Objectives: Determine the effect of corn row-width (30-in. vs. 60-in.) on 1) grain yields and 2) biomass production of cover crops interseeded to the corn in early summer.

Hypothesis: Corn planted in 60-in. row-widths will produce yields similar to corn planted in 30-in. row-widths, and the wider row-width will better accommodate the interseeded cover crops.

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:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-in.</td>
<td>Plant corn in 30-in. row-widths (typical practice). Interseed cover crops to corn in May/June.</td>
</tr>
<tr>
<td>60-in.</td>
<td>Plant corn in 60-in. row-widths (experimental practice). Interseed cover crops to corn in May/June.</td>
</tr>
</tbody>
</table>

- Apply these two treatments in a randomized, replicated trial: at least four replications of randomized paired strips. 2 treatments x 4 replications = 8 strips total.
- Cover crops for interseeding are entirely at the discretion of the cooperator.
- 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):
- Corn yield (grain, silage or earlage)
  - Harvest and record yield and moisture from each strip.
- Cover crop biomass
  - Just prior to corn harvest, sample aboveground biomass from each strip.
    - Randomly place 1’x1’ PVC square in strip
    - Use shears to clip all aboveground plant material from within the square
    - Place all plant material from a single square into one paper bag
    - Label paper bags accordingly
      - Rep #
      - Corn row-width: 30-in. or 60-in.
      - Number of squares sampled from (e.g., 1 square = 1 ft²)
      - Date of collection
    - Optional: Repeat this process 2-3 times per strip
      - (e.g., 2-3 paper bags per strip)
      - Send paper bags to PFI office
        - Samples will be dried and weighed

Photo List (cooperator):
- Corn emerging/growing in both row-widths (throughout season).
- Interseeding cover crops; equipment in field.
- Cover crops growing in interrows of both row-widths (throughout season).
- Cooperator collecting data.
- Cooperator in field trial.

Project Timeline:

<table>
<thead>
<tr>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant corn in strips of 30- and 60-in. row-widths (see diagram on previous page).</td>
<td>Interseed cover crops to all strips when corn reaches V4-V6 stage</td>
<td>Collect cover crop biomass samples just prior to corn harvest.</td>
</tr>
<tr>
<td></td>
<td>Take photos.</td>
<td>• Harvest corn from all strips.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Turn in data and photos.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Take post-project survey.</td>
</tr>
</tbody>
</table>

Contact: Stefan Gailans, Research and Field Crops Director, (515) 232-5661; stefan@practicalfarmers.org

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