



April – June 2020

Reducing the delimitation area around huanglongbing-positive trees

The Citrus Pest and Disease Prevention Committee (CPDPC) asked DATOC to provide a recommendation for the size of the survey radius around a huanglongbing-positive (“HLB+”) tree detection. We proposed that the delimitation radius for regulatory activity be reduced from 400 m to 250 m, a distance which would encompass 95% of all previously detected HLB+ trees and reduce the area staff need to cover by 61%. This suggestion was accepted by the full committee in May, a move which will conserve valuable California Department of Food and Agriculture (CDFA) resources and increase program efficiency by applying resources to areas most likely to contain infection.

We suggested that any labor saved from this change be redirected to other Committee priorities that will be necessary to understand the further spread of HLB, such as sampling specific sentinel trees over time and/or more closely monitoring dooryard/commercial border zones.

Effectiveness of state control strategies

The CPDPC requested that DATOC provide an analysis of huanglongbing/Asian citrus psyllid management activities in Southern California, and specifically address the effectiveness of HLB+ tree removal for slowing disease spread.

In response, DATOC is working with an agent-based model under development by a USDA team in Florida. We have run a set of replicated simulations in a Southern California landscape to compare possible control strategies. The results indicate that tree removal combined with pesticide applications has the potential to limit disease spread more than pesticide applications alone. In May, we presented these results to the CPDPC, and we have been requested to continue refining the simulations as the model is refined.

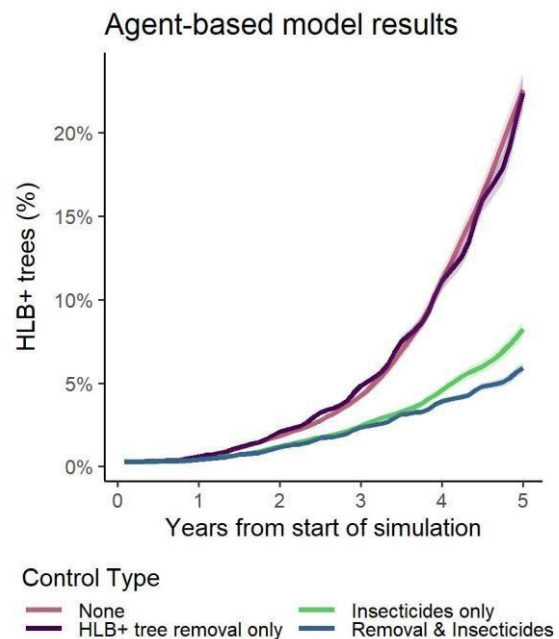


Figure 2. Simulated spread of huanglongbing in California over 5 years under different management programs.

Panelist changes

Spring brought big changes to the DATOC panel; both Dr. Tim Gottwald and Dr. Beth Grafton-Cardwell have retired. We are grateful

to both for the time they spent providing our team with a wealth of expertise. They were an invaluable part of DATOC and we wish them much contentment in their retirement!

We have also added a new member to the team: Dr. Lukasz Stelinski, a professor of Entomology and Nematology at the University of Florida, joined the expert panel in April.

He has worked for over a decade with HLB, the Asian citrus psyllid, and related topics. His research focuses on citrus and he specializes in vector-pathogen interactions, plant-insect interactions, insect behavior, and integrated pest management. In just a few short weeks of membership, Dr. Stelinski has already provided valuable input on team projects.



Figure 3. Dr. Stelinski, University of Florida professor and newest addition to the DATOC panel.

Research Department in May 2020. It provided an overview of metabolomics, qPCR, phytobiomics, detector canines, enzyme-linked immunosorbent assay (ELISA), and Cellular Analysis and Notification of Antigen Risks and Yields (CANARY) as well as an analysis of research results.

Evaluation of early detection technologies

Several projects have explored potential technologies for early detection of HLB. Many of these projects were funded by the HLB Multi-Agency Coordination (MAC) System and/or the Citrus Research Board (CRB). To assist the CRB Vectored Diseases Committee, DATOC summarized results from various trials and provided a concluding recommendation for an EDT strategy based on the results of funded research. This report was submitted to the CRB

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