

# Assessing Tree and Root Responses of Various HLB-affected Citrus Accessions Using Oxytetracycline Trunk Injections

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**Summary:** The citrus industry in Florida has been severely affected by huanglongbing (HLB), which is associated with the bacterium, *Candidatus Liberibacter asiaticus* (CLAs). While no single method has been found to completely control CLAs, ways to mitigate its effects on citrus trees have been increasingly studied. One recent management method that has been attracting attention is oxytetracycline (OTC) trunk injections, but a limited number of cultivars have been studied, mainly focusing on the sweet oranges 'Valencia' and 'Hamlin'. The limited cultivars injected that are closely genetically related may cause differences in the effectiveness of treatment. There is a gap in

knowledge about how OTC treatments affect cultivars with diverse genetic backgrounds. The aim of this study was to investigate the effects of OTC trunk injections on tree and root health of various United States Department of Agriculture developed citrus accessions. A completely randomized experimental design comprised of 10-year-old mandarin, grapefruit, and sweet orange-like cultivars grafted on 'US-942' and 'US-812' rootstocks was used to study OTC trunk injection rates applied once a year at the recommended label concentrations. Similarly, trees from the same cultivars grafted on the same rootstocks not receiving any injections were used as controls. Throughout the experiment, tree

and root health components were analyzed for any changes. Measurements included canopy dimensions, leaf and root CLAs titer, fruit size, drop and harvest count, and OTC residue in leaves. The results are helping researchers to utilize OTC trunk injections more effectively.

## Take Home Message:

- Oxytetracycline has potential for improvements in above and below ground tree health.
- This study allows for a better understanding of how OTC affects a wide range of citrus cultivars.
- More information on the interaction between OTC injections and soil and rhizosphere health is needed.

## Funding:



National Institute of Food and Agriculture  
U.S. DEPARTMENT OF AGRICULTURE

