



RESEARCH PROTOCOLS

Comparing Landscape Fabric vs. Straw Mulch in Tomatoes

Objective: Determine which weed control system for tomatoes is more labor and cost-effective, and if there are yield differences between treatments.

Hypothesis: Yield will not be affected, but plots with landscape fabric will take fewer hours to manage.

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:

- A split-plot design will be used to evaluate the performance of fabric and straw on the same varieties of tomatoes.
- Data will be collected by plot; each variety of tomato will have a fabric and straw plot.
 - Labor time (by category of task)
 - Yield (marketable, harvested weight)
 - Input expenses for straw and landscape fabric
 - Weed pressure
 - Notes on ease of harvest, field management, instance of disease

Example trial layout:

Replications are indicated by (#). Each variety of tomato is a replication that contains 2 plots: 1 fabric and 1 straw. The trial has 8 replications.

(1) Black Krim - Fabric	(2) Cosmonaut Volkov - Fabric
(1) Black Krim - Straw	(2) Cosmonaut Volkov - Straw
(3) Dr Wychee - Straw	(4) John Baer - Straw
(3) Dr Wychee - Fabric	(4) John Baer - Fabric
(5) Mountain Fresh - Fabric	(6) Pantoano Romanesco - Fabric
(5) Mountain Fresh - Straw	(6) Pantoano Romanesco - Straw
(7) Paul Robeson - Straw	(8) Redfield Beauty - Straw
(7) Paul Robeson - Fabric	(8) Redfield Beauty - Fabric

Project Timeline:

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| <ul style="list-style-type: none">• Edit/Approve Protocol• Complete MOU & pre-survey |
| <p>May - June</p> <ul style="list-style-type: none">• Layout plots, fabric, straw• Track labor <u>by plot</u>• Transplant tomatoes (track labor <u>by plot</u>)• Take photos!<ul style="list-style-type: none">• Rolling out fabric• Spreading straw• Early-season field-scale photo of trial <p>July – Oct.</p> <ul style="list-style-type: none">• Harvest tomatoes (record plot weight for each harvest)• Continue tracking labor by plot, task.• Record weed suppression rankings• Make notes about ease of management• Take photos!<ul style="list-style-type: none">• Late-season field-scale photo of trial• Examples of harvested tomatoes• Farmer harvesting• Farmer measuring or entering data! (bonus!) |
| <ul style="list-style-type: none">• Enter data and photos to PFI's google site: https://sites.google.com/practicalfarmers.org/research/home.• Complete Post-Project Survey |

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