

Ohio State University Extension

Corn Seeding Rate Trial

Study Outline

To maximize learning, a minimum of 5 seeding rates are needed but more are definitely an option. The field width will determine the total number of plots that can be installed. Remember, at least 3 replications per rate

Selecting Seeding Rates

- A total of 5 seeding rates is recommended replicated no less than 3 times with 4 or 5 replications ensuring a successful study.
- Increments between selected treatment rates should be no less than 4,000 seeds/ac apart.
- Determine the farmers seeding rate for the selected hybrid and use as one of the middle rates.
- Select rates above and below using the 4,000 seeds/ac minimum increments and make sure the farmer is comfortable with final rate treatments.

Example: Farmer plants Hybrid A at 34,000 seeds/ac. Suggested rates could be 22k, 26k, 30k, 34k, & 38k seeds per acre.

Field Dimensions

- Full-width or half-width (split-planter) planter width is recommended for a plot width. It will depend on the width of the planter plus the planter's ability to independently control rates if a split-planter setup is selected).
- Estimate the field width then divide by the selected width (full- or split- width) to determine the number of passes / plots available and if you can meet the 5 treatments by 3 replications (15 plots).
- Passes / plots no less than 500-feet (not counting headland rows) are recommended.
- Plots widths consist of two or more combine header widths.

Suggestions

- To maximize learnings, at least 2 fields per county is recommended.
- Evaluate planter and combine width to make sure the selected plot dimensions align properly. Correct alignment of the planter and combine widths will ensure project success.
- Using the variety tracking option within an in-cab display can help managed the project. One can setup the 5 treatments by using the hybrid name then adding A, B, C, D or E (or similar nomenclature) at the end of each name.
 - Before starting each pass, select the treatment corresponding to the plot.
 - Example help guide for the Precision Planting 20/20 display illustrating how to create custom hybrids for a project:
https://fabe.osu.edu/sites/fabe/files/imce/images/Precision_Ag/PP20_20_AddingCustomHybrid_0.pdf

Data Collection

5 primary data needs for this project

1. Complete worksheet
2. Field boundary (lat/long of field will work at minimum)
3. As-planted data (if available)
4. Emergence
5. Yield Monitor Data (calibrated); If a yield monitor is not available, a weight wagon can be used to weight the total amount harvested from each plot. Accurate plot dimensions are needed (e.g. width and length of each plot)

Emergence

Emergence per plot should be collected to determine the final plant stand. Find a representative location within each plot and to collect emergence data.

- **Count and record the number of plants in 30 linear feet along two adjacent rows.**

Example Layouts

Full-width planter layout with 4 replications using 22k, 26k, 30k, 34k, & 38k seeds per acre as treatments.

Planter				
Pass	Replication	Plot ID	Description	TRT Code
1	1	101	34,000	D
2		102	30,000	C
3		103	38,000	E
4		104	22,000	A
5		105	26,000	B
6	2	201	38,000	E
7		202	26,000	B
8		203	30,000	C
9		204	22,000	A
10		205	34,000	D
11	3	301	22,000	A
12		302	38,000	E
13		303	26,000	B
14		304	30,000	C
15		305	34,000	D
16	4	401	38,000	E
17		402	30,000	C
18		403	34,000	D
19		404	22,000	A
20		405	26,000	B