Figures 2, 3, and 4).

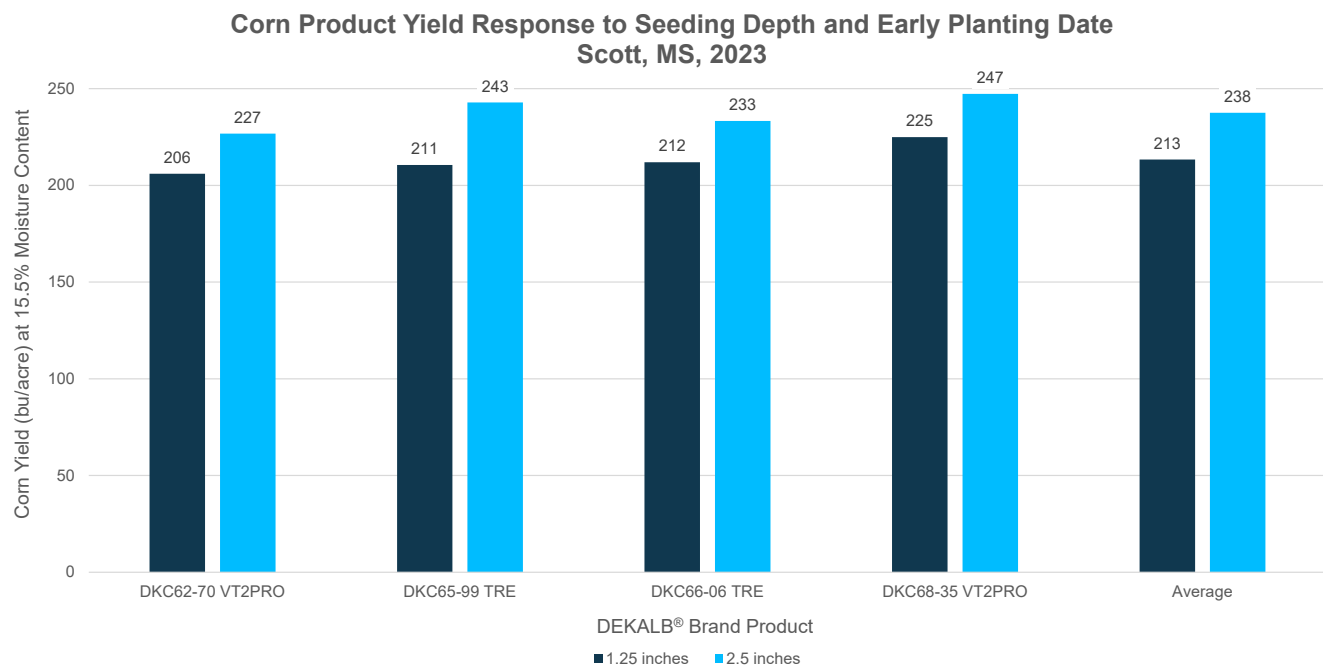


Figure 2. Corn product yield response to seeding depth and early planting date. Data from seeds planted on March 7, 2023.



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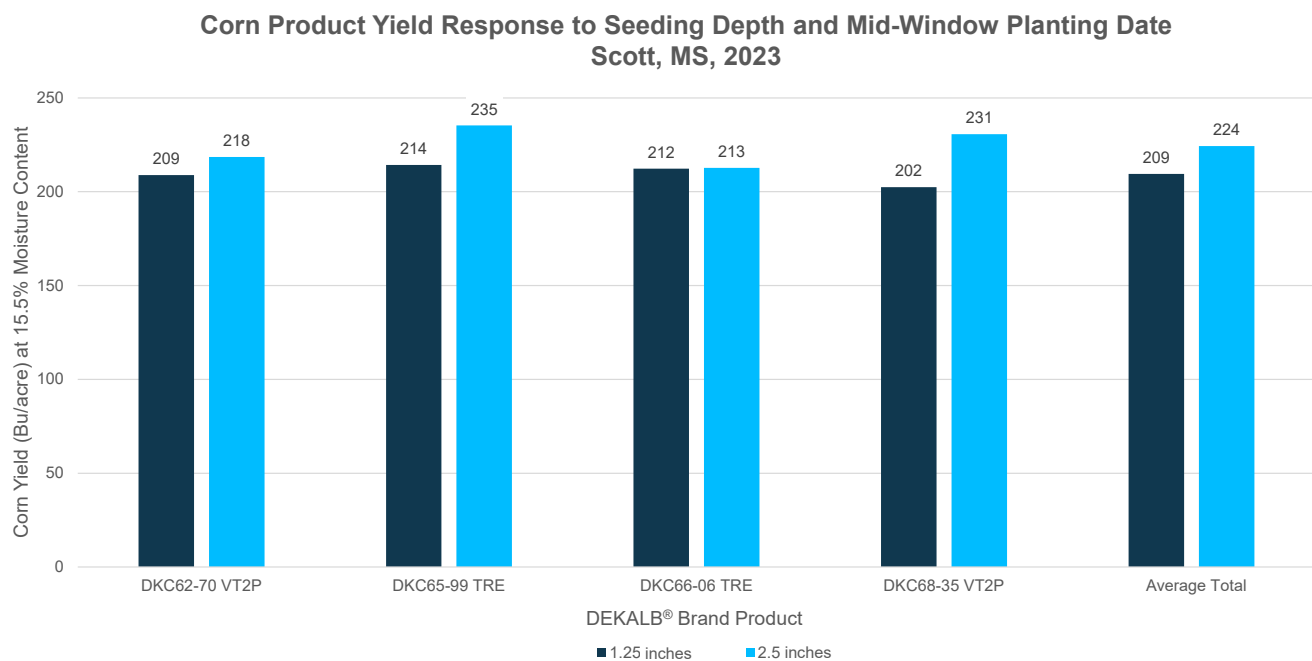


Figure 3. Corn product yield response to seeding depth and mid-window planting date. Data from seeds planted on March 28, 2023.

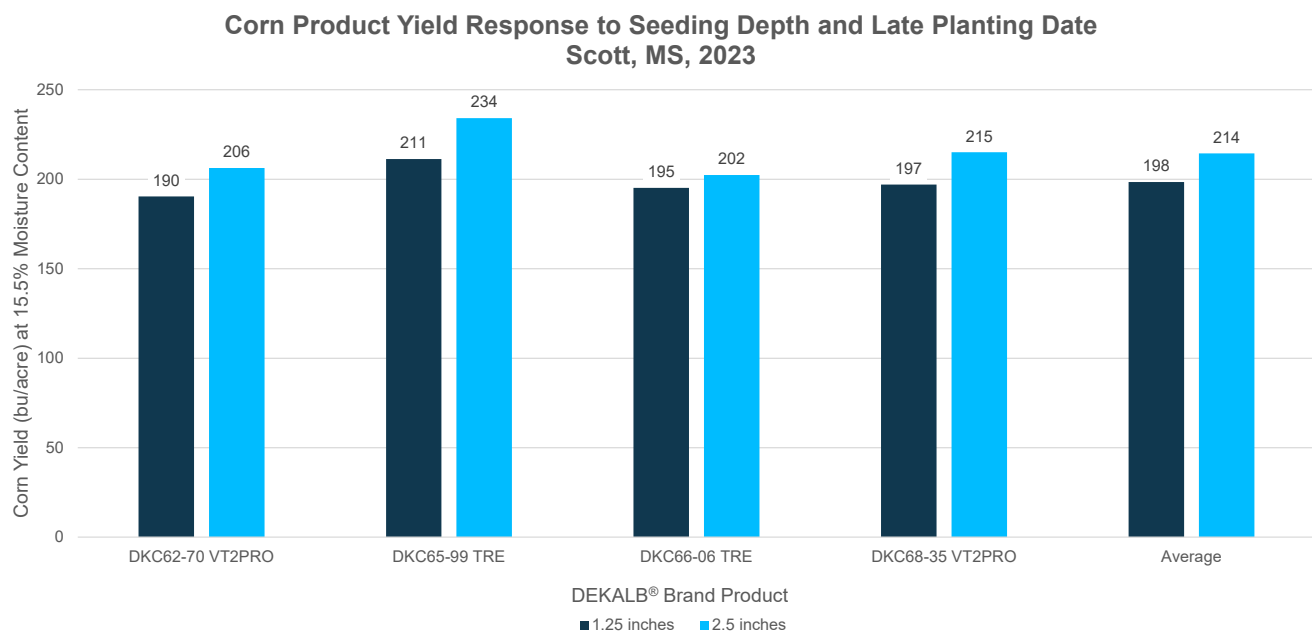


Figure 4. Corn product yield response to seeding depth and late planting date. Data from seeds planted on April 17, 2023.



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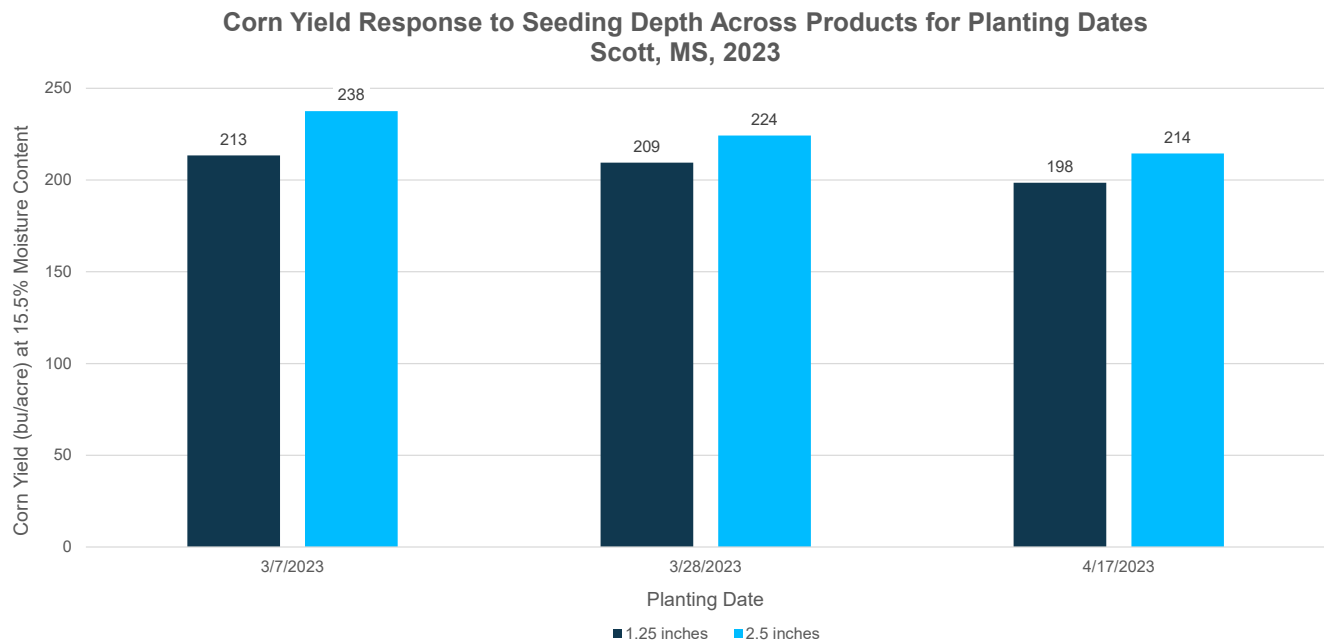


Figure 5. Corn yield response to seeding depth across products for early-, mid-, and late-planting dates.



Figure 6. Demonstration of the developmental differences between planting dates. (Left) Taller corn from the March 7th planting date compared to the height of corn with a March 28th planting date (right).



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Key Learnings

- These results are similar to previous Scott, Mississippi Learning Center reports demonstrating earlier planting is typically better in the south if chilling and frost injury can be avoided.
- Also, in concurrence with past results, deeper-seeded corn was observed to have numerically greater yield potential in almost every case (Figure 5). This likely resulted from reductions in bird predation and improved rooting. Strong roots often help in management of root lodging and increase uptake of water and fertilizer.
- The tested products demonstrated excellent yield potential when planted in the most appropriate ways – at early dates and deeper depths.
- Growers make most influential decisions before or during corn planting. Row spacing, row configuration, planting date, product, seed treatment, technology, planting depth, planting uniformity, and planting density are all established before or during planting. For this reason, each factor should be carefully considered for its effects on crop potential.
- Please contact your local DEKALB® brand seed representative for more information.

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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Performance may vary, from location to location and from year to year, as local growing, soil and environmental conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on their growing environment.

The recommendations in this material are based upon trial observations and feedback received from a limited number of growers and growing environments. These recommendations should be considered as one reference point and should not be substituted for the professional opinion of agronomists, entomologists or other relevant experts evaluating specific conditions.

IMPORTANT IRM INFORMATION: Certain products are sold as RIB Complete® corn blend products, and do not require the planting of a structured refuge except in the Cotton-Growing Area where corn earworm is a significant pest. Products sold without refuge in the bag (non-RIB Complete) require the planting of a structured refuge. **See the IRM/ Grower Guide for additional information. Always read and follow IRM requirements.**

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