

# Field Crops Research Protocols

## Cover Crop and N Fertilizer Strategies for Corn

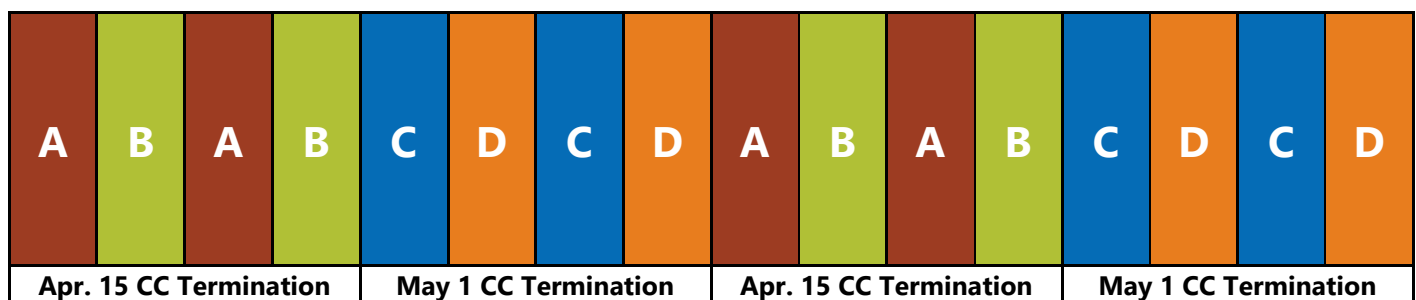
**Objective:** Determine if N fertilizer application strategy can alleviate yield drag of corn when delaying cover crop termination until the time of corn planting.

**Farmer-cooperator will:**

- Take photos throughout the project and keep in contact with PFI with updates and questions.
- **Fall 2016**, seed cover crop.
- **Spring 2017**, establish 4 replications as shown in the diagram below of the following treatments:

Cover crop termination date goal	Trt	N fertilizer strategies (140 lb N/ac total applied to all treatments)
Apr. 15	A	70 lb N/ac at UAN at corn planting + 70 lb N/ac as UAN at side-dress
	B	70 lb N/ac as NH3 at strip-till + 70 lb N/ac as UAN at side-dress
May 1	C	35 lb N/ac as UAN at cover crop termination + 105 lb N/ac as UAN at side-dress
	D	70 lb N/ac as NH3 at strip-till + 35 lb N/ac as UAN at cover crop termination + 35 lb N/ac as UAN at side-dress

- Strips will be as wide as at least one combine pass and run the length of the field.
- Strip-till designated strips on ~Apr. 10
- Collect aboveground biomass samples of cover crop from strips just prior to termination.
- Plant corn to all strips on ~May 2
- Collect LSNT soil samples and corn leaf tissue in early June.
- Side-dress all strips on ~June 15 such that all receive 140 lb N/ac total.
- **Summer 2017**, collect stalk samples at corn maturity.
- **Fall 2017**, harvest corn from strips individually.
- Turn in data to Practical Farmers of Iowa at the end of the project.



**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 compensation at conclusion of the project in 2017.

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*The terms of this Research Protocols document are subject to the terms of the individual Research Cooperator's Memorandum of Understanding agreement with PFI. To the extent these terms may differ or conflict, the Memorandum of Understanding shall control.*