Trunk Injection of Commercial Oxytetracycline for Huanglongbing Management in Young Grapefruit Trees Using a Novel Injection System

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Summary: Huanglongbing (HLB) is considered one of the most devastating diseases to the global citrus industry. It has drastically reduced the yields in Florida, especially for grapefruits. The disease is associated with the bacteria *Candidatus* Liberibacter asiaticus and vectored by the Asian citrus psyllid. The pathogen resides in the phloem of infected trees making control of the disease difficult. Trunk injection with oxytetracycline (OTC) was approved in Florida in 2022 for the treatment of HLB-affected citrus trees. In this study, 3-year-old 'Ruby Red' grapefruit trees grafted on UFR-17 were injected with either of two different OTC formulations or with distilled water (control) once or twice during the 2023 season. The first injections occurred in February 2023 and the second injections occurred in June 2023 using a novel delivery system that does not require drilling and targets the outer ring of vascular tissue located directly under the bark. Trees injected once received 75 mg of the active ingredient (OTC-HCl), and trees injected twice received 150 mg of the active ingredient. Injections of both labeled OTC products were able to improve tree health (reduce disease index) and increase canopy density relative to control. All OTC treatments had greater fruit yield, size, and diameter compared to the control, and there were no statistically significant differences among OTC treatments for fruit yield, size, and diameter. None of the OTC treatments improved °Brix relative to the control and there were no differences among OTC labeled products for °Brix, acidity, or Brix-acidity ratio.

Take Home Message:

- Trunk injection of commercial OTC labels improved tree health.
- Young grapefruit trees injected with OTC had greater fruit yield, size, and diameter compared to control trees.
- Overall, trunk injection of OTC treatments may help trees recover from HLB infection.

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