Objective: Determine the effect of nitrogen fertilizer on yield of oats planted into soybean stubble.  

Hypothesis: Nitrogen fertilizer (50 lb N/ac) will improve yield and profitability of oats compared to where no fertilizer is applied.

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>50 lb N/ac</td>
<td>Apply N fertilizer (50 lb N/ac) to oats early spring.</td>
</tr>
<tr>
<td>0 lb N/ac</td>
<td>No applied fertilizer (control).</td>
</tr>
</tbody>
</table>

- Apply these two treatments in a replicated trial: at least four replications of 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):
- Oat grain yield
  - Harvest and record yield and moisture from each strip.

Photo List (cooperator):
- Oats growing in strips (throughout season).
  - Depict any observable differences from side-by-side strips.
- Cooperator in field trial.

Project Timeline:

<table>
<thead>
<tr>
<th>Spring</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant oats to entire field.</td>
<td>Harvest oats from all strips.</td>
</tr>
<tr>
<td>Apply N fertilizer to designated strips.</td>
<td>Turn in data and photos.</td>
</tr>
<tr>
<td>Take photos.</td>
<td>Take post-project survey.</td>
</tr>
<tr>
<td></td>
<td>Take photos.</td>
</tr>
</tbody>
</table>

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