

Current Research Objectives

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Research topic: Enhanced CRF root nutrition to maximize HLB tolerance

Primary Research Objective(s): 1. To determine if a constant supply of elevated secondary and micronutrients compromised by HLB improves root health and subsequent tree performance; 2. To determine if an overdose of a micronutrient can be therapeutic against Liberibacter when provided at levels not toxic to the tree.

Research Goal: To develop affordable root-health based nutrition programs that will maximize HLB tolerance and health in commercial trees – preventing fruit drop and off-type fruit.

Outcomes to date: We showed that secondary and micronutrient deficiencies in HLB affected trees are much greater in the roots than in the leaves. Providing a constant supply of the affected nutrients to the roots greatly improves tree health and productivity. We also showed that a 4x overdose of manganese is therapeutic, reducing or eliminating Liberibacter in commercial trees and increasing yields and fruit quality.

Florida growers are using the above information to develop evolving improved nutrition programs that are greatly improving the performance of existing field trees – keeping many growers in business. Some growers are learning that expensive psyllid control may not be necessary once functional root systems are re-established. Several growers are also now beginning to apply higher levels of secondary and micronutrients to roots with focus on zinc and manganese – showing good results!

Funding source for this objective(s): CRDF, Oriee Lee Groves, CRF products donated by several fertilizer companies.