**Objective:** Determine which cabbage variety: Farao, Red Express, Tiara, Charmant, Red Jewel or Famosa, produces the highest yield and quality summer (June-July) cabbage in Iowa.

**Hypothesis:** Farao performed well in 2019, and will be the variety we measure against for consistent production and quality.

**Farmer-Cooperator will:**
- Follow Research Protocols for study
- Take photos throughout the project
- Keep in contact with PFI with updates and questions
- Turn in all data 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 cooperator payment at conclusion of project year.

**Project Design:**
- Each farm will set up a randomized, replicated trial with four replications of the six varieties.
- 6 varieties x 4 replications = 24 plots
  - Farao, Red Express, Tiara, Charmant, Red Jewel or Famosa
  - At least 10 plants/plot

**Example layout:**

<table>
<thead>
<tr>
<th>Rep1</th>
<th>Rep2</th>
<th>Rep3</th>
<th>Rep4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Ex</td>
<td>Famosa</td>
<td>Red Jewel</td>
<td>Charmant</td>
</tr>
<tr>
<td>Farao</td>
<td>Red Ex</td>
<td>Famosa</td>
<td>Red Jewel</td>
</tr>
<tr>
<td>Tiara</td>
<td>Farao</td>
<td>Red Ex</td>
<td>Famosa</td>
</tr>
<tr>
<td>Charmant</td>
<td>Tiara</td>
<td>Farao</td>
<td>Red Ex</td>
</tr>
<tr>
<td>Red Jewel</td>
<td>Charmant</td>
<td>Tiara</td>
<td>Farao</td>
</tr>
<tr>
<td>Famosa</td>
<td>Red Jewel</td>
<td>Charmant</td>
<td>Tiara</td>
</tr>
</tbody>
</table>
Data to Collect (see excel workbook):
- At harvest, Score plot for splitting, black rot, cabbage worms.
- Harvest cabbage as mature, keep records by plot and harvest date. Record weight and count harvested by plot.
- Take photos of harvested heads (each variety), and the plants in the field.
- See excel workbook for pick sheets, scoring, and data entry.

Project Timeline:

| April | Review research protocol  
|       | Complete MOU and pre-project survey  
| June  | ~April 20: seed in greenhouse  
|       | ~June 1: plant out to field into randomized trial design.  
|       | Take photos: Early-season field-shot of trial  
| July - August | Harvest cabbage as mature, record yield and quality data by plot.  
|   | Take photos!  
|   | o Groups of cabbages at harvest (in bins, etc)  
|   | o Representation photos of pests, etc.  
|   | o Farmer harvesting  
|   | o Farmer measuring or entering data!  
|   | Enter data and photos to PFI's google site: https://sites.google.com/practicalfarmers.org/research/home.  
|   | Complete post-project survey.  

Contact: Liz Kolbe, Horticulture and Habitat Programs Manager, (515) 232-5661; liz@practicalfarmers.org