Is Trunk Injection of Imidacloprid Effective for Asian Citrus Psyllid Management?

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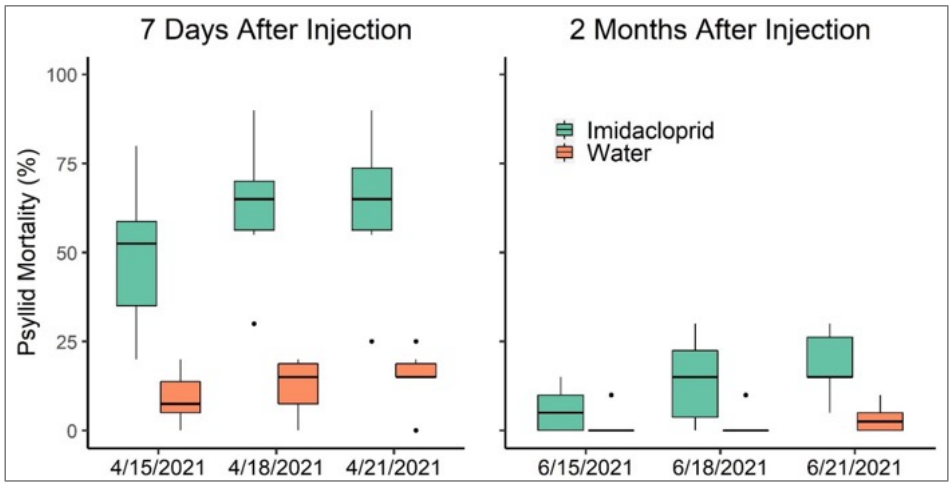

Trunk injection of imidacloprid (IMI) has been successfully used for insect pest management in multiple tree species; however, it has not been extensively tested for management of Asian citrus psyllid. The potential benefits associated with injection of IMI, such as extended residual activity and reduced rate of application, may prove economically valuable. Five-year-old 'Valencia' trees were injected with an infusible formulation of IMI or with water during flushing and monitored for effects on psyllid mortality. The highest concentrations of IMI (2.7 ppm) in the leaves were measured 15 days after injection, followed by a significant decline to 0.50 ppm within 30 days. Mortality of psyllids that fed on young flush reached 63% one week after injection compared to 15% mortality for the psyllids that fed on the water-injected trees. However, this effect was much less evident 2 months after injection when mortality did not exceed 18% for the IMI-injected trees. Two months after injection, IMI leaf concentrations were less than 0.04 ppm, which resulted in greater mortality compared to the water-injected trees, but not enough for effective management. At 6 months after injection, IMI concentrations were less than 0.01 ppm and psyllid mortality was not different from the water controls. The costs associated with IMI injection at the currently labeled rates are unlikely to justify injection over soil drenches and foliar sprays, considering the short-term efficacy. However, combining insecticides with antibacterial or other therapeutic compounds for injection may provide some benefits.

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