Ecological Farmers Association of Ontario

Research Protocol 2016

Horticulture: Quick turnaround cover crops before brassicas

Farmer-Researcher: Angie Koch, Fertile Ground CSA, Waterloo County
In cooperation with Kevin Hamilton, Ken Laing, Mike Reid and Ryan Thiessen

Overarching Research Question: Do spring planted cover crops benefit the production of late season brassica cash crops?

Angie's Specific Question: *Does a cover crop cocktail containing a legume differ from buckwheat monoculture with respect to plant health and harvestable yield of late season brassicas?*

There is potential for a cover crop polyculture to yield greater aboveground biomass and, with a legume, accumulate more N to meet the high N demand of brassicas.

Angie will:

- Take photos throughout the project
- Keep in contact with EFAO with updates and questions
- Establish and conduct experiment as outlined in Protocol below
- Turn in data by October 2016
- Complete farmer-led research program training and surveys
- Present at the Farmer-led Research Meeting in Kingston, November 29-30
- Maintain current membership in EFAO

EFAO will:

- Monitor progress of project
- Conduct training program
- Help set up Research Protocol, write and publish Protocol
- Reimburse cost of field help, if necessary
- Help analyze data, write and publish Research Report
- Reimburse for cost of cover crop seed
- Provide $500 payment to farmer at conclusion of project
- Reimburse one night's hotel stay for the Farmer-led Research Meeting in Kingston, November 29-30

Research Protocol & Data Collection

- In spring, establish cover crops in randomized and replicated plots following diagram below and try to maintain uniformity in management across beds and blocks.
- Record weed pressure and cover crop ground cover and aboveground biomass prior to termination.
- Plant late season cash crops; **for each crop species, randomize seedlings across assigned beds.**
- Record yield of brassicas crops in both buckwheat (control) and cocktail (treatment) plots.
- Record labour for treatment and control plots.
- Answer questions on data sheet provided; do not take measurements for crops with only one bed.

Experimental Design - continued on Page 2

With support from:

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Experimental Design

Legend

- Buckwheat (control)
- Oats/barley/bean cocktail (treatment)

Note on blocks:

Plant all beds in a block at the same time.

# Beds	Transplated brassicas
4	Broccoli*
3	Cabbage
3	Kale
1	Rutabegga
2	Cauliflower*
1	Storage kolhrabi
1	?

* Sometimes broccoli and cauliflower are mixed