

**CALIFORNIA CITRUS PEST AND DISEASE PREVENTION PROGRAM
OPERATIONS SUBCOMMITTEE MEETING**

Meeting Minutes
Wednesday, November 6, 2019

Opening:

The regular meeting of the Operations Subcommittee was called to order at 9:00 a.m. on November 6, 2019 by Chairman Keith Watkins.

Subcommittee Members Present:

Zac Green*	Roger Smith	Keith Watkins
Kevin Severns*		

Subcommittee Members Absent:

John Gless

CDFR Staff:

Jonathan Babineau*	Luci Kumagai*	Lydia Rodriguez*
Tina Galindo*	Jason Leathers*	Michael Soltero*
Victoria Hornbaker	Ray Leclerc*	Maegan Salinas*
Gavin Iacono*	Magally Luque-Williams	Nawal Sharma*
Sara Khalid	Lea Pereira*	

Guests:

Kevin Ball*	Dr. Beth Grafton-Cardwell*	Curtis Pate*
Jill Barnier*	Subhas Hajeri*	Sylvie Robillard
Teri Blaser	Dr. Melinda Klein*	Jason Sapp*
Sarah Bowles*	Jessica Leslie*	Jason Schwartze*
Melissa Cregan*	Jasmine Lopez*	Cressida Silvers*
Holly Deniston-Sheets	Dr. Neil McRoberts	Jack Williams*
Aaron Dillon*	Marcy Martin	Judy Zaninovich*
Sara Garcia-Figuera*	Mark McBroom*	Sandra Zwaal*
Jim Gordon	Tracy Moehnke*	

*** Participated via Webinar**

Keith Watkins welcomed the Subcommittee, staff, and members of the public participating in person and online.

Citrus Staffing Update

Victoria Hornbaker stated that hiring action is pending for the Citrus Division Environmental Program Manager Is (EPM I) and Senior Environmental Scientist, Supervisors (SES). She noted that on the organization chart she provided, black positions are filled, red positions are the next hiring action and blue positions will be a future hiring action. She stated that David Gutierrez from the Department of Conservation has accepted the Branch Chief position with the new Division. She noted that interviews for EPM I regional managers will be on November 15 for the Sacramento

manager, November 18 for the Los Angeles vacancy and November 19 for the Fresno vacancy. She explained that one EPM I will be located in Cerritos with senior supervisors in Commerce, Riverside and San Diego; one EPM I will be located in Fresno with senior supervisors in Visalia or Shafter, Ventura and Fresno; one EPM I will be located at Sacramento headquarters which will act as a hub and regional office for Sacramento Valley and the bay area. She added that if staff are hired and need to be relocated, the Division can work through the Union to issue a relocation. She explained that interviews for SES positions will follow once the EPM Is are in place. She stated that the Division intends to have all SES positions filled by the end of the calendar year. She stated that each EPM I require three SES's to support them, and those SES each have three Environmental Scientists (ES) as staff. She stated that the Division is placing more emphasis on having a dedicated work force in areas like Ventura County, which is currently being handled by Los Angeles County staff. She explained that the organization chart shows the allocation of dedicated resources that the Citrus Division is developing in citrus locations that don't currently have staff. She noted that Pest Detection/Emergency Projects (PDEP) is taking the lead with Division staff during the transition, but Citrus Division staff are not to be requisitioned for non-citrus infestations. She stated that the Citrus Division received 61 positions in the Budget Change Proposal (BCP) approved in the 2019 Governor's Budget. The Division will hold those vacancies until the senior staff are in place. She stated that the black positions on the organizational chart are either field positions that were already working in citrus or vacancies from a 2017 BCP in which the Cooperative Agricultural Support Services (CASS) or California Department of Food and Agriculture (CDFA) seasonal workers were converted to full-time workers. She stated that the administrative unit is in the process of being filled, with the administrative manager Carl Baum filling two administrative positions, two positions still to be filled and two positions still to be posted. The administrative unit will transition budget and contracts work from PDEP to Citrus Division staff. She stated that the Division showed the Finance Subcommittee documents that were put in place to better track and project finances, with a better coding system in place with the field staff coding their activities to a budget item. She added that CDFA has developed an improved interface for the Financial Information System for California (FI\$Cal) to run reports and track expenditures. She stated that David Gutierrez will be attending Citrus Pest and Disease Prevention Subcommittee meetings in the future.

STRATEGIC PRIORITY 1 – Find and Eradicate HLB

HLB Quadrant Sampling

Lucita Kumagai stated that there are currently two methods of field sampling: single or quadrant. She explained that single field sampling involves collecting 20 leaves with one sample tested per tree. Quadrant sampling involves collecting 20 leaves from each quadrant of the tree for a total of 80 leaves with four samples tested per tree. She explained that risk-based samples, Huanglongbing (HLB) response samples, commodity samples, nursery and other miscellaneous samples such as hotline and callback samples all use the single sample method. Quadrant samples are used on selected trees due to the additional work involved, particularly on sites that pose the highest risk of having HLB-positive trees. She explained that when an HLB-positive tree is found it is removed and all other host trees on the site and on adjacent properties are quadrant sampled. Quadrant sampling is also used on all trees on the site and adjacent properties of a *Candidatus Liberibacter asiaticus* (CLAs)-positive Asian citrus psyllid (ACP) find. She stated that when an ACP or plant samples test in the inconclusive range, all trees on site are quadrant sampled. All trees alerted by early detection technologies (EDT) such as metabolomic suspects in 2014 and 2016 and dog alerts

in 2016, 2018 and 2019 are quadrant sampled. She added that trees analyzed in special projects like California 1a and 1b were also quadrant sampled.

Lucita stated that during a quadrant sample, four separate bags of samples are taken from each tree with stickers indicating which quadrant the bagged samples are from: Quadrant 1 is northeast, quadrant 2 is southeast, quadrant 3 is southwest and quadrant 4 is northwest. She explained that in the event of an inconclusive result, that quadrant can then be intensively surveyed. She stated that in 2017, 1,716 trees were quadrant sampled with 105 positives and 1,611 negatives; in 2018, 2,811 trees were quadrant sampled with 265 positives and 2,546 negatives; in 2019 to date, 2,479 trees were sampled with 260 positives and 2,219 negatives. This is approximately a 10 percent positive detection rate. She added that of the 630 HLB-positive trees that were quadrant sampled: 225 trees tested positive in one quadrant with a cycle threshold (Ct) average of 30; 151 trees tested positive in two quadrants with a Ct average of 27; 83 trees tested positive in three quadrants with a Ct average of 25; and 171 trees tested positive with a Ct average of 24. She stated that 1,035 trees tested positive during single sampling with a Ct average of 28. She stated that quadrant sampling has increased detection levels by at least 28 percent. She explained that the field staff try to sample systemic leaves and to use a hierarchical approach to flush tissue in which they collect any ACP or nymphs for sampling and look for evidence of feeding on the flush. She noted that during a pilot project, staff stated that it takes five to ten minutes to look at flush tissue, and that there was no recorded statistical advantage to testing flush over leaves. She noted that field staff are supposed to look for leaves from the current year's growth to sample. Magally Luque-Williams explained that the field staff have pruners on poles to test higher sections of the trees and to cut new flush to look for nymphs. She noted that sampling protocol has changed a little since 2017, but primarily the higher number of positive finds is due to higher number of find sites and the quadrant sampling process. Victoria added that one of the HLB-positive tree finds in Hacienda Heights was due to testing flush from the top of the tree. It was noted that the proportion of positive trees have gone up due to decreasing the size of delimitation from 800 meters.

Lucita stated that starting in August 2017 due to the introduction of quadrant sampling, there has been a 49 percent increase in sampling, and field staff have been getting better at scouting early symptoms of the disease. She added that field staff have returned to quadrant sampling Los Angeles County positive sites from 2012, 2015 and 2016, adjacent sites, and earlier inconclusive trees from the 16S primers. She stated that quadrant sampling sites where CLas-positive ACP, but no positive trees, were found is the most urgent issue. She explained that CDFA is currently using the Ribonuclease reductase (RNR) primers and all RNR readings will be quadrant sampled, including RNR readings in the negative range. She stated that CDFA staff are working with Dr. Subhas Hajeri from the Tristeza lab to assist on a longitudinal study on CLas titer with different tissue types, including inconclusive trees, dog alerted trees in Duarte, and ACP sites with no treatment. She explained that staff participating in the study will collect different tissue types and test every season for two years. She believes this will produce information to improve field sampling methods. It was suggested that find numbers have fallen. Lucita stated that sampling has gone down but that field staff should revisit some positive sites and adjacent sites detected in 2017 and 2018 which would increase positive finds. It was suggested that Lucita should note the number of samples taken alongside the positive detections and to separate root samples and flush samples in her data. Magally stated that higher plant sample numbers correlate with more people allocated to delimitation surveys. Lucita noted that staff have kept samples in the freezer and will begin

testing inconclusive samples with the RNR primer. She suggested that any remaining Orange County trees from hot areas in 2017 should be quadrant sampled. She suggested that 69 ACP-positive sites with no positive tree detections in Orange County and Los Angeles County should also have priority for quadrant sampling. She intends to give field staff a list of trees to investigate.

STRATEGIC PRIORITY 3 – ACP Control/Suppression

Biocontrol Update

It was stated that there have been several thousand biocontrol agents released in Soledad, San Diego cities and core areas. It was stated that there were releases in Coachella Valley and near Calexico. Victoria stated that Dr. David Morgan is providing 9,000 *Tamarixia radiata* with the United States Department of Agriculture (USDA) International Services per week. She noted that the lemon tree in Tijauna, Mexico where the CLas-positive adult ACP were found tested negative in the leaves but positive in the roots. The tree has been removed. Lucita noted that roots are hard to sample due to soil; there is a lot of bacteria in root samples that are closely related to HLB and give false positives to the 16S primer. RNR primer, which is much more specific to CLas, is required.

Regional ACP Management

Victoria confirmed that there was a ACP find in Bakersfield. She stated that field staff have surveyed and found no citrus trees on adjacent properties and no additional ACP on site. She explained that staff intend to treat the 11 citrus trees on property, which include new plantings. It was noted that the site is on the southwest end of Bakersfield, with only one five-acre block of commercial citrus three miles away. Victoria noted this site was also the first ACP find site in 2014. She stated that if the new trees on the find site have been brought in from outside the quarantine, enforcement staff will work with the County Agricultural Commissioner to deal with them.

STRATEGIC PRIORITY 4 – Improve Data Technology, Analysis and Sharing

Data Analysis and Tactical Operations Center (DATOC) Update

Holly Deniston-Sheets stated that DATOC was asked to look at properties with multiple HLB-positive trees over time. She explained that DATOC was looking to define how likely a find site is to develop an HLB-positive tree after one detection. She stated that Brianna McGuire studied a data set from the first known HLB-positive finds through April 2019 containing 3,000 samples of which 1,200 trees on 840 sites were positive. She noted that 220 of those sites had more than one HLB-positive tree, with half of the locations having multiple trees detected on the same date and half of the locations having multiple trees detected on different dates. She explained that few properties have more than three positive trees. She noted that more than three visits to a property have never yielded a new find and that most finds are found on the first or second visit. When returning to a find site, the second visit is within two months of the first visit, and the third visit is within two months of the second visit. She explained that this suggests that infected trees found on subsequent visits were already infected but undetected during the first visit. She stated that there is no data on number of trees per site. Dr. Neil McRoberts suggested that DATOC could re-run the analysis with the data set split into before and after quadrant sampling became available. Holly noted that because the number of positive samples pre-August 2017 are lower, the more recent samples have a greater impact on the data set. She stated that all HLB-positive finds on an HLB-positive property are typically found within the first three months of the first detection but that

detections can still occur up to two and a half years after the first detection. Lucita suggested the two and a half year finds could be the Hacienda Heights resamples.

Holly stated that Dr. Dave Bartels has found there is a large difference between ACP collected in Texas and California. She noted that over time, the proportion of infected psyllid samples within two kilometers of infected trees has gone up drastically in Texas while in California it has remained low. She noted that Texas stopped removing residential trees in 2015. He noted that the Texas data contains a lot of data from commercial citrus compared to the data set in California. Holly explained that Texas growers have fewer regulations regarding tree removal than in California. She stated that the number of positive samples in Texas is much larger compared to California. Victoria noted that the USDA work instruction has changed Ct values due to the improvement of primers, with the positive value being a much lower Ct value so that there is less wiggle room.

Holly stated that in the DATOC report about the Ventura detector dog trip, there were three key concerns: calling dog alerts positive rather than exposed; if the trees were treated with appropriate insecticides before removal; and if any of those trees were PCR tested before removal. She stated that the guidelines DATOC produced were a non-regulatory, non-Committee informational protocol and a practical guideline for growers bringing detector dogs to their groves. Neil noted that Bill Schneider from F-1 Canine and John Krist from the Ventura Task Force were involved in drafting this protocol to present to interested growers, with Holly providing a facilitation process to allow Dr. Gottwald to provide input. Victoria noted that this protocol could go up on the DATOC site and any additional dog teams could be directed to that resource, or to allow F-1 Canine to provide the protocol to interested growers. It was suggested that a more generic EDT guideline would ensure there is no one recommended or endorsed EDT. Neil confirmed that any non-regulatory technology could receive a similar set of guidelines. He stated that the Ventura Task Force met in early November and an audience poll on whether those present would use dog team EDTs received 50 percent interest compared to an identical poll in June when the audience responded that 10 percent would use the dogs and 10 to 12 percent may use them. Victoria agreed that the Voluntary Grower Response Plan could be amended to include steps for growers to take when using alternate methods.

Data Management Report

Rick Dunn recommended the Subcommittee visit the public access web map at the University of California Riverside website. He stated that Robert Johnson worked with him and is the gatekeeper for the citrus layer revision. He has been working with the ACP/HLB Task Force and revising the Ventura County citrus layer which is now complete. He stated that the associated public and confidential Psyllid Management Area (PMA) maps and block data can be utilized by the grower liaisons to notify growers. He noted that the confidential Ventura County map allows the grower liaisons to click on any label and pull up more specific information about the PMA or click on the heading to showcase tabular data related to the management area. He stated that there has been discussion by the San Joaquin Valley ACP/HLB Task Force about utilization of ACP samples. Rick created maps showing the distribution of positive ACP finds from January 1, 2019, to July 3, 2019 for them. He noted that the Los Angeles map includes blue grids where CLAs-positive ACP were found without an accompanying infected tree. Victoria stated that in those grids, the same protocol as an HLB-positive tree detection is recommended but not mandatory: delimitation,

treatment and quadrant sampling of adjacent trees. Rick requested more data to bring his maps up to date.

Casey Creamer explained that where EDTs were employed, there is a growing anti-pesticide movement that could jeopardize the program. He stated that CDFA's Secretary Ross has enlisted the outreach team to provide educational material on the importance of the program. He explained that California Citrus Mutual (CCM) is coordinating with them and the Ventura County Farm Bureau. The Farm Bureau is providing information, setting up governmental educational meetings and assisting local county supervisors and county agricultural commissioners. He stated that he would be meeting with the Department of Pesticide Regulation's (DPR) new director. He noted that filmmakers are trespassing on grove property to take pictures and video and suggesting that grove owners stop spraying pesticides.

Casey noted that CCM is concerned about a change in administration and priorities. He warned that general fund money is harder to acquire every year. CCM is looking at other legislative strategies such as making the argument that most funds are spent in residential areas, not commercial citrus. He discussed a new potential funding source, a residential tax on citrus trees at the point of sale. He noted that residents who aren't funding the program are buying the trees and putting industry at risk.

Casey noted that the city of Ojai was protected from fire by citrus trees serving as a fire break. The DPR director will be coming to inspect a potential disease area and unmanaged groves with anti-pesticide citizens. It was suggested that it was time to revisit the spray and move program in areas like Zone 2, when moving citrus into a quarantine zone.

Dr. Beth Grafton-Cardwell stated that Frank Burn is looking at resistance monitoring. She stated that except for Ventura lemons, most citrus production areas only use a chemical once or twice per year, which is too little to select for resistance. She suggested that just because psyllid populations are low doesn't mean there is no threat and that mechanisms should be kept in place to replace spray and move with the Ethyl Formate fumigation. Fall and winter area-wide sprays will continue, but bulk citrus movement sprays will be reduced once Ethyl Formate is available. She noted that she would bring the topic of expediting Ethyl Formate to Dr. Jim Cranney at the Science Subcommittee. It was suggested that spray and move has been successful in causing growers to pack local.

CLOSING COMMENTS & ADJOURNMENT

It was requested to move the December 4, 2019 Operations Subcommittee meeting to December 11, 2019.

The meeting was adjourned at 11:40 a.m. The next Operations meeting will be held in Visalia, California on December 11, 2019 at 9:00 a.m.