## PRACTICAL FARMERS OF IOWA COOPERATORS' PROGRAM Farmer-Led Research



Cereal Rye Cover Crop for Reducing Herbicides in Soybeans

**Objectives:** Determine the effects of reduced herbicide programs on weed control and soybean yield when allowing a cereal rye cover crop to grow to at least two feet tall before planting the soybeans. **Hypothesis:** Provided adequate cover crop growth, weed control and soybean yield will not be sacrificed by reducing herbicide use. A cereal rye cover crop paired with reduced herbicide use could be considered a cost-effective weed control program.

## Farmer-Cooperator will:

RESEARCH

PROTOCOLS

- <u>Take photos throughout the project and keep in contact with PFI with updates and questions.</u> Establish treatments
- Fall 2018, seed cereal rye cover crop to the entire field.
- Spring 2019, establish at least 4 replications of treatments as shown in the diagram below
  - 1 pass: Cover crop termination only (glyphosate)
    - 2 passes: Early weed burndown (2,4-D) + cover crop termination (glyphosate)
    - 3 passes: Early weed burndown (2,4-D) + cover crop termination (glyphosate + residual) + post emergence herbicide
- Plant soybeans to all strips on the same date.
- Strips will be as wide as at least one combine pass and run the length of the field.

## **Measurements**

- Spring 2019, prior to cover crop termination
  - Measure cover crop height and collect aboveground biomass samples from each strip.
- Summer 2019
- Take photos of trial progress.
- Conduct weed counts in each strip.
- Fall 2019, harvest soybeans from each strip individually.
- Turn in all info and data pertinent to this trial to Practical Farmers of Iowa by the end of the project.

1 pass	2 passes	3 passes	1 pass	2 passes	3 passes	1 pass	2 passes	3 passes	1 pass	2 passes	3 passes
REP 1			REP 2			REP 3			REP 4		

## **Practical Farmers of Iowa will:**

- Help set up monitoring protocol, monitor progress of project and provide support when needed.
- Publish results in a PFI research report, on PFI website and potentially other outlets.
- Provide \$550 honorarium after all data is submitted at conclusion of the project in 2019.

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