

Vegetable Entomology Research-2015

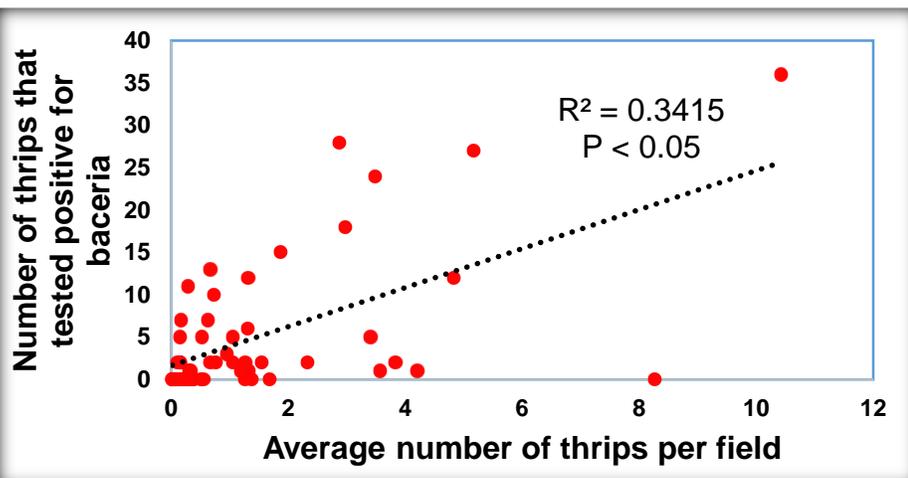
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Onion Thrips and Bacterial Leaf Blight

Thrips as a Vector?

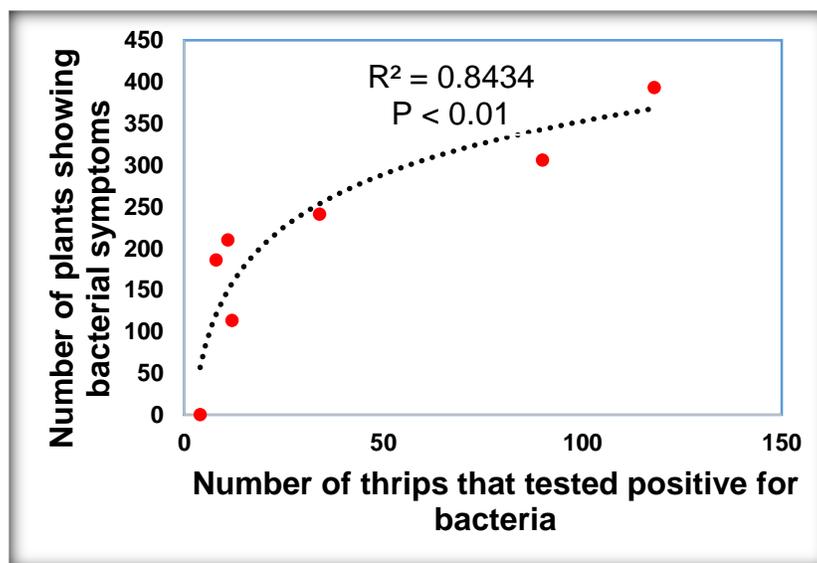
This summer we developed a project to determine the relationship between thrips and bacterial leaf blight. We sampled 400 onion plants weekly from eight commercial onion fields across Michigan. We counted the number of thrips on the plants, and screened them for the presence of bacteria.



David VanderZee
(undergraduate student)
sampling onions in the field to
screen for thrips and bacteria

Our Findings

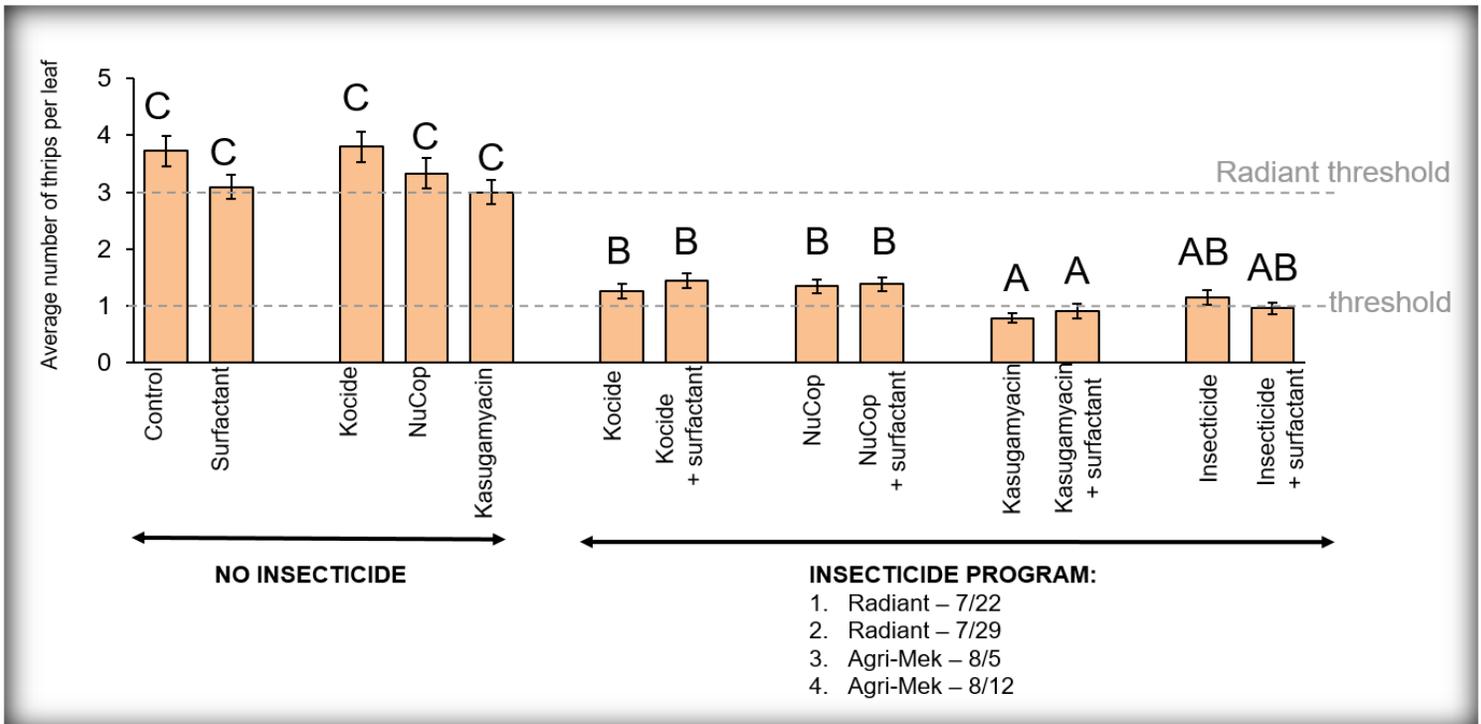
- **(Above)** There is a significant increase in the number of thrips testing positive for bacteria as the average number of thrips increases. This means that with increasing thrips numbers in the field, there will also be more thrips that have the bacteria.
- **(Right)** The number of plants showing bacterial symptoms is also significantly related to the number of thrips testing positive for bacteria. So as the number of thrips with bacteria goes up, you should expect an increase in the number of plants infected with bacteria.



Insecticide with Bactericide Trials 2015

Our Investigation

During summer 2015 we looked at management strategies for both thrips and bacterial leaf blight. We investigated how different bactericides with and without a surfactant influenced the effectiveness of the insecticides.



Methods

Three different bactericides (Kocide, NuCop, and Kasugamyacin) were applied alone, mixed with insecticide, and mixed with insecticide plus a surfactant. Insecticide applications began with radiant on 7/22 once threshold was reached (3 thrips per leaf). Thrips numbers were measured with weekly counts.

Our Results

Neither of the three bactericide treatments significantly differed from the just insecticide treatment. Adding a surfactant had no significant effect on thrips levels. However both the Kocide and NuCop treatments were significantly less effective at controlling thrips levels than the Kasugamyacin treatment. Currently Kasugamyacin is being considered by the EPA for registration on onions.