Soybean Row Spacing Trial

Trial ID: 2025-SSE02 – R.M. of St. Andrews

Objective: Quantify the agronomic and economic impacts of different row spacings planted by different seeding equipment on soybean production.

Summary: There was no significant yield difference between 10'' row spacing done with an air seeder and 30'' row spacing done with a planter. Seedlings in the 10'' spacing took longer to emerge compared to 30'' spacing and the 10'' spacing had a significantly lower plant stand at both V–and R–stages than the 30'' spacing. This was likely caused by early spring soil crusting and the seedlings in the 30'' spacing were more effective than seedlings in the10'' spacing at collectively pushing up through the crust layer. At R1, R3 canopy closure in the 10'' spacing was significantly greater than in the 30'' spacing. At R5 canopy closure was statistically the same between spacings. Weed pressure was assessed at R5, and there was no significant differences. Disease pressure was assessed at R5 and again at R6, and there were no significant differences between the two spacings.

Trial Information

Treatments	Air seeder with 10'' rows vs. Planter with 30'' rows
Soil Texture	Clay
Previous Crop	Wheat
Tillage	Conventional Tillage
Seeding Equipment	Borugault 3820/1775 NY John Deere
Seeding Date	5/11/2025
Variety (maturity)	P008Z25E (00.8)
Seeding Rate	160,000 seeds/ac
Harvest Date	9/29/2025

Precipitation (mm)

	May	June	July	Aug	Total
Rainfall	23.5	29.8	29.1	116.8	199.2
Normal	64.02	94	83.76	79.33	321.11
% Norm	37%	32%	35%	147%	62%

Plant Stand (plants/ac) ǂ

	R1	R5
10"	106,600 B	107,500 B
30"	148,000 A	147,400 A

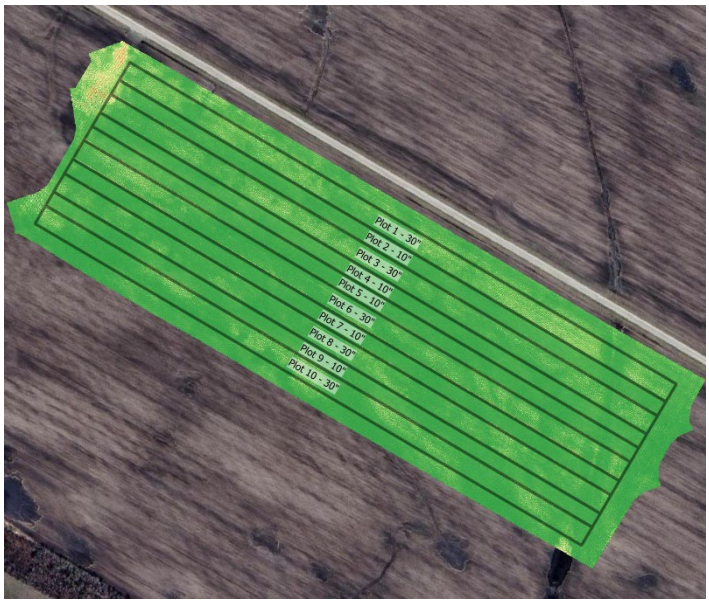
ǂ Columns followed by different letters are significantly different from one another

% Canopy Closure ǂ

	R1	R3	R5
10"	79.1 A	90.5 A	98.6 A
30"	63.3 B	74.6 B	94.0 A

ǂ Closure percentages in columns followed by different letters are significantly different from one another

NDVI Field Image August 13



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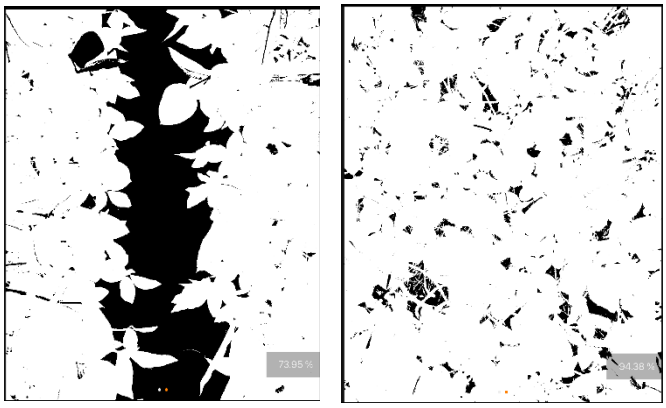
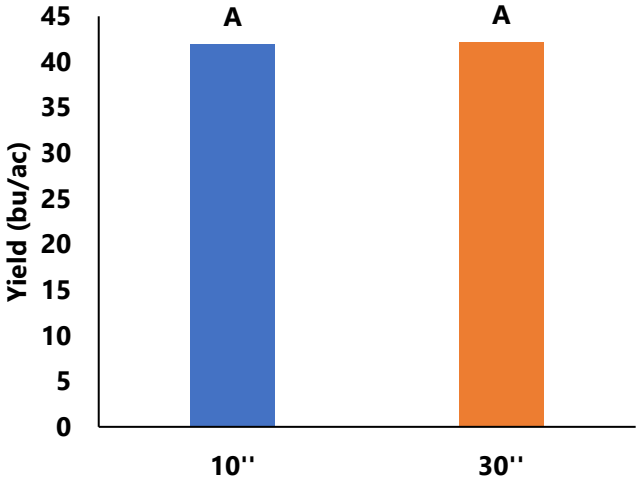
Canopy Closure Images



Canopeo app measurements of 10" row spacing (right) and 30" row spacing (left) canopy closure at R3.

Yield by Treatment



Summary of First Disease Rating (R5)ǂ

	Incidence (% plants infected)				
	Septoria	Frog Eye	Downy Mildew	White Mould	Bacterial Blight
10"	62 (0.7)	34	2 (0.02)	88 (0.98)	52
30"	36 (0.4)	24	2 (0.02)	68 (0.84)	54

ǂ Septoria brown spot, downy mildew, and white mould severity, listed in brackets, were rated on a 0-5 scale.

Overall Yield & Economicsǂ

	Mean (bu/ac)ǂǂ	Change in Profit/acǂ
10"	41.9	n/a
30"	42.1	n/a
Difference	0.2	
P-Value	0.8844	
CV	5%	
Significance	**No**	**Economic N/A**

ǂ Economics of how different row widths are achieved in the field are very farm and equipment specific. As a result, they are not estimated here.

Late Season Weed Pressure (R5)ǂ

	Average Number of Weeds/ft^2
10"	3
30"	5

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Summary of Second Disease Rating (R6)ǂ

	Incidence (% plants infected)			
	Septoria	Frog Eye	White Mould	Bacterial Blight
10”	40 (0.4)	10	76 (0.98)	56
30”	38 (0.44)	10	76 (1.12)	56

ǂ Septoria brown spot, and white mould severity, listed in brackets, were rated on a 0-5 scale.

Emergence of the 30’’ rows (left side of photo) and the 10’’ rows (right side of photo) on June 10 at V1 stage

10’’ rows (left) and 30’’ rows (right) on June 26 at V3 stage

Crop canopy of 30’’ rows (left) and 10’’ rows (right) on August 19 at R5 stage

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