



Soybean Maturity Group and Seeding Rate Effects on Yield Under Dryland Conditions

Trial Objective

- To help maximize profit potential, soybean products should be selected based on yield potential, disease and pest resistance, maturity group (MG), product traits, and plant height and standability.
- The objective of this trial was to determine the effects of soybean maturity group and seeding rate on yield under dryland conditions.

Research Site Details

Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Planting Rate (seeds/acre)
Gothenburg, NE	Cozad silt loam	Corn	No tillage	5/14/20	10/14/20	50	40K, 80K, 120K, 160K, 200K

- Treatments consisted of two soybean maturity groups (MG) and five seeding rates for a total of 10 treatments planted under dryland conditions.
 - Soybean maturity groups:
 - 2.9MG
 - 3.6MG
 - Seeding rates on 30-inch rows:
 - 40,000 seeds/acre
 - 80,000 seeds/acre
 - 120,000 seeds/acre
 - 160,000 seeds/acre
 - 200,000 seeds/acre
- The trial was setup as a randomized complete block and each treatment was replicated three times.
- Fertility included 50 lb/acre phosphorus, 11 lb/acre sulfur, and 20 lb/acre nitrogen applied using a streamer bar on April 14, 2020.
- Weeds were uniformly controlled as needed across the study.
- Soybean total weight, test weight and moisture data were collected to calculate total yield.



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Understanding the Results



Figure 1. The 2.9 MG (left) and 3.6 MG (right) maturity groups planted at 120,000 seeds/acre treatments.

- There was a significant interaction between soybean maturity group and seeding rate for this research with the major difference occurring at the 40,000 seeds/acre rate (Figure 2).
 - The average soybean yields from the 2.9 MG and 3.6 MG treatment plots were similar among all seeding rates above 120,000 seeds/acre.
 - The 3.6 MG soybean product planted at 160,000 seeds/acre produced the overall highest average yield in this demonstration.
 - Plants in plots planted at the 40,000 seeds/acre rate produced the lowest average soybean yields for both soybean maturity groups.
- Lower than expected average soybean yields for this demonstration were likely the result of insufficient moisture on this dryland field. Especially dry conditions persisted from August through mid-September. Late-season soil water deficits can create stress that hastens physiological maturity (R7), resulting in reduced yield potential.

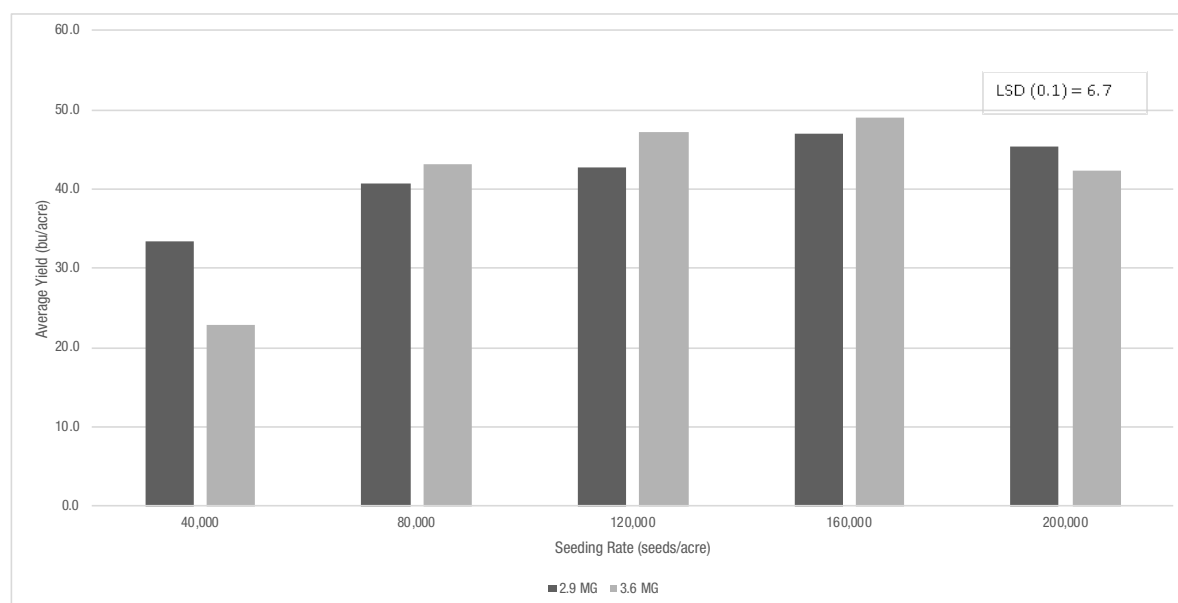


Figure 2. Effect of maturity group and seeding rate on average dryland soybean yield in 2020.



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Key Learnings

- Soybean maturity group and seeding rate influenced product yield potential in this research.
- For dryland conditions in the Central Plains, this study would indicate that when planting a mid to late maturity soybean product a minimum of 120,000 seeds/acre seeding rate should be used to help maximize yield potential.

Legal Statements

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.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. 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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