

Progress report for CDFA contract number 09-0782: Field trial for resistance to Pierce's disease

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Reporting Period: The results reported here are from work conducted December 2010 July 2011.

Objective and activities to achieve objectives

A major focus of Pierce's disease management includes attempts to develop grapevine varieties that are less susceptible to *Xylella fastidiosa*. We are providing support for field trials of newly developed grapevine varieties that show promising reductions in Pierce's disease severity. The field trial is intended to duplicate a commercial operation to determine how grapevines will fare in the presence of pressure from the sharpshooter leafhopper vectors that transmit the pathogen causing Pierce's disease. The specific objectives of the project are as follows:

1. Prepare the vineyard. Rogue out existing plants and prepare additional trellises as needed.
2. Transplant test grapevines to the experimental vineyard.
3. Maintain the grapevines exactly as handled by commercial vineyards.
4. Monitor for pests and diseases.
5. Dispose of plants at the end of trials.

Progress

The project was initiated in the spring of 2010, which included the first phase of planting. Since that time we have continued to maintain the research plot, which has included irrigation, pruning and training vines on the trellis, removal of flowers to meet compliance requirements, and occasional fertilization and fungicide application to control powdery mildew. Moreover, we have regularly inspected

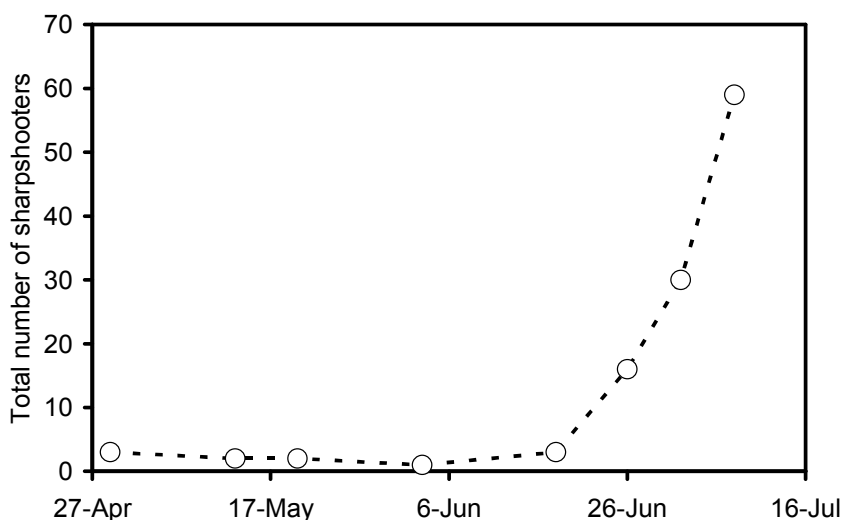


Figure 1. Number of glassy-winged and smoke-tree sharpshooters caught so far in 2011. 8 traps total.

vines in the research plot to evaluate insect pest abundance and evidence of pathogen damage.

In April of 2011 the second phase of planting occurred at the site. After planting, drip irrigation and trellises were setup. Since that time we have continued to maintain and monitor the new planting in a manner that is consistent with vines from the first planting. So far this year there has been no evidence of Pierce's disease in any of the vines in the plot (from either planting). Seasonal sharpshooter abundance so far this year can be seen in Figure 1.

Intellectual property issues

N/A

Publications or presentations

N/A

Research relevance

This project is providing support for a field trial of novel grapevine varieties that show promising reductions in their susceptibility to Pierce's disease. Over the past year we continued to maintain grapevines, and monitor for sharpshooters and disease symptoms within the initial planting at UC Riverside's Citrus Research Center and Agricultural Experiment Station. Since April 2011 we begun similar maintenance and monitoring in the second planting at the site. Ultimately the sharpshooter and disease monitoring information is important for determining whether research plants are exposed to *Xylella fastidiosa*, which is a requirement for adequately testing these novel grapevine varieties.