Research Report: HORTICULTURE 2017
Efficacy of foliar sprays for cucurbits

FARMER-RESEARCHER
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WHY IT MATTERS
Ecological vegetable growers often struggle with pests and disease pressure. There is anecdotal and observational information around the use of organic foliar sprays, but quantitative data is lacking. While nutrient foliar sprays can be expensive, the cost could be less than time and space cost associated with succession planting needed to manage disease pressure. With the goal of minimizing succession planting and field space while maximizing harvestable yield, Angie tested the efficacy of a nutrient foliar spray to maintain health of her cucurbits.

RESEARCH QUESTION
How does a nutrient foliar spray compare to no spray with respect to plant health and production of summer squash and cucumbers?

METHODS
Angie sprayed nutrient foliar sprays weekly following a spray program from Advancing Eco Agriculture (AEA). The program included spray formulas for different developmental stages in crop development.

RESULTS

Brix
- For both cucumbers and summer squash, Angie was unable to detect a difference in Brix measurements from plants sprayed and those that received no spray.

Mosaic virus and overall disease pressure
- For summer squash, unsprayed plants had less mosaic virus and overall disease pressure than sprayed plants in August but not in July and September. There was not enough data on cucumber to run a statistical analysis.
- When summer squash data were separated by variety, there was no detectable difference in mosaic virus or overall disease pressure between sprayed and unsprayed plants.

TAKE HOME MESSAGE
- Despite Angie’s predictions, nutrient foliar sprays did not noticeably impact Brix measurements, disease pressure or length of productive season for cucurbits.
- Assigning treatments to entire rows would make data collection more practical but would preclude Angie from organizing her patch by variety.
- Moving forward, Angie wonders: Does she need better soil fertility in order for foliars to make noticeable improvement? A was focusing on a crop family susceptible to diseases carried by complex insects (i.e. cucumber beetle and squash bug) just too ambitious - especially in a wet year when diseases spread so easily?
Fertile Ground Farm Weather Data:

Monthly temperatures and precipitation for 2017 and historical averages.

Roseville was selected as the weather station for Fertile Ground Farm. It is located 17.28 km from the farm.