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Journal

Journal of Citrus Pathology, 1(1)

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Publication Date

2014

DOI

10.5070/C411025132

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The effect of nutritional spray programs applied to mitigate symptoms of Huanglongbing on fruit drop caused by HLB and citrus canker on ‘Hamlin’ orange trees

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Huanglongbing (HLB) was detected in Florida in 2005 and has reached 100% incidence in certain citrus plantings in southwest Florida. The putative causal agent of HLB in Florida is the bacterium *Candidatus Liberibacter asiaticus* (CLa). Citrus canker caused by the bacterium *Xanthomonas citri* subsp. *citri* is endemic in Florida. In 2011 and 2012, fruit drop on young ‘Hamlin’ trees with symptoms of HLB and/or citrus canker was particularly severe, with more than 90% fruit drop recorded. Nutritional sprays containing mainly micronutrients applied to citrus flush has emerged as a practice to mitigate the effects of HLB on plant health. An experiment was initiated in 2008 to examine the effects of nine treatments containing various materials alone or in combination used in popular nutritional programs being applied by growers. Products included micronutrients, systemic acquired resistance inducers, and a commercial biological control agent. Trees were evaluated visually and by PCR for detection of CLa annually. Disease severity and fruit drop associated with citrus canker were recorded for 2011 and 2012. Most treatments reduced the severity of HLB symptoms and stimulated vegetative growth which increased the citrus canker susceptible tissue and fruit drop except one treatment containing primarily micronutrients. In this treatment, fruit drop due to HLB and/or citrus canker was significantly reduced compared to other treatments. These findings might indicate that the use of certain nutritional applications for mitigation of HLB might reduce the severity of citrus canker and fruit drop on young ‘Hamlin’ orange trees.