Objectives:

1. Determine whether multiple tillage passes (to decrease soil organic matter) is an effective control of scurf in Beauregard sweet potatoes. Scurf harms marketability and storage life of sweet potatoes.

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 October 2017

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.**

RESEARCH PROTOCOL

Crops:
Beauregard sweet potato

*Transplanting and In-field practices:* Practices should be consistent for both varieties and all plots.

*Treatment: Treatment plots will be tilled three times* (April 15, April 25, May 10) before black plastic is applied on May 10 and sweet potato slips are transplanted. *Control plots will be tilled once,* on May 10, prior to black plastic and transplanting.

**Please provide PFI with the following info:**
Planting date:
In-row spacing (inches):
Between row spacing (inches):
Mulch (Y/N and type):
Irrigation (Y/N and type):
Soil amendments/inputs used (product and rate):

**Field Layout:**
- treatment plot lengths can be 10-20 plants depending on farm needs.
- Four replications of each set is preferred, three is ok.
Example Plot Layout

<table>
<thead>
<tr>
<th>3x Till</th>
<th>1x Till</th>
<th>3x Till</th>
<th>1x Till</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x Till</td>
<td>3x Till</td>
<td>1x Till</td>
<td>3x Till</td>
</tr>
</tbody>
</table>

Harvest and Data Collection:
- Take photos of soil in plots prior to tillage and after May 10 tillage pass to visually determine level of remaining residue.
- Harvest tubers by plot.
- Separate tubers that are prime market size – count and weigh by plot.
- Sight-test and count tubers with scurf, by plot.
- Take photos of treatment groups and the plants in the field.
- See excel workbook for pick sheets, scoring, and data entry.

Data Analysis
Data analysis will be done at PFI by Liz Kolbe and presented in a Research Report at the Cooperators’ Meeting.

Sweet Potato Harvest, 2017

<table>
<thead>
<tr>
<th>Harvest Date</th>
<th>Treatment (3x, 1x till)</th>
<th>Rep</th>
<th>w/Scurf Plot Weight (lbs)</th>
<th>w/Scurf Plot Count</th>
<th>Marketable Plot Weight (lbs)</th>
<th>Marketable Plot Count</th>
<th>notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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