



## RESEARCH PROTOCOLS

## Heirloom Tomato Field and High Tunnel Variety Trial

**Objective:** High tunnel tomato growers are often focused on specialized hybrids. We are interested in determining if our preferred heirloom varieties perform as well inside the high tunnel as outside.

**Hypothesis:** We expect the indoor heirlooms to have comparable quantity, but earlier yields than field-grown heirlooms of the same varieties.

### 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 2019

### 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 in the field and in the high tunnel. The field should have four replications, and the high tunnel should have four replications.
- 2 varieties x 4 replications = 8 plots in the high tunnel, 8 plots in the field
  - Faux varieties: Paul Robeson, Black Krim
  - Raasch varieties: Cherokee Carbon, Black Krim
  - Each plot should have at least 5 plants.
- Planting dates and growing practices can be determined by farm, but recorded in provided excel workbook.

Example layout (high tunnel or field):

Rep1	Rep2	Rep3	Rep4
C. Carbon	Black Krim	Black Krim	C. Carbon
Black Krim	C. Carbon	C. Carbon	Black Krim

### Data to Collect (see excel workbook):

- Harvest tomatoes as mature, keep records by plot and harvest date. Record weight and count of marketable fruit harvested by plot.
- Take photos of harvested tomatoes (each variety), and the plants in the field and the high tunnel.
- In notes section of workbook, indicate issues with disease, pests, and quality of fruit.
- See excel workbook for pick sheets and data entry.

**Project Timeline:**

March	April - Sept.	Oct. – Nov.
<ul style="list-style-type: none"><li>• Edit/Approve Protocol</li><li>• Send Liz seeds needed</li><li>• Complete MOU &amp; pre-survey</li><li>• Liz will order seed</li></ul>	<ul style="list-style-type: none"><li>• Start seed</li><li>• Layout plots</li><li>• Update other cooperators and PFI with progress of trial</li><li>• Conduct trial and collect data! Take photos!</li></ul>	<ul style="list-style-type: none"><li>• Turn in data and photos</li><li>• Take post-survey</li></ul>

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