



**RESEARCH
 PROTOCOLS**

**Spring-Seeded Cereal Rye Companion
 Cover Crop for Organic Soybeans**

Objective: Determine the effect of seeding a cereal rye companion cover crop just prior to planting soybeans on weed pressure and soybean yield.

Hypothesis: Spring-seeded companion cover crop will reduce weed pressure and but will not reduce soybean yield compared to where no companion cover crop is seeded.

Farmer-Cooperator will:

- Follow Research Protocols in accordance with Project Design, Data to Collect, Photo List and Timeline detailed below.
- Take photos throughout the project. Try to capture photos that depict the differences you observe among the treatments.
- Keep in contact with PFI with updates and questions.
- Turn in data and complete post-project survey by November 2020.

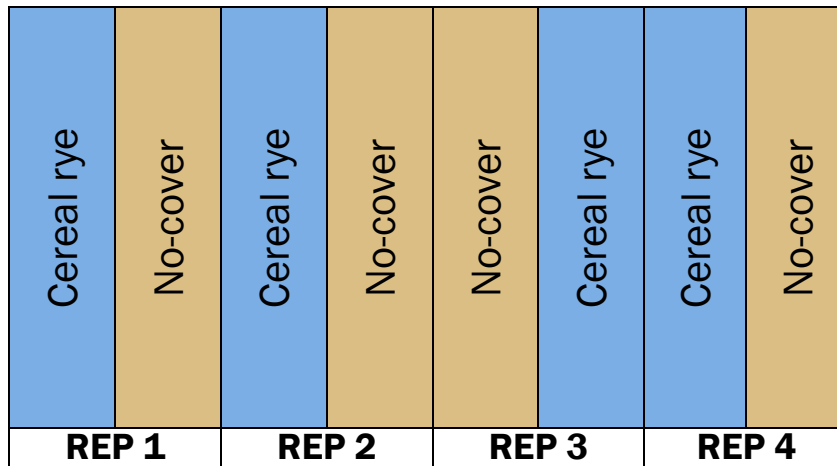
Practical Farmers of Iowa will:

- Help set up research 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 research honorarium to cooperator upon receipt of data.

Project Design:

Treatment	Description
Cereal rye	Cereal rye companion cover crop seeded just prior to planting soybeans.
No-cover	Control. No cover crop seeded.

- Apply these 2 treatments in a randomized, replicated trial: at least four replications of randomized paired strips. 2 treatments x 4 replications = 8 strips total.
- Strips must be at least as wide as one combine pass and should run the length of the field.
 - Example layout:



Data to Collect (cooperator):

- Weed assessment
 - In late summer, count and record number of weeds in a 3-ft radius at seven random points along a 100-pace transect through the center of each strip.
- Soybean yield
 - Harvest and record grain yield and moisture from each strip.

Photo List (cooperator):

- Rye + soybeans emerging/growing (throughout spring).
 - Close ups of each species.
- Whole experiment
 - Photos depicting multiple strips next to each other.
- Cooperator collecting data.
- Cooperator in field trial.

Project Timeline:

Spring	Summer	Fall
<ul style="list-style-type: none">• Seed companion cover crop just prior to planting soybeans.• Plant soybeans to entire field.• Take photos.	<ul style="list-style-type: none">• Hoe, cultivate all soybeans per usual organic weed control practices.<ul style="list-style-type: none">○ This will eliminate rye/wheat companion from interrows but allow companion to remain in soybean rows.• Conduct weed assessment.• Take photos.	<ul style="list-style-type: none">• Harvest soybeans from all strips.• Turn in data.• Take post-project survey.

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