Objective: Determine the effect on corn grain yield of cover crops interseeded to corn in early summer. Hypothesis: Interseeding cover crops will produce yields similar to where no cover crops are interseeded. Interseeding cover crops to corn in early summer will successfully establish 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>Interseeding</td>
<td>Interseed cover crops to corn in early summer when corn reaches ~V4 stage or at layby (last pass through field).</td>
</tr>
<tr>
<td>No-cover</td>
<td>No interseeded cover crops (control).</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:

```
   No-cover  Interseeding  Interseeding  No-cover  Interseeding  Interseeding  No-cover
    REP 1      REP 2        REP 3        REP 4
```
Data to Collect (cooperator):
- Corn grain yield
  - 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 #
      - 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):
- Interseeding cover crops; equipment in field.
- Cover crops growing in interrows (throughout season).
  - Close-ups of each species.
  - Wider shots of multiple species growing together.
- Cooperator collecting data.
- Cooperator in field trial.

Project Timeline:

<table>
<thead>
<tr>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
</table>
| Plant corn to entire field. | Interseeding cover crops to ‘Interseeding’ strips when corn reaches ~V4 stage or at layby.  
  - Take photos.         | Collect cover crop biomass samples just prior to corn harvest.  
  - Harvest corn from all strips.  
  - Turn in data and photos.  
  - Take post-project survey. |

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