

# Horticulture

## Research Protocols

### Oat Cover Crop in Garlic

**Objectives:** 1. Determine if planting oats as a winterkill mulch impacts overwintered garlic yield. 2. Determine if an earlier planting date (so that oats and garlic can be sown together with significant growth on the oats before winterkill) impacts overwintered garlic yield. 3. Evaluate percent cover, biomass, and weed suppression of oat cover crop planted with garlic in September.

**Farmer-cooperator, Mark Quee, will:**

- Take photos throughout the project and send to PFI for use in Research Report and blog.
- Keep in contact with PFI with updates and questions.
- **September 2015**, establish 4-6 replications prior to planting garlic as shown in the diagram below with randomized and replicated plots of:
  - September-planted garlic with oat cover crop (Sept-Oat)
  - September-planted garlic with straw mulch (Sept-Straw)
  - October-planted garlic with straw mulch (Oct-Straw)
- Plant garlic, apply straw mulch and seed oat cover crop to appropriate plots.
- **October 2015**, plant garlic and apply straw mulch to appropriate plots.
- **November 2015**, assess ground cover and aboveground biomass of oat cover crop.
- **Spring 2016**, conduct weed counts in each plots.
- **Summer 2016**, harvest garlic from each plot separately: record number of heads and total weight of material harvested per plot.
- Turn in data by October 2016.

Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
Sept-Oat	Sept-Straw	Sept-Oat	Sept-Straw	Sept-Oat	Sept-Straw
Oct-Straw	Oct-Straw	Oct-Straw	Oct-Straw	Oct-Straw	Oct-Straw
Sept-Straw	Sept-Oat	Sept-Straw	Sept-Oat	Sept-Straw	Sept-Oat

**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.
- Reimburse costs of cover crop seed.
- Provide \$550 cooperator payment at conclusion of project year.