RESEARCH PROTOCOL: HORTICULTURE 2017
Foliar Sprays for Cut Flowers

Farmer-researcher
Jessica Gale, Sweet Gale Gardens

This document outlines the steps that Jessica will follow to execute her research trial, *Foliar Sprays for Cut Flowers*, including design, execution, data collection and data sharing. It also serves as a Memorandum of Understanding between Jessica and the EFAO.

Experimental Design
Compare a nutrient spray on plant health of Sweat Pea and compare an anti-fungal spray for survivability of Lisianthus.

**Hypothesis**
Foliar sprays improve plant performance.

**Predictions**
Application of nutrient spray will result in Sweet Pea plants with healthier plants (greater stem length) and application of an anti-fungal spray will result in great survivability (more live plants) of Lisianthus.

**Units of concentration per spray**
- Liquid seaweed: 3 ounces per 3 gallons, in spray pack
- Chamomile: recommended dosage of 4 ounces of tea per gallon, 12 ounces tea per spray pack. In a concentrate, 16 ounces of bulk tea brewed to one gallon = 4 x concentration. Dosage= 4 cups per gallon or 12 cups of tea for 3 gallons, in spray pack.

**Spray Schedule**
- Once weekly: approximately 10 minutes per section spraying, 40 minutes total maximum
- Sweet peas: 8 weeks of spraying, forecasting late April planting and finishing late June as blooms begin
- Lisianthus: 12 weeks of spraying, forecasting May planting and finishing spraying around mid August before blooms, 3 gallons per week
**Randomized complete block design**

**Spray**
- No spray control
- No spray buffer (no measurement taken)

**Sweet Pea garden layout**

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<th>Bed 1</th>
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**Lisianthus garden layout**

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**Measurements**
- Sweet pea: stem length at harvest
- Lisianthus: # of dead plants removed in a section / # total of plant section

**Statistical test**
- Paired t-test of control vs treatment for both Sweet Pea and Lisianthus

**Research Expense Budget**
- 9 bags of bulk chamomile tea = $174.80 ($154.80 tea, $20 shipping* see receipt)
- Seaweed spray = $75.89 ($42.16 seaweed, $25 shipping, $8.73 HST)
- Flagging tape = $5.64
- Additional research expenses pending approval
Memorandum of Understanding

**Compensation for farmer-researcher**

- Farmer-fee of $500 per farm
  - $250 receivable upon acceptance of this Research Protocol and Memorandum Of Understanding (MOU)
    - Acceptance form: https://goo.gl/forms/0wMjDHmoLzRwLjIE3
  - $250 receivable upon remittance of the experimental data and photos, no later than October 31, 2017 (or October 31, 2018 for experiments with data collection in 2018)
- Reimbursement for approved research expenses
  - See budget above for approved research expenses
  - Fill out Reimbursement Form and send receipts (digital or hard copy)
    - Reimbursement form: https://goo.gl/forms/6Rkj75dU7QGxBNDj2
- Reimbursement for hotel stay at the Farmer-led Research Workshop, November 28, 2017 in conjunction with the EFAO Conference in Collingwood, Ontario

*In addition to the compensation above, the EFAO will*

- Help set up Research Protocol, write and post Protocol in the Research Library
- Monitor progress of project, including check-ins and help with troubleshooting
- Deliver or mail a Farmer-Researcher farm gate sign
- Conduct training program related to on-farm research (training webinar link [here](https://example.com))
- Help analyze data, write and post a Research Report in the Research Library

**Farmer-researcher will**

- Maintain current membership in EFAO
- Establish and conduct experiment as outlined in Research Protocol above
- Record data outlined in Protocol and/or data collection sheet
- Take high quality photos throughout the project
- Keep in contact with EFAO with updates, problems and questions
- Turn in data in a digital format and 3-10 best photos by October 31, 2017
- Complete feedback surveys related to the program
- Provide up to 1 hour of mentoring, including reviewing related protocols in 2017 and/or 2018, and phone consultation with fellow farmer-researchers on related projects.

*If possible, the farmer-researcher will*

- Host a Field Day on their farm or participate in a “Field Day” webinar
- Attend and present at the Farmer-led Research Workshop November 28, 2017 in conjunction with the EFAO Conference in Collingwood, Ontario

**Contact**

Sarah Hargreaves, sarah@efao.ca
Funding
Funding for this project was made possible by support from The Ontario Trillium Foundation and the Weston Foundation.