Soybean Planting Date by Maturity Trial

Mark Licht—associate professor and extension cropping systems specialist, Department of Agronomy

Matt Schnabel—farm superintendent

Objective

Evaluate how soybean variety maturity 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	P18A73E, P23A40E, P26T23E
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 and three varieties

Results

Table 1.Soybean grain yields for date of planting and variety main and interaction effects.[a]

		Planting date				Variety mean
		May 15	May 24	June 3	June 14	
		soybean grain yield (bushels/acre)				
Variety	P18A73E	65.8	66.8	64.9	58.9	64.1b
	P23A40E	64.7	63.8	68.0	61.0	64.4b
	P26T23E	73.1	74.8	77.7	66.9	73.1a
		P = 0.5765				P < 0.0001
Planting date mean		67.9a	68.5a	70.2a	62.3b	
		P = 0.0002				

[a]P-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.

Key Takeaways

- There was no variety by date of planting interaction effect; therefore, individual main effects are used.
- The June 14 date of planting was statistically lower yielding than May 15, May 24, and June 3 planting dates.
- Variety P26T23E was higher yielding than P18A73E and P 23A40E. This could be associated with P26T23E being a longer maturity variety, and therefore, better able to use a fuller growing season for seed fill.

Acknowledgements

This project would not have been possible without the seed donations from Corteva.