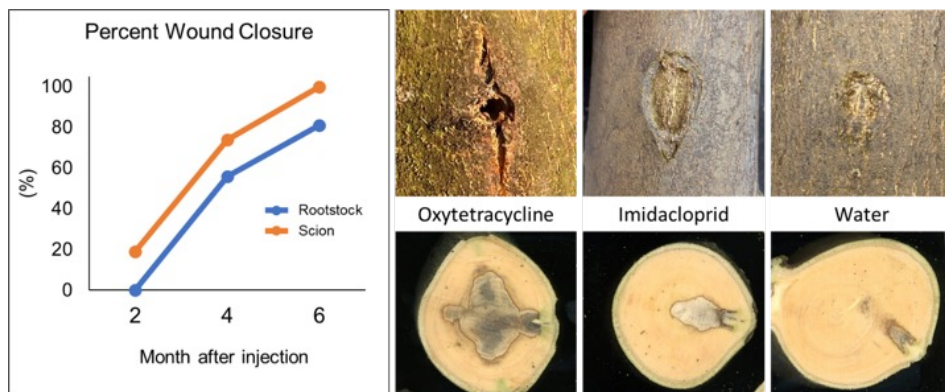


# Wounding and Other Considerations Associated with Trunk Injections

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Trunk injection is an alternative technique for applying plant protection materials. There is growing interest in adopting this technology as a crop protection practice for HLB management in citrus. However, little is known about how trees respond to the wounding associated with trunk injections, whether to inject into the scion or the rootstock, and whether there are seasonal differences. Five-year-old ‘Valencia’ trees on Kuharske rootstock were injected with water every two months to measure the rate of uptake, wound closure, and internal damage associated with injection. The rate of uptake after

injection in the scion was faster than that of the rootstock, and both uptake and wound closure were more rapid during periods of active transpiration. Injection in the scion resulted in faster wound closure and less external injury compared to injection into the rootstock. There were no benefits associated with the application of two different post-injection wound treatments: a petroleum-based pruning sealant caused excessive external damage; the application of a fungicide after injection to prevent secondary infections increased internal discoloration compared to the control and did not enhance wound closure.

Without post-injection wound treatments, trees were able to effectively compartmentalize wounds after injection of water. However, extensive internal discoloration was found after injection of imidacloprid and oxytetracycline. Nonetheless, the new wood (sapwood) formed during the next growth cycle was healthy. More research is needed to determine whether the injury associated with injection and discoloration of the wood caused by specific therapeutic formulations will have negative consequences in the longer-term.

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