



Quarterly Report

October – December 2019

Completed reports are published online at www.DATOC.us.

New Members

DATOC is pleased to announce the addition of two new members to the expert panel. Dr. Michelle Heck and Dr. Kerry Mauck joined DATOC in November. Dr. Mauck is an Assistant Professor of Entomology at UC Riverside. Her expertise is in insect behavior and chemical ecology, and her research group is pursuing projects on CLas diversity and evolution, as well as pathogen movement across wild-urban and wild-agricultural interfaces. Dr. Heck is a Research Molecular Biologist with the USDA ARS Emerging Pests and Pathogens Research Unit in Ithaca, New York. Dr. Heck has been pursuing projects to develop novel management strategies for Huanglongbing, and to identify factors that affect CLas transmission efficacy.

Exposure on Repeat Properties

Anecdotally, it has seemed that the detection of diseased trees frequently occurred on the same property as a prior find, and the Citrus Pest and Disease Prevention Program questioned if trees could be removed with fewer visits to a property, potentially increasing program efficiency. DATOC therefore undertook an analysis with the goal of understanding how likely it is for a site with 1 HLB-positive tree to develop another HLB-positive tree in the future. DATOC analyzed all plant samples collected from 2012 to April 2019 and found that typically only 1 diseased tree is found per property. If multiple trees on the property are detectably diseased, they are generally all discovered during the same visit. However, sites with HLB-positive trees are not significantly resampled more than 3 months after the initial detection, so it was not possible to conclusively answer how likely sites are to develop additional future detections.

Canine Deployment Protocol

During the 3rd quarter of 2019, DATOC worked to facilitate the writing of a protocol for citrus growers to use in preparing and responding to visits by HLB-detector dogs. Final considerations were completed in the 4th quarter and the protocol is now in use by growers contracting with the detector dog company. A recommended general response to an alert from any type of Early Detection Technology was also completed.

Density of New Infections

After DATOC presented an analysis of exposure to CLas in Southern California, we were asked if there were differences in the apparent density of diseased trees based on more granular geographic areas than what was presented. We looked at the density of diseased trees by city, as well as the distribution pattern of new infections compared with older data. We found that new HLB detections (after June 2018) occurred broadly, but were more common close to earlier detections. Half of the new detections occurred within 270m of previous detections, 70% within 1km of existing detections, and 90% within 1.5km.