



**RESEARCH  
 PROTOCOLS**

**Are Soybean Seed Treatments Justified?**

**Objective:** Determine the effect of a common soybean seed treatment (neonicotinoid insecticide + fungicide) on yield and profitability.

**Hypothesis:** Soybeans grown from treated seed will produce yields no different from those grown from untreated “naked” seed; seed treatment is likely an unnecessary cost.

**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 between the treatments.
- Keep in contact with PFI with updates and questions.
- Turn in data and complete post-project survey by November 2020.

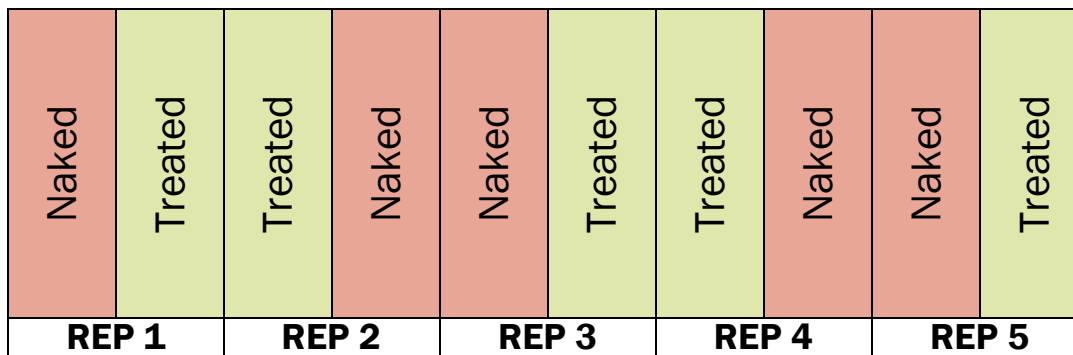
**Practical Farmers of Iowa will:**

- 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
Treated	Plant soybean seed treated with Gaucho (neonicotinoid insecticide) and metalaxyl (fungicide).
Naked	Plant seed with no seed treatment.

- Apply these two treatments in a randomized, replicated trial: at least five replications of randomized paired strips. 2 treatments x 5 replications = 10 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):**

- Costs
  - Document cost of seed treatment in order to calculate return on investment.
- Soybean plant population
  - Take stand counts in each strip three weeks and six weeks after planting.
- Soybean yield
  - Harvest and record grain yield and moisture from each strip.

**Project Timeline:**

<b>Spring 2020</b>	<b>Summer 2020</b>	<b>Fall 2020</b>
<ul style="list-style-type: none"><li>• Terminate cover crop.</li><li>• Plant 'Treated' and 'Naked' soybeans in strips on same date.</li><li>• Take soybean stand counts.</li><li>• Take photos.</li></ul>	<ul style="list-style-type: none"><li>• Take soybean stand counts.</li><li>• Take photos.</li></ul>	<ul style="list-style-type: none"><li>• Harvest soybeans from all strips.</li><li>• Turn in data and photos.</li><li>• Take post-project survey.</li></ul>

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