

2.5

Tree-side Molecular Testing for DNA from the HLB Bacterium *Candidatus Liberibacter asiaticus*

Cary, R.B.¹, Cai, H.¹, Nowakowski, M.¹, Martin, C.¹, and Duan, Y.P.²

¹Mesa Tech International, Inc., 6404 Nancy Ridge Dr. San Diego, CA 92121

²U. S. Horticultural Research Laboratory, 2001 South Rock Road, Fort Pierce, FL 34945

HLB affects all citrus cultivars and causes tree decline resulting in greatly reduced citrus production in Asia, Africa, the Indian subcontinent, the Arabian Peninsula, Brazil, and the United States. To enable integrated pest management strategies for combating HLB, we have developed a sensitive nucleic acid-based HLB diagnostic test based on Mesa Tech International, Inc.'s (MTI's) new point-of-use diagnostic platform, MTIDx, and targeting *hyvI/hyvII* genes of *Candidatus Liberibacter asiaticus* (Las) (Zhou et al., 2011). The MTIDx platform integrates sample preparation, rapid nucleic acid amplification and sequence-specific hybridization-based detection. The simplicity of the test may offer end users with little or no specialized training the opportunity to obtain molecular test results comparable to laboratory-based PCR methods without costly instrumentation. Here, we will report on the efficacy of MTI's nucleic acid testing platform for the detection of *Candidatus Liberibacter asiaticus* bacteria in greenhouse and field collected citrus tissue and in the insect vector of the pathogen (*Diaphorina citri* Kuwayama). Comparative studies evaluating the MTIDx platform's performance relative to widely accepted laboratory PCR testing will be presented. Results from these studies will be discussed in the context of their implications for HLB management.