

Current Research Objectives

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Research topic: Bt toxin-based strategies for management of *Diaphorina citri* and citrus greening.

Primary Research Objective(s): Identify and optimize additional ACP-active Bt toxins that suppress ACP populations and develop delivery approaches suitable for citrus-growing states.

Research Goal:

- 1) Identify multiple toxins for use against ACP
- 2) investigate the use of four demonstrated systems for toxin delivery to the psyllid: a CTV vector, phloem or xylem-inhabiting bacteria, a transgenic trap plant, and transgenic citrus
- 3) establish best management practices and recommendations of appropriate delivery systems for deployment in Florida, Texas, and California based on experimental data, modeling, and economic analyses
- 4) develop extension materials tailored to the specific needs and preferred format of stakeholders in each state.

Outcomes to date: Additional ACP-active toxins have been identified, Transgenic plants and CTV delivery systems are in development. This work provides the foundation for long term sustainable management of ACP through the use of transgenic citrus, or through delivery of the ACP-active Bt toxin using a non-pathogenic phloem-limited virus such as the Citrus tristeza virus vector.

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