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

**Meeting Minutes**
**April 12, 2024**

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

**Science Subcommittee Members Present:**

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| Franco Bernardi | Dr. Subhas Hajeri | Dr. Ram Uckoo |
| Aaron Dillon | Dr. Melinda Klein | |
| Jim Gorden | Dr. Etienne Rabe | |

**CDFA Staff:**

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| Dr. Ravneet Behla | *Anmol Joshi | *Michael Soltero |
| *Kiana Dao | *Alex Muniz | *Nilan Watmore |
| *Paul Figueroa | Raymond Niem | *Jennifer Willems |
| *David Gutierrez | *Keith Okasaki | |
| *Victoria Hornbaker | *David Phong | |

**Other Attendees:**

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| *Price Adams | *Dr. Weiqi Luo | *Paige Shewmaker |
| *Dr. Jim Adaskaveg | Marcy Martin | *Cressida Silvers |
| *Alejandro Alaniz | *Dr. Neil McRoberts | *Keith Watkins |
| *Clive Bock | *Vessela Mavrodieva | *Andy Wilson |
| *Dr. Bodil Cass | *Dr. Ivan Milosavljevic | *Zonghe Yan |
| *Dr. Robert Clark | *Mia Neunzig | *Jarred Yusuhara-Bell |
| *Dr. Dhiraj Gautam | *Dr. Sandra Olkowski | *Judy Zaninovich |
| *Dr. Saurabh Gautam | *Margaret O'Neill | *Kurt Zeller |
| *Logan Henderson | *Curtis Pate | *Sandra Zwaal |
| *Jessica Leslie | | |

*Attendee participated via webinar.

**Opening Comments**
Chair, Dr. Etienne Rabe called the meeting to order at 10:05 a.m.

**International Research Conference on Huanglongbing (HLB) Update**
The Seventh International Research Conference on HLB was held March 26th-29th, 2024 in Riverside. Victoria Hornbaker thanked the team at the Citrus Research Board (CRB) for organizing the conference and reported that the conference presented several research topics including panel discussions, and posters pertinent to the CPDPC. Research topics of highest interest included developing disease resistant rootstock and developing lures for Asian citrus psyllid (ACP) to improve the efficacy of yellow panel traps.

## Technical Review Team Meeting Update

Ms. Hornbaker announced the formation of the Technical Review Team (TRT) led by Dr. Melinda Klein. She further noted that the Science Advisory Panel in 2022 recommended convening of a group of experts from multiple disciplines to analyze scientific questions and proposals posed by the CPDPC. The TRT will provide information and findings to the Science and Operations subcommittees. The team is currently analyzing a proposal regarding allowing nursery stock to be sold in the HLB quarantine and what risks, proposed restrictions, and stipulations that might entail. The TRT will meet in late April to begin discussions.

## Sweet Orange Scab (SOS) Update

Dr. Jim Adaskaveg updated the committee from the SOS working group meeting on April 2nd, 2024. Dr. Cheryl Bloomquist with the California Department of Food and Agriculture (CDFA) shared the technical protocol for detecting SOS developed by the United States Department of Agriculture (USDA) and followed by CDFA. This protocol uses a specific Takara PCR reaction mix that Dr. Bloomquist asserted is more sensitive in detecting SOS. Dr. Adaskaveg reiterated that his tests using all five published PCR primers found only two samples out of 29 sent by CDFA tested positive for SOS. The primer pair that detected positive samples has also been shown to amplify a type of yeast not related to SOS which could result in false positives. Dr. Adaskaveg asserts that the technical protocol should include testing more primers to verify the presence of SOS. The working group decided that Dr. Adaskaveg will need to test for SOS using the USDA technical protocol and is waiting to receive SOS samples from CDFA. Dr. Adaskaveg will then take any significant findings to the USDA Plant Protection and Quarantine (PPQ) Science and Technology group.

## Discussion on Program Data Analyses and Their Impact on Program Activities

### Risk Based Survey Analysis

Dr. Weiqi Luo presented his analysis of HLB Risk-Based Survey (RBS) design, HLB prevalence and positivity rate in Southern California. Dr. Luo presented models showing dispersal risk for ACP and HLB using data collected from RBS. He explained how the RBS model uses weighted risk factors to identify the most effective Section Township Range (STR) grid locations to survey. Risk factors include ACP and HLB detection density, census travel, and citrus production related movement.

Using the binomial theorem with machine learning Dr. Luo estimated minimum and maximum HLB prevalence and positivity rates in various Southern California counties. He noted that over 5,500 HLB positive samples have been detected in Orange County so far, and his binomial analysis estimates that there is a minimum of 24,157 and a maximum 36,721 HLB infected trees in the county. Dr. Luo further noted that the analysis will help inform decisions for best management practices and efficient allocation of resources.

### Discussion

The subcommittee then discussed the potential of ceasing program activities in Orange County due to estimated higher infection level and limited program resources. The subcommittee also discussed the potential to change prioritizing residential RBS from

within 1,500 meters to within 500 meters of commercial citrus groves of at least 5 acres. The subcommittee asked CDFA to discuss quarantine regulation and funding implications of ceasing survey, treatment, and tree removal activities in Orange County with USDA Cross-Functional Working Group. The TRT to evaluate impact of such cessation action. The subcommittee also requested CDFA to analyze implications of changing the RBS model to prioritize surveying within 500 meters of commercial citrus groves and present it to Risk Working Group.
Dr. Rabe requested to discuss options to improve commercial grower involvement and incentives for HLB sampling in commercial citrus groves. Dr. Rabe further asked CDFA to develop a road map to increase Pest Control Districts' involvement in meetings and committees.

**Action Items**
Committee requests additional information and/or analyses on following:

1. Create a list of the research topics from the IRCHLB that may have benefits to California.
2. Conduct literature review and present potential new cost-effective trap attractants.
3. Assist in the procurement of SOS samples for Dr. Adaskaveg's laboratory.
4. Create a survey activity map showing delimitation areas, multi-pest survey (MPS) and commodity surveys.
5. Create a list of activities for the program and share with Technical Review Team.
6. Analyze the implications of shifting the MPS from 1,500 m to 500 m within 5-acre commercial groves.
7. Citrus Division Activities in Orange County
    a. Legal and fiscal implications of cessation of survey, treatment, and tree removal activities.
    b. TRT to evaluate the impact of cessation of survey, treatment and tree removal activities, and reallocation of resources to leading edges, commercial groves, and other counties.
        i. Review HLB tree detection rate at 250 m Vs 50 m.
        ii. Review treatment activities.
8. Design program to focus on commercial groves:
    a. Review the HLB Response Plan to find ways to make it less punitive.
    b. Develop plan to engage grower participation in sampling for HLB (program sampling and independent sampling)
    c. Review 2018 Strategic Plan and revisit program exit strategy.
9. Improve Pest Control District involvement in the program and committees.

**Other Items and Adjournment**
The meeting was adjourned at 2:34 p.m.