

## **Testing of grapevines designed to block vector transmission of *Xylella fastidiosa***

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### **Reporting Period**

The results reported here are from work conducted 1 July 2019 to 15 July 2019.

### **Abstract**

This project was initiated two weeks ago, as such there are no results to present or discuss.

### **Lay Summary**

We have proposed an alternative approach to reduce the spread of Pierce's disease by blocking the transmission of *X. fastidiosa* by insect vectors. The initial scientific work necessary to develop the concept of blocking *X. fastidiosa* vector transmission has been done; candidate peptides work well when provided to insects in vitro, effectively blocking transmission to plants in the greenhouse. Transgenic plants represented the next logical step to demonstrate that this novel technology continues to be promising. The generation of these plants takes a long time, but now that we have them, they carry and express the engineered constructs necessary for our planned experiments. We have propagated this material and initiated experimental manipulations to test various lines. The goal of this project is to test if these transgenic plants block vector transmission of *X. fastidiosa*, effectively reducing the spread and impact of Pierce's disease of grapevines.

### **Objectives**

The objective of this proposal is to finish testing of transgenic grapevines with insect-based *X. fastidiosa* transmission assays to determine if vector spread of the pathogen is blocked. If the experiments lead to blockage of transmission, it is possible that additional experimental research to parameterize and then mathematically model spread of *X. fastidiosa* with these lines in field conditions would be desirable.

### **Status of Funds**

Funds are being used as originally proposed.

### **Summary of IP**

Not applicable.

### **Funding Agencies**

Funding for this project was provided by the CDFA Pierce's Disease and Glassy-winged Sharpshooter Board.