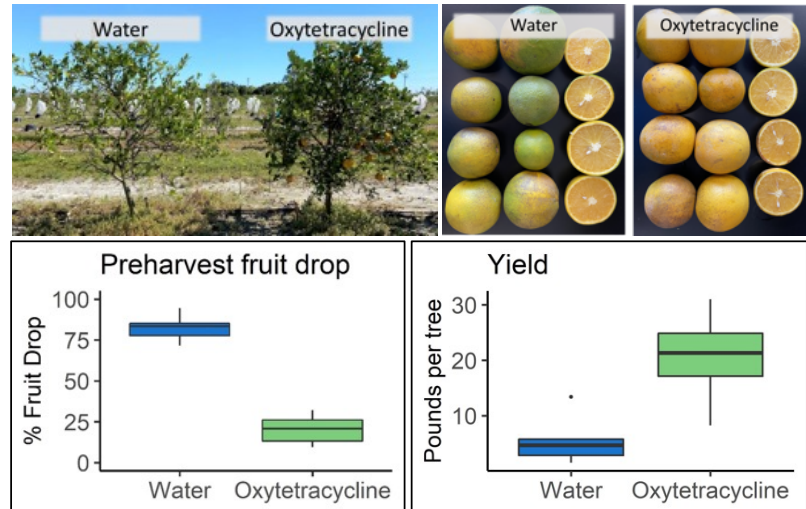


Trunk-injection to Reduce Preharvest Fruit Drop and Restore Health of HLB-affected Sweet Orange Trees

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Preharvest fruit drop associated with HLB is a primary cause of massive yield declines in Florida citrus. Foliar applied chemicals have been largely ineffective at reducing disease effects, including fruit drop, because compounds do not penetrate easily through the leaves and into the phloem where the HLB bacteria reside. Trunk injection targets the plant vasculature directly for more efficient crop protection. Five-year-old ‘Midsweet’ and ‘Valencia’ sweet orange trees were injected with the bactericide oxytetracycline (OTC) 4 months before harvest

and monitored for effects on fruit drop, yield, fruit quality, tree health, and bacterial titers. Water injections were used as control. ‘Midsweet’ trees injected in July had less leaf bacteria by October; the average yield at harvest for the OTC treated trees was 11.4 pounds per tree compared to only 1.4 pounds from the control. ‘Valencia’ trees injected in October had significantly less root bacteria by February compared to the control trees. The OTC treated trees dropped only 20% of their total fruit leading up to harvest, while 82% of fruit dropped in the

control trees. This corresponded to an average yield of 20.7 pounds per tree, compared to 5.5 pounds in the control. OTC is currently not labeled for injection in fruit bearing citrus trees and the long-term effects of trunk injection on tree health need to be determined. Nevertheless, the results seen in these trials indicate that targeted control of the HLB bacteria can quickly and dramatically reduce fruit drop and restore health to diseased trees.

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