

10.14 Role of Nutritional and Insecticidal Treatments in Mitigation of HLB: Main Effects and Interactions

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Insecticidal control of the psyllid vector is widely considered the foundation of HLB management, while foliar applications of micronutrients are being touted as an effective method of mitigating impacts of the disease on tree health and production. Although the combination of these two practices is having salutatory effects in a number of Florida citrus groves, the individual contributions of the two main components are not known. We report preliminary results from a replicated factorial experiment with four treatments (nutritionals, insecticides, nutritionals + insecticides, and control) initiated in February 2008 on a 12-acre block of Valencia orange planted in 2002. The nutritional mix was applied three times a year corresponding to major flushes. Insecticides were applied in winter and then when psyllid density exceeded a predetermined threshold, maintaining a ratio of adult psyllids in treated to untreated trees of approximately 1:12. PCR positive trees increased from 29% in November 2008 to 95% in May 2010 with significantly lower Ct values in insecticide-treated plots. Significantly positive effects on production were seen from insecticides, with highest yield from trees receiving both nutrients and insecticides. Preliminary results would thus indicate that the main effect of these programs is coming from the insecticidal component with an auxiliary role provided by corrective nutritional treatments.