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Nutritional management, HLB epidemics and crop loss: Two years results

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Despite the relative effectiveness of recommended measures of inoculum reduction and Asian citrus psyllid (ACP) control to manage HLB, growers still look for nutrient management practices to minimize losses due to expected progress of the Huanglongbing (HLB). However, clear evidence of positive effects of improved mineral nutrition on tree health and productivity is lacking. Therefore, in December 2010 an experiment was set up in a non-irrigated grove of 8-yr-old Valencia sweet orange trees on Rangpur lime to evaluate the effects of nutrients (K, Zn and Mn), phosphate and salicylate applied as a foliar spray to the trees four times in the year during spring and summer. The experiment has 8 treatments in 4 randomized blocks with 1280 trees/plot. ACP has been rigorously controlled in 3 of 4 blocks. At the beginning of experiment the incidence of HLB symptomatic trees was <2%, and 20 HLB-affected trees with mean disease severity <3% were marked. After two years, preliminary results demonstrated that there was no effect among different treatments and that nutritional treatments did not reduce the progress of HLB-symptomatic trees incidence, did not reduce the disease severity progress in marked trees, and did not improve yield of HLB-symptomatic trees. In June 2012, the mean HLB incidence was 8% and 18% for plots with and without ACP control respectively. In September 2012, the mean disease severity on marked trees was 37% independent of ACP control. Compared with 'healthy' trees, HLB-symptomatic trees had a mean reduction of 15% and 44% in yield respectively in the first and second years after the beginning of experiment.