

Horticulture

Research Protocols

Summer Lettuce Variety Trial

Objectives:

1. Determine which lettuce variety: Coastal Star, Hampton, Magenta or Muir, performs best as a summer lettuce in Iowa. (For this study, a summer lettuce is harvested during **July**).

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:

Varieties: Coastal Star, Magenta, Muir (Johnny's), and Hampton (High Mowing). Two (or more) successions of lettuce planting is preferred, **target of first harvest is July 1**.

Transplanting and 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 both varieties and all plots.

Field Layout:

- treatment plot lengths can be 10-20 plants depending on farm needs.
- Four replications of each variety is preferred, three is ok.
- Two successions of lettuce is preferred; a single planting is ok (still need three or four reps in each succession).
- **Please provide PFI with planting info as requested in the datasheet.**

Example Plot Layout (for 4 varieties)

Rep1	Rep2	Rep3	Rep4
Muir	Coastal Star	Hampton	Magenta
Magenta	Muir	Coastal Star	Hampton
Hampton	Magenta	Muir	Coastal Star
Coastal Star	Hampton	Magenta	Muir

Example Plot Layout (for 3 varieties)

Rep1	Rep2	Rep3	Rep4
Hampton	Coastal Star	Hampton	Muir
Coastal Star	Muir	Muir	Hampton
Muir	Hampton	Coastal Star	Coastal Star

Harvest and Data Collection:

- **Score plot** for indications of: **bolting, tip burn, bottom rot, flavor** (spit test – if you spit it out, it isn't acceptable)
- **Track irrigation info:** time, emitter flow, emitter spacing along line, etc (see datasheet!)
- Harvest **lettuce as mature. Record weight and count harvested** by plot. If marked as cull after harvest, note as "wash cull"; and do not include wash culls in marketable count or weight.
- **Take photos of varietal groups, and the plants in the field.**
- See **excel workbook** for pick sheets, scoring, and irrigation info 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.

General growing Info	
varieties used:	
# plants / plot:	
w/in row spacing:	
row spacing:	
plot ft2:	
bed configuration notes:	
irrigation (Y/N and type):	
mulch (Y/N and type):	

By Succession (use as many as needed)		
	Seeding date	Transplanting date
Succession 1		
Succession 2		
Succession 3		
Succession 4		

Harvest Data						choose: "acceptable" or "unacceptable" (A/U)			
Harvest Date	Succession	Plot	Variety	Plot Weight (lb)	Plot Head Count (if harvested as heads)	bolting	tip burn	bottom rot	flavor (spit test)

Irrigation Record		
Date	Lettuce Succession	Minutes Irrigating

Irrigation Info	
Irrigation Type	
Emitter Flow (gal/min):	
Emitter Spacing Along Line (ft):	
Linear feet of irrigation line per plot:	
Total gal/min for plot	#DIV/0!
Plot Area (ft2):	
gal/min/ft2	#DIV/0!