

Horticulture

Research Protocols

Carrot Fly Management

1. Compare the effects of two carrot fly management programs on the marketable yield of carrots. Two treatments, Agribon row cover and Pyganic spray, will be compared with control plots in a randomized, replicated trial on 5-6 successions of carrot plantings.

Farmer-cooperator will:

- Follow Research Protocols for study
- Take photos of plots and plants throughout the project
- Keep in contact with PFI with updates and questions
- Turn in all data by September 2018

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: Carrot Variety: Bolero

In-field practices:

Each farmer can decide their own in-field practices, but should record what was done and when. Practices should be consistent for all plots, except for differences in the treatment being studied (pest management). Some planting information is requested in the excel document.

Pest management treatments:

Row Cover: Once carrot tops are 1 inch tall, cover with Agribon AG-19. Remove only for weed management. One side will be buried, the other side weighted with bricks.

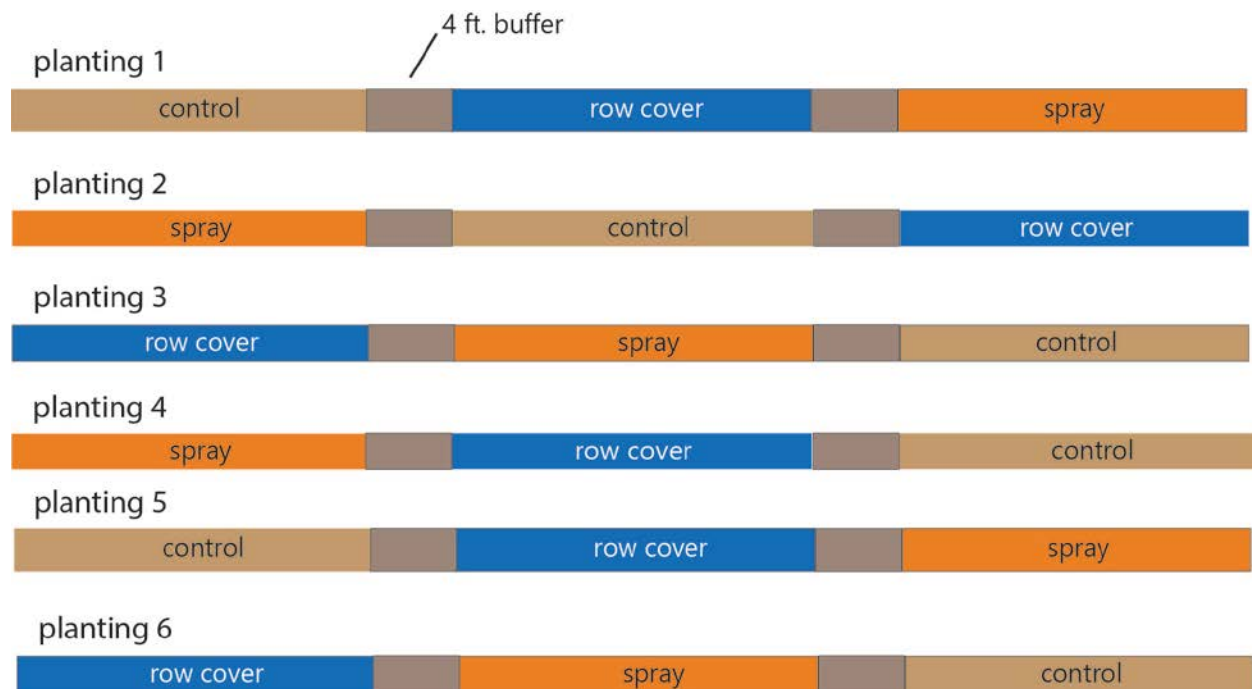
Spray: Apply Pyganic every three days (and after rain), once carrot tops are 1-inch tall and carrot flies are seen on yellow sticky traps.

Control: No pest management for carrot fly will be done in the control plots.

Field Layout:

- Beds are 100 feet long, and will be split into three plots during each succession of carrots, as shown in the diagram below.

- Because a spray is being used as a treatment, buffers should be used between trial plots. Within the row, maintain a 4-ft buffer between plots (you can still harvest the carrots, just don't include them in the adjacent plot's data. Between rows, have another row of carrots not involved in the study or a different crop. Typically the same crop is used, for consistency.



Harvest and Data Collection:

In each plot:

- Harvest 100 carrots from the middle the plot
- Of the 100 harvested, count number damaged by carrot fly
- Weigh the marketable carrots (not damaged by fly). (Note: If you are leaving tops on, measure the length of 10 carrots, end-to-end to give some idea of treatment effect on yield).

Complete information requested on excel spreadsheet (planting dates, harvest dates, etc).

- See Excel spreadsheet for data collection.