4a. Pear psylla experiment

Maxwell Francke

Testing the viability of pruning vertical ‘watersprouts’ on pear trees to control the pest insect Pear Psylla

- Twenty-four trees were each assigned one out of four treatments- Either 1/4, 1/3, 3/4, or no watersprouts removed.
- Watersprout removal is expected to reduce populations of pear psylla which are attracted to the soft vegetation for feeding and laying eggs.
- Additionally, we are assessing if there is any increased risk in fireblight caused by pruning injury.
- Hours pruning in relation to tree size and number of people was also recorded to test if it is a timely, financially viable means of management.
- We are still collecting data, analysis will be completed by the start of fall
- Figure below shows egg counts for the first data sample 6/10/22, there may be significant difference between 0 and ¾ watersprouts removed.

Pear Psylla Egg Counts on Shoots of Treatment Trees

![Graph showing egg counts for different treatments](image-url)
4b. Is the Samurai Wasp, an enemy of the Brown Marmorated Stink Bug, present in Massachusetts?

Mateo Rull

Overview
- The Brown Marmorated Stink Bug (BMSB) constitutes a multi-million-dollar threat to large-scale agriculture and small-farm economies.
- A lack of local enemies in the U.S. has allowed the BMSB to spread across 46 states, including Massachusetts (MA).
- In its native Asia, the Samurai Wasp (SW) kills up to 80% of BMSB eggs, but it is unknown whether it is present in MA.

How the Samurai Wasp controls BMSB populations
- Chemical cues attract the wasps to freshly laid BMSB eggs.
- Mated female wasps penetrate egg’s shell and deposit their eggs, killing the developing stink bug larva as their own larvae develop.
- If present in MA, the SW could be used as a biological control agent, so ongoing efforts by the UMass Amherst Fruit Extension team aim to lure and identify this beneficial parasitoid wasp.