Citrus Pest and Disease Prevention Committee (CPDPC)
Science and Technology Subcommittee Meeting

Meeting Minutes
August 29, 2023

There was a quorum of the Science Subcommittee and the following were in attendance:

Science Subcommittee Members Present:

Franco Bernardi	Dr. Subhas Hajeri	Dr. Etienne Rabe
Brad Carmen	Dr. Melinda Klein	Dr. Ram Uckoo
Aaron Dillon		

CDFA Staff:

Karina Chu	Anmol Joshi	David Phong
Kiana Dao	Keith Okasaki	Nilan Watmore
David Gutierrez		

Other Attendees:

Dr. Robert Clark	Marcy Martin	Cressida Silvers
Dr. Jonathan Kaplan	Dr. Neil McRoberts	Roger Smith
Jessica Leslie	Margaret O'Neill	Judy Zaninovich
Jasmine Lopez	Dr. Sandra Olkowski	Sandra Zwaal

All attendees participated via webinar.

Opening Comments
Dr. Etienne Rabe called the meeting to order at 2:02 p.m. Dr. Rabe welcomed and reintroduced Dr. Robert Clark who recently joined the Citrus Research Board (CRB) Data Analysis and Tactical Operations Center (DATOC) as a consultant.

Ethyl Formate Update
Dr. Rabe received an update from Jim Cranney stating the Environmental Program Agency (EPA) expects a report by the end of September. The EPA requested label changes that Mr. Cranney and the ethyl formate registrant are addressing while waiting for the California Department of Pesticide Regulation to finish their review.

Sweet Orange Scab (SOS) Update
Keith Okasaki informed the committee that the SOS regulation was approved by the Office of Administrative Law and Secretary of State on July 5th. Due to an administrative delay, the SOS regulation will be effective on October 1st rather than the target date of July 1st. Once effective, a five-mile radius quarantine will be established around SOS detections and will effectively transition regulated areas into quarantine areas. Establishments will be contacted and sign a new compliance agreement.

Update on Science Advisory Panel Recommendations

Risk-Based Survey (RBS) Working Group
The charge of the RBS working group was to discuss deemphasizing RBS in the core areas around HLB detections and focus resources on the interface of commercial citrus and residential areas. Dr. Uckoo summarized the current RBS budget and capacity. In one year, staff can survey approximately 1,000 Section-Township-Ranges (STR) statewide within a budget of $6.1 million. Within the southern district, including Santa Barbara and Ventura Counties, approximately 700 STRs can be surveyed annually.

The RBS working group proposed the southern RBS be split between surveying residences near commercial groves and continuing with general residential areas. Staff hours will be split in half between the two survey areas. Around commercial groves, staff will survey STRs within 1,500 meters of groves five acres, or larger. The other half of southern California residential survey will be split between STRs on the outer perimeter of the quarantine's leading edges and within the huanglongbing (HLB) quarantine, excluding delimitation areas.

The RBS working group also proposed that northern/central California RBS would focus on counties with historical detections, assigning a risk factor weight of at least 60 percent to Asian citrus psyllid (ACP) detections. Counties where ACP has not been found should be excluded but may need to be surveyed as part of the general multi-pest survey.

Recommendation: The Science Subcommittee unanimously made a recommendation to the full Citrus Pest and Disease Prevention Committee to accept the working group's recommendation for adjusting the RBS survey.

Regulatory Working Group
Brad Carmen presented a table and map to quantify the effectiveness of tarping through the number of ACP detections within two miles of Highways 99, 58, 190, and 198 from 2014-2017 and 2018-2023. After the requirement to safeguard in transit went into effect in 2017, ACP detections along highways decreased by 78 percent on measured highways, concluding that tarping is effective. The table will be updated to include detections outside two miles.

The working group reported discussing the following:
1. Removing counties from quarantine without an ACP detection for "X" number of years. The California Department of Food and Agriculture previously submitted regulatory packages to the United States Department of Agriculture (USDA) requesting counties more than two years removed from an ACP detection be removed from quarantine, but further discussion is on hold.

2. Mitigation requirements needed to move within and from an area of quarantine were also reviewed. The working group concluded that the mitigations currently in place should remain, including grate cleaning on a case-by-case basis.

3. A response matrix regarding breaches of ACP insect-resistant structures and what the industry could expect.

DATOC Report from EcoData
Dr. Clark presented highlights of the analyses recently conducted by EcoData regarding the effectiveness of tree removal and insights from machine learning models for HLB surveys. Increased detections of HLB and *Candidatus* Liberibacter asiaticus (*C*Las)-positive ACP suggests there is a recent increase in the reservoir of the pathogen. Dr. Clark suggested a minimum of 5,000 polymerase chain reaction (PCR) tests per month be conducted as a higher testing capacity is useful in detecting the pathogen.

Regarding a possible increasing reservoir of bacteria, Dr. Clark suggested that quickly removing diseased trees is important and should lead to decreased cycle threshold (CT) values. When removing an infected tree took more than 100 days from initial sampling, data showed an increase in local bacteria levels. Additionally, climate and regional location play a role as removing infected trees seems to be more important in hotter, drier areas. Dr. Rabe is interested in data projecting the effect of not removing infected trees.

Dr. Clark expressed interest in using various predictive models, including demonstrating that a model training and model validation approach would be compatible with HLB detection data in California. Working with his team at EcoData, they performed the first prototype analysis on HLB-positive trees with machine-learning and climate data. Developing an algorithmic dataset, the accuracy levels of forecasting where HLB may be present increases.

Dr. Clark reported he is working on a preliminary analysis of quarantines by reconstructing the history and intent of quarantines to hone the best analytical approach. He is developing maps and models to examine historical trends in quarantines, which should be completed by late September to early October. Mr. Phong commented regarding the importance of the model and algorithm allowing for human input.

Other Items and Adjournment
The meeting was adjourned at 3:27 p.m.