Premier Crop Systems®

IOWA STATE UNIVERSITY

2023 ISU-Premier Crop Nitrogen Trials

Iowa State University and Premier Crop Systems are recruiting farmers to help improve Iowa's nitrogen fertilizer recommendations. Participants will have the opportunity to impact nitrogen recommendations by joining a group of 40 farmers (and growing) who partner with ISU to better understand nitrogen management on their own farms and other farms throughout the state. Location- and farmer-specific data will remain confidential.

Objectives

- Understand the optimal nitrogen rate for low productivity and high productivity environments on your own fields through Enhanced Learning Block™ technology (see page 2).
- Facilitate broader knowledge creation and assist Iowa State University with the improvement of nitrogen fertilizer recommendations including the development of new tools for field- and year-specific nitrogen recommendations using your experiments.

Grower Requirements & Benefits

1. At the end of the season, all participants will be able to view results from their trials in the context of all other trials covering different locations and management systems.
2. **All data will remain confidential at a county or cropping district scale (depending on the number of participating farmers per county).**
3. Ability to supply one 1st year corn (Corn following soybeans) and/or one corn on corn field to host trials
4. Combine equipped with yield monitor
5. Ability to supply at least 1 year of past corn yield to inform trial placement
6. Ability to apply yourself or through your preferred retailer a variable rate nitrogen prescription containing trials. Rest of field can be flat rate or variable rate.
7. Ability to supply current year detailed cropping plans as is typically collected by Premier Crop (planting data, crop protection, nutrient applications, yield data, etc.)
8. N product to be used is grower's choice
9. N rates to be tested can be grower choice, plus and minus at least 30 lbs N in trial area. It is possible to use a field with fall N if spring N is planned.
10. A zero N rate (no fall, spring or manure) is desired to determine the soil N supplying capacity and, if included, will be compensated for yield loss at a flat rate.
11. Trials can be in fall applied (2022-on) or spring applied N application (2023-on)
12. Grower agrees to keep all other factors constant in 2-5 ac trial areas (same hybrid, no other variation in nutrient application rates or crop protection)
13. Grower agrees to allow project personnel on farm throughout season to collect soil samples around planting and take drone imagery of fields around V6, R1, and R5 growth stages. Project personnel will coordinate all field visits with grower prior to arriving, by phone or text.

For more information call below or click: https://bit.ly/N_trials

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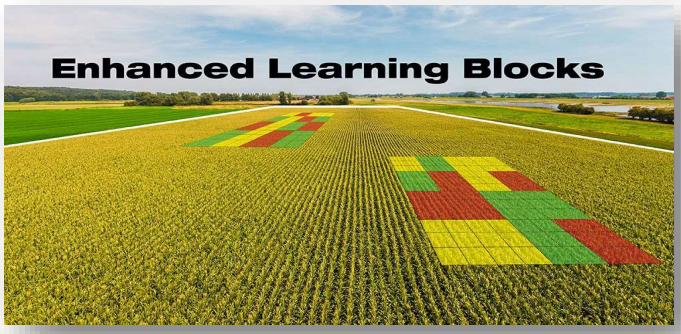
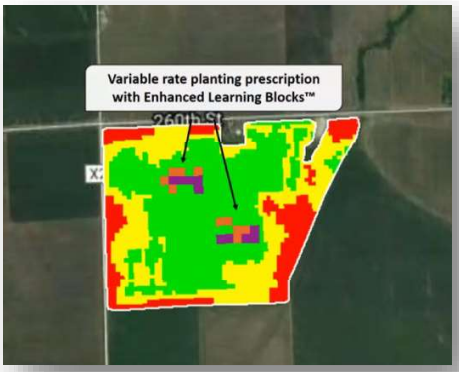
Trial details: Enhanced Learning Block ™

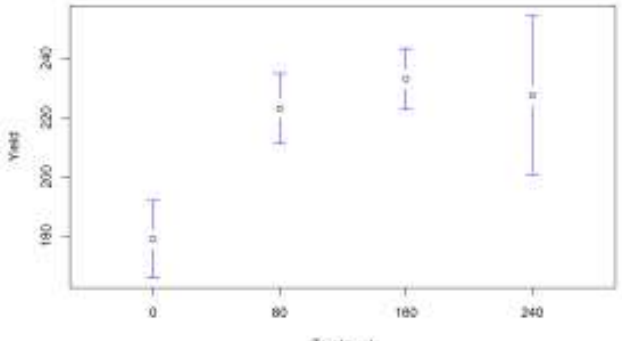




What is an Enhanced Learning Block™ (ELB)?

- An ELB is a self-contained, complete management experiment used to test rates, products, or application timing for planting population, applied nutrients, fungicides and more. In this project, we are testing N rate.
- Treatments (rates) are replicated in a minimum of five unique plots and randomized within the trial area. The example below shows the outcomes of a nitrogen rate experiment with five rates.
- The goal of an ELB is to provide a formal testing environment within a field to determine whether a specific management is beneficial for your farm.
- Trial size is dependent on equipment size and direction of travel, ~2-5 ac

**Requires variable rate prescription to execute, harvested using your own well calibrated yield monitoring equipment.*



Treatments

	Intended	*Avg Applied*	*% of Obs*	*Yield C.V.*	*Yield (bu/ac)*
A	0	11	0.99	0.33	178
B	80	88	0.92	0.47	228
C	160	149	0.77	0.41	232
D	240	221	0.56	0.48	231