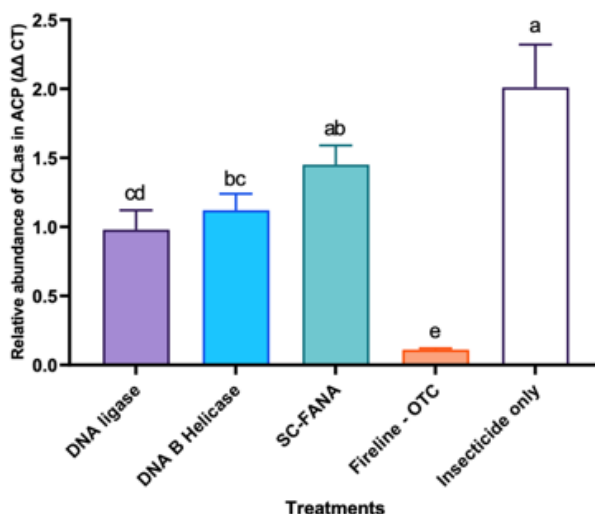


# Evaluations of Trunk-Injected Oxytetracycline HCL in Florida Citrus

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Acquisition of CLas by Asian citrus psyllids feeding on mature citrus trees treated by trunk injection with various antimicrobial treatments including oxytetracycline (OTC).

## Take Home Message:

- Oxytetracycline (OTC) has the potential to kill CLAs, decrease ACP survival and their ability to acquire CLAs
- Foliar treatment of HLB citrus trees with OTC is ineffective in reducing CLAs in mature citrus trees.
- Current evaluations of ReMedium TI® and Rectify™ are ongoing to determine if trunk-injected OTC yields therapeutic effects on trees with HLB.

**Summary:** Antimicrobial compounds, such as oxytetracycline (OTC), could play multiple roles in HLB therapy. Foremost, OTC should kill the CLAs bacterium. Second, antibiotic treatment negatively affects Asian citrus psyllid (ACP) survival,

presumably because this treatment kills bacterial symbionts of ACP that enhance fitness. Third, OTC treatment reduces the psyllids ability to acquire the CLAs bacterium. The challenge is getting the antibiotic into the phloem of the tree where it is needed for potential therapeutic effects. Antimicrobial efficacy depends on effective penetration and systemic movement of the material into the phloem. We recently examined the effects of foliar OTC and streptomycin treatment on CLAs acquisition by ACP and infection of trees under field conditions in commercially managed citrus. These treatments were directly compared against treatment of trees with insecticides commonly used to suppress populations of ACP. Furthermore, they were compared

against individual protective covers (IPC) that excluded vectors as a positive control. Foliar antibiotic treatments reduced populations of pathogen within trees, but their use did not eliminate infection of trees under field conditions at the rates and frequencies evaluated. Our objectives now are to evaluate the newest trunk-injection treatments of ReMedium TI® and Rectify™. Among the many aspects being investigated, we are evaluating uptake and movement of OTC in phloem following application as well as treatment effects on CLAs infection, ACP populations and vector capacity, and tree health and yield. While our initial results are promising, we anticipate that two years of research will be required for this evaluation.

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