

Soybean Seeding Equipment Trial

Trial ID: 2024-SSE01 – R.M. of Morris

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

Summary: There was no significant yield difference between the 10" disc drill and the 9" hoe drill. At V2 and at R5, plant stand counts were similar between drills. Seed depth and seed clumping score were also similar between drills. The only difference between the drills was seed spread in the furrow where the hoe drill had significantly more seed spread (average lateral distance between seeds in the row) than the disc drill. See below note on seed depth. *

Trial Information

Treatment	9" Hoe Drill vs 10" Disc Drill
Soil Texture	Clay
Previous Crop	Wheat
Tillage	Conventional Tillage
Seeding Date	May 17
Rolling Date	May 17
Variety	P009294E
Germination	88%
Seeding Rate	190,000 seeds/ac
Harvest Date	October 1

Precipitation (mm)

	May	June	July	Aug	Total
Rainfall	122	90.6	60.4	60.6	333.6
Normal	53.6	86.4	71.9	65.4	277.3
% Norm	228%	105%	84%	93%	120%

Plant Stand (plants/ac) †

	V2	R5
Hoe Drill	142,000 A	125,000 A
Disc Drill	151,000 A	146,000 A

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

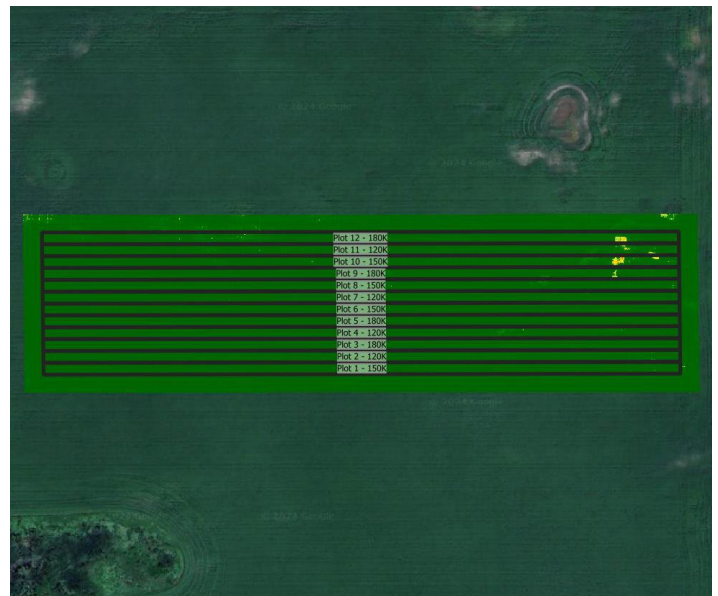
Seed Placement / Distribution †

	Seed Depth mm (in)	Seed Spread mm (in) ††	Clumping Score ††
Hoe Drill	45.5 (1.79) A	30.6 (1.2) A	2.3 A
Disc Drill	41.8 (1.65) A	21.6 (0.85) B	2.2 A

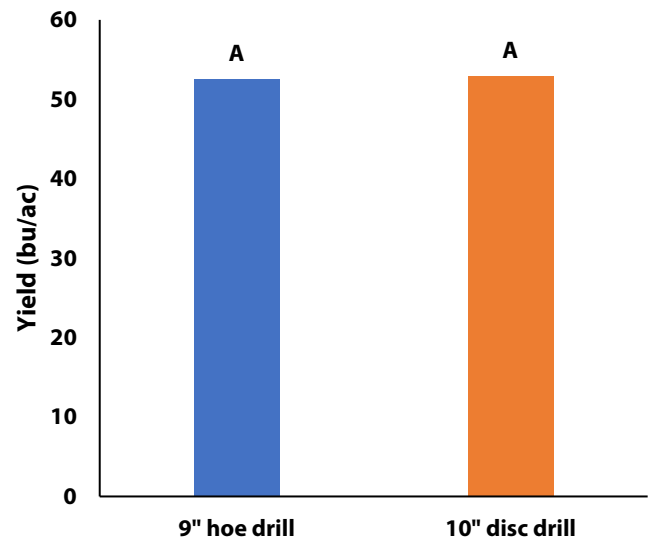
† Values followed by different letters are significantly different from one another

†† Seed spread = average lateral distance between plants in the rows
 ††† A higher clumping score means plants were less spread out from one another. Rated on a 1-10 scale.

NDVI Field Image August 9



Yield by Treatment



Trial Photos



Top: soybean rows seeded with a 9" hoe drill; bottom: rows seeded with a 10" disc drill.

Other than seed spread within the row (the hoe drill had an average of 9 mm more seed spread in the row than the disc drill), there were no noticeable agronomic differences between the 9" air drill and 10" disc drill.

*Note: seed depth may not reflect the actual seeded depth as we measured depth later in the season when the plants were at seedling stage. Relative depth differences would still be visible.

Overall Yield & Economics[†]

	Mean (bu/ac)	Change in Profit/ac [†]
Hoe Drill	52.5	n/a
Disc Drill	52.9	n/a
Difference	0.7	
P-Value	0.496	
CV	1.3%	
Significance	No	Economic N/A

[†] 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.