Current Research Objectives

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Research topic: Heat Therapy for HLB-infected citrus trees

Primary Research Objective(s): Study and develop procedures for optimized heat treatment techniques that provide the maximum reduction of HLB-causing bacteria. Enhance the existing steam-generated supplementary heat thermotherapy system so that it will generate consistent heat and provide a uniform temperature to the canopy and roots. Determine the effect of steam treatment on CLas recolonization, overall tree health, and fruit yield and quality. Determine the efficacy of steam-based thermotherapy related to CLas viability. Evaluate the effectiveness of steam-based thermotherapy considering the pretreatment condition of roots as affected by pests and diseases and characterize the effects of the treatment on pests and diseases. Conduct comprehensive economic analyses of the steam-generated supplementary heat thermotherapy system.

Research Goal: Provide an enhanced scalable steam-generated thermotherapy treatment as an immediate short-term solution for sustaining productivity of HLB-infected citrus trees

Outcomes to date: We have developed a mobile and automated heat therapy system and evaluated several treatments to determine time-temperature combinations for the inactivation of CLas that do not result in tree defoliation.
Several growers utilized the proposed system. Main issues are: (i) the application cost is significant; (ii) the re-infection after the treatment remains a main concern; (iii) it's difficult to treat the tree roots.

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