

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

Meeting Minutes  
Monday, December 4, 2017

The Science Subcommittee Webinar was called to order at 9:00 am on December 4, 2017.

**Committee Members Present:**

Dr. Beth Grafton-Cardwell*	Dr. Melinda Klein*	Dr. Jason Leathers*
		Dr. Etienne Rabe*

**Committee Members Absent:**

Dr. Ed Civerolo	Jim Gorden	George McEwen
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**Interested Parties:**

Nick Condos*	James McFarlane*	Cressida Silvers*
Rick Dunn*	Dr. Neil McRoberts*	Dr. Carla Thomas*
Bob Felts*	Tracy Moehnke*	Dr. Georgios Vidilakis*
Nick Hill*	Joel Nelson*	Keith Watkins*
Victoria Hornbaker*	Dr. Sandra Olkowski*	Bob Wynn*
Sara Khalid*	Kevin Severns*	Sandra Zwaal*

**\* Participated via Webinar**

**Opening Comments**

Dr. Etienne Rabe welcomed the Subcommittee, staff and members of the public participating in person and online. He noted that the objective for this meeting is to outline and understand certain issues in order to make scientific decisions; and the information that is needed to make those decisions. Some of these issues will be addressed in the subgroups developed for strategic planning. Joel Nelson made an opening statement saying that there are members of the California Citrus Mutual (CCM) Board that are feeling frustrated because there is not a full partnership between them and the science community, the Citrus Pest and Disease Prevention Committee (CPDPC) and the industry. Timely communications were not being forwarded and there was confusion, uncertainty and controversy because material was being released without conversations and feedback. Joel stated that growers on the CPDPC should make the ultimate decision because they are the stakeholders. Dr. Neil McRoberts commented that the science community could have done a better job of keeping the CCM board and members of the public updated with what they have been working on. The Data Analysis Tactical Operations Center (DATOC) is planning on having one or two monthly briefings stating what topics they are working on and improving their communication. Dr. Rabe agreed that some aspects of the previous Science Advisory Panel (SAP) meeting could have been communicated better.

**Overview of CPDPC Draft Strategic Plans Priorities/Activities**

Nick pointed out that there are emerging strategic groups with certain priorities. There have been discussions with the DATOC and scientific community for the need for research and analysis to align with the strategic priorities of the committee. A few subgroups have already met, recommendations have been made and necessary research recommendations have come up. Special attention should be paid regarding the cost of this emerging research, the timeframe and the data. There are standing recommendations that

came out of the SAP and those recommendations mirror some of the emerging strategic priorities. Nick also quickly recapped the overview of the CPDPC draft strategic priorities. The number one priority is to detect and eradicate diseased trees. The second priority is to control the movement of psyllids around the state. The third priority is to suppress Asian citrus psyllid (ACP) populations. The fourth is to improve data technology, analysis and sharing and the fifth priority is outreach and collaboration. Nick also reiterated that the DATOC is funded by the CPDPC and operated under the Citrus Research Board. When the CPDPC has a strategic plan and when there are data analysis and research needs, those will be tasked to the DATOC. The committee will then monitor the progress and research and create a more formalized process.

Dr. Rabe then went through the scenarios and activities. He started with bulk fruit movement and went through the mitigation procedures. The newest standard that was added was fogging and in the future, fumigation. Spray and move is still in place and the plan is to phase out spray and move activities once the fumigation process is in place. Dr. Beth Grafton-Cardwell stated that there should be two mitigations in place to move bulk citrus within a Huanglongbing (HLB) quarantine area. She also stated that the spray and move program is not adequately killing all psyllids and post-harvest methods should be enabled. A pre-harvest treatment and a fogging treatment may give enough psyllid reduction to move within the ACP quarantine region. Nick stated that a systems approach would be necessary for mitigation to move out of an HLB quarantine area to a non HLB area. This would have to be put forth to the United States Department of Agriculture (USDA) for acceptance. Dr. Grafton-Cardwell suggested a shift to fogging or field cleaning for movement of citrus around the state and in an HLB quarantine area, an extra mitigation should be added to reduce psyllid populations. For movement across the regional boundaries, one of the four mitigation measures (spray and move, wet wash/cleaning, dry/field cleaning and fogging) is currently being used. Dr. Grafton-Cardwell noted that the fogging method would be the most effective until ethylformate is approved and its efficacy is verified in southern California. Someone must be assigned to monitor the process and stay within the timeline. For bulk fruit movement in HLB areas out of an HLB quarantine area, any two of the three existing mitigation procedures is the current draft recommendation. Proposals still have to be written and will be shown to the committee. This will allow the movement of fruit out of HLB quarantine areas and between ACP regions. Dr. Grafton-Cardwell pointed out that if too much emphasis is put on HLB quarantine areas, areas where it is not known where HLB exists can create opportunities for ACP and HLB to freely move to other regions. Fogging and fumigation are needed to protect the receivers of the fruit. A more rigorous inspection was suggested for loads coming out of the boundary areas, along with a post-harvest mitigation.

For ACP monitoring/treatment in urban areas, a subcommittee is looking at what should be done going forward in the desert, Southern California, Ventura, Northern Coast, the San Joaquin Valley and Northern California. There will be a research recommendation coming out of Subgroup 2A which will determine how efficacious buffer treatments are. A coordinated, mandated research project was suggested to determine the effectiveness of buffer treatments. It was also suggested that the Pest Control Districts should take care of treatments in their regions. A suggestion was made for psyllid control and continued maintenance of spraying in residential areas. Monitoring, the location of monitoring and the cost is based on political decisions. It was suggested that USDA should send more information regarding border monitoring and treatments.

For ACP monitoring and treatment in commercial groves, the question was raised as to what the strategy should be from the scientific point of view and the data that needs to be obtained. A Multi Agency Cooperative (MAC) project is collecting data from the southern California regions and it was suggested that a scout be added to the San Joaquin Valley. Dr. Grafton-Cardwell mentioned that an issue with a mandatory treatment program is that ACP is responding to the chemicals differently in different areas, so it is difficult to have a "one size fits all" for every orchard. The issue in Ventura is they do not have enough spray equipment to get around the area within the two to three week time frame, so it is taking around three to four months to treat all the orchards in the county. Discussions to change their program will occur within

the next few months. The lack of spray equipment and inaccessibility of spray equipment for orchards should also be addressed. There is a regular exchange of data from the testing labs regarding cluster analysis. The California Department of Agriculture (CDFA) is also facing the challenge of not receiving data from Dr. Gottwald on a regular basis. A subgroup has been formulated and will meet to discuss HLB risk surveys. Nick commented that residential tree removal for inconclusive trees is more of an outreach issue. There should be programs available for residents to voluntarily remove inconclusive trees. CDFA staff is working to correlate the number of times they have been on properties, how many inconclusive trees were on that property and re-testing information. It was also reiterated that an inconclusive could mean something other than CLAs.

For the HLB risk survey, there is not enough staff to do four cycles in the Central Valley. Victoria commented that survey work should not be abandoned. Work is being done by Sara to collect all survey data that has been compiled by different branches within CDFA and housing it in one database. Dr. McRoberts stated that the risk based model does a good job of determining the highest risk of the presence of HLB infected trees and provides an opportunity to get ahead of the disease. There will be a subgroup meeting discussing survey methodologies and how that will impact capacity and timelines.

Biological control and *Tamarixia*'s effectiveness were also discussed. The SAP and the MAC will evaluate this program. Dr. McRoberts mentioned that biocontrol activities alone will not stop the spread of ACP. It was mentioned that there should be a systems approach regarding releasing *Tamarixia* in the Central Valley.

It was concluded that there should be a complete list of the ongoing research projects, a leader of those projects and the ability to provide regular updates. Dr. Rabe compiled a summary of current projects and tasks. (Attached).

These include: A timeline for the fumigation efforts, research and registration. A CDFA proposal that will go to USDA regarding the current mitigation steps that should be met in order to move fruit out of the HLB area across regions. The buffer treatments around commercial groves and data collection to determine efficacy with a set timeline. ACP monitoring and the cost related decisions and where to monitor. The two mile buffer on the international border, what is being done, what should be done and the value of continuing to monitor and treat in this zone. The MAC project on ACP monitoring in commercial groves to look at the spread, flush and time of year. The lack of spray equipment and whether to look at low volume and inaccessibility of ranches. The ACP cluster analysis and the lack of data available with a quarterly report and what California centric expertise needs to be added to get the data. HLB risk survey and tree removal with SAP suggestions to reconsider. Sara's ongoing project with property HLB survey history and the ability to extract data on any specific property. Improving communication and turnaround time with Dr. Gottwald in terms of risk survey. As well as, analyzing the efficacy of biocontrol and encouraging MAC to evaluate and consider outside recommendations.

The meeting was adjourned at 11:42 am.

## Notes on Science Subco meeting of Monday 4 December, Visalia

### Subcommittee Chair Notes

- A. Overarching conclusion: there is a need to have all the projects aimed at providing solutions to the CPDPP program listed and reported on at the appropriate venues (eg, Science Subco and/or Operations Committee and DATOC)
- B. List of topics as noted by Etienne for inclusion in CDFA notes:
  1. Bulk fruit movement: Fumigation research (ethylformate) crucial; timeline to be established which need to be met in order for the option to be available by no later than mid 2019 [Action: responsibility(ies) to be outlined; suggest Jim Cranney plus Science Subco Chair]
  2. Bulk fruit movement: meeting concluded (as noted in subsequent minutes of one of the Strategic subgroups) that fruit movement out of an HLB zone to be subjected to two of the following, eg spray and move, dry field cleaning or fogging. It seems as though wet wash within a zone is seen as adequate as a stand-alone.
  3. ACP/residential - Buffer treatment efficiency: data to be collected to prove this one way or the other [Action: Beth GC; timeline to be set for the work]
  4. ACP/residential – Value of on-going monitoring in certain sub-regions: there is consensus that this decision is entirely cost-related and more political than scientific. Value not seen in continuing in certain regions [Action: CPDPP]
  5. ACP/HLB – International border: value of continuing to monitor/treat in 2 mile buffer zone on Mexican border; the aspect added to Strategic subgroup #1A [Action: CDFA/CPDPP]
  6. ACP/groves: MAC project ongoing determining ACP spread in commercial orchards, time of year, flush cycles [Action: Beth GC/McRoberts; Feb 2019]
  7. ACP/groves: lack of spray equipment in Ventura region; inaccessibility to equipment of many groves due to terrain; re-look at low volume applications? [Action: ????]
  8. ACP cluster analysis where values lower than 40 but not actionable are recorded: there seems to be a lag in getting the data analyzed and reported; need to harness Bartels on quarterly basis but need for CA-centric leadership on this [Action: McRoberts? DATOC?]
  9. HLB risk survey/HLB positive tree removal: SAP seems to suggest in their report that there may come a time where the residential HLB tree removal may have to be re-considered due to inconclusives not being removed, reservoir of infected trees remain, etc. Meeting requested that data be made available/studied as to level of inconclusives being reported and not removed and how many of those become a positive tree soon thereafter [Action: look at HLB property survey history; Sarah/DATOC]
  10. HLB risk survey: move from Gottwald leadership to in-house CDFA: need for a proper analysis of expertise available to effect such change [Action: Operations Committee; Watkins]
  11. Biocontrol: need a strategic review of the efficacy and value of the approach due to perceived lack of results and high costs [Action: MAC project to be supported to have such evaluation done]