

Soybean Planting Date by Seeding Rate Trial

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Objective

Evaluate how soybean variety planting population, seed treatment, and planting date influence soybean grain yield.

Materials and Methods

Northern Research and Demonstration Farm, Kanawha | Crop Year–2022

Soil type	Canisteo, Nicollet
Previous crop	corn
Hybrid/variety	P23A40E
Planting date	May 15, May 24, June 3, June 14
Row spacing	30 in.
Seeding rate	140,000 seeds/acre
Tillage	spring field cultivation–April 27 and May 14
Fertilizer	none, soil test Melich 3 P = 23 ppm, soil test Ammonium-Acetate K = 188 ppm
Nitrogen	none
Harvest date	October 2
Experimental design	Randomized complete block design
Replications	4
Treatments	Four dates of planting, three seeding rates (there were two 140,000 seeds/acre seeding rates, one seeding rate had the Lumigen® with iLevo® seed treatment, and the remaining three seeding rates had no seed treatment)

Results

Table 1. Soybean grain yields for date of planting and seeding rate main and interaction effects.^a The 140,000 seed/acre rate had a treatment with and without seed treatment.

		Planting Date				Seeding rate mean
		May 15	May 24	June 3	June 14	
		soybean grain yield (bushels/acre)				
Seeding rate	100,000	63.6	64.8	62.9	62.2	63.4
	140,000	64.4	69.1	62.6	62.6	64.7
	140,000 T	66.9	66.7	66.9	65.3	66.5
	180,000	64.3	68.2	64.0	65.3	65.5
		P = 0.7681				P = 0.0701
Planting date mean		64.8ab	67.2a	64.2b	63.8b	
		P = 0.0262				

^aP-values within boxes are used to compare yields of the main effects or interaction effects within each box. Yields that are significantly different at $P < 0.05$ have different letters following the yield values within each box.
^b140,000 seeds/acre seeding rate had with and without seed treatment. There was no statistical difference with or without seed treatment.

Key Takeaways

- There was no variety by date of planting interaction effect; therefore, individual main effects are used.
- The 140,000 with seed treatment had statistically similar grain yields to the 140,000 without seed treatment.
- Overall seeding rate was not significant at $P < 0.05$, however, the 140,000 and 180,000 seeds/acre rates had higher yields than the 100,000 seeds/acre rate.
- The May 24 date of planting was higher yielding than both June dates of planting.

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