

**National Agricultural Research, Extension, Education, and Economics (NAREEE)
Advisory Board**

HIGHLIGHTS OF THE CITRUS DISEASE SUBCOMMITTEE MEETING

December 4-5, 2019
The Hamilton Hotel
1001 14th St., NW, Washington, DC

The Citrus Disease Subcommittee (CDS), a statutory subcommittee of the National Agricultural Research, Extension, Education, and Economics (NAREEE) Advisory Board, met in public session on December 4-5, 2019, in Washington, DC. The meeting's main goals were for the CDS members to make recommendations on the agenda, priorities, and budget for the Emergency Citrus Disease Research and Extension Program (ECDRE) within the National Institute of Food and Agriculture (NIFA) program to guide the forthcoming Request for Applications (RFA) for research grants.

Prior to the CDS meeting, a Foundation for Food and Agriculture Research (FFAR) Citrus Greening Convening was held during which members and other participants discussed the top issues, and the FFAR discussions were repeatedly referenced during the CDS meeting.

SUMMARY OF PRESENTATIONS

Michele Esch, the Executive Director, NAREEE Advisory Board, and Designated Federal Officer, CDS, provided an overview of the meeting agenda and the subcommittee's mission, noting that 8 of 11 members were new to CDS, so they were given an orientation presentation on the Subcommittee's rules and role. Ms. Esch also provided an overview of the Federal Advisory Committee Act (FACA) rules, explaining that as Representatives, the CDS members were not subject to the same Conflict of Interest (COI) rules as other FACA member categories and were expected to present their stakeholder group's interests and views, not "objective" and "unbiased" information, although they were cautioned about avoiding an appearance of COI. Of the 11 CDS members, five are from Florida, five from California, and one from Texas, each serving staggered 2- or 3-year terms to avoid losing too many members at the same time.

National Institute of Food and Agriculture (NIFA) Director Dr. Scott Angle introduced himself and discussed the very important role CDS has to play for NIFA with the Farm Bill's \$125 million, or \$25 million a year, allocated for citrus greening. He cautioned that the last round of Farm Bill funding might be the last, after almost \$1 billion has been spent from various sources to deal with the problem but so far without any breakthroughs. He discussed the last Farm Bill's debacle, which was not NIFA's fault, when an issue of matching money that USDA had not requested stalled the issuance of funding. He also described NIFA's relocation to Kansas City, which resulted in the agency losing 75% of its staff, so NIFA is hiring rapidly at a rate of five people a week.

KEY ISSUES AND DISCUSSIONS

During discussing with Dr. Angle and NIFA Associate Director Dr. Parag Chitnis the CDS members expressed their strong interest in having a greater role besides priority setting in the development of the RFA, notably in the Relevancy Review that determines which projects receive grants. In addition, they raised concerns about the lack of a central database from which a complete understanding of past and current research efforts could be understood. The CDS members, like NIFA, want to see progress accelerated in dealing with HLB. Currently, policy disallows CDS members from serving as Relevancy Review participants, but NIFA and Subcommittee members discussed possible flexibility with regard to the policy, and NIFA will discuss with the USDA Office of General Counsel (OGC) the possibility of accelerating the process for changing the policy to give CDS members a greater role.

Dr. Chitnis provided an update on what NIFA's 5 years of funding has done in response to HLB. Dr. Chitnis gave a breakdown by state of appropriated funds for the 30 projects NIFA has funded: Florida 43% (13); California 27% (8); USDA-ARS 10% (3); and Arizona, Kansas, New Mexico, Texas, South Carolina, and Washington 3% (1) each. As the second part of the presentation, Dr. Michael Fitzner, Acting Deputy Director, NIFA, joined Dr. Chitnis, describing the ECDRE's proposed priorities, set the CDS, had been fairly steady over 2015-2018. NIFA regards the next 5-year cycle as a fresh start for Farm Bill money. Based on the FFAR discussions, the earlier priorities might be outdated. Dr. Chitnis broached the subject of possibly allocating the 2019-2020 money, totaling \$50M, in one year. He proposed for CDS consideration the idea of Coordinated Agricultural Projects (CAPs) using collaborative teams of scientists from different institutions that would require funded projects to have a business plan for commercialization, regulatory approval, and other steps to go from lab to groves, as well as annual deliverables and an advisory committee. CAPs would give CDS more control.

Dr. Angle commented that the CDS will have influence on those who apply for NIFA grants, and he urged members to talk to prospective applicants. For CAP grants, more direction is better. After HLB occurring for 14 years in the U.S., he would have expected a narrower focus; but so far, three successful approaches have not been found. For this cycle of funding, it would be good to define a limited set of "do or die" needs.

Members took up the issue of the extensive data available on HLB research, with one member suggesting that the HLB-Multi-Agency Coordination (MAC) Group might be a better venue for dealing with the issue of establishing a database that researchers and growers could access. The database would help researchers define goals and encourage teamwork. Over the last 5 years, the MAC has held discussions and several of them began with the same frustration over the inability to see the big picture of activities. Perhaps a database could be run by the Citrus Research and Development Foundation (CRDF) or Citrus Research Board (CRB) but funded through MAC. Members said the database would have to be searchable, with a link to NIFA's site for progress reports. A motion was made to communicate to the MAC the need for a central searchable database at CRB or CRDF; it was seconded, and all members approved.

BOARD BUSINESS

Ms. Esch asked the CDS to discuss selecting a Subcommittee chair. After discussion, a motion was made nominating Justin Brown of D Bar J Orchards, Inc., as chair, and all members approved that motion.

Recommendations and Priorities for CDRE

During the second day of the meeting, CDS members reviewed long- and short-term priorities, modifying, consolidating, and eliminating items, some of which were placed in a “parking lot” of Other recommendations. Chief among the Other recommendations was the CRAFT project, with a member describing it as a statewide program with many funders. About 2,000 acres are involved, with 10 200-acre plots, to demonstrate the best way to establish new groves in Florida; the CRAFT findings for Florida would benefit other states.

The CDS members discussed two basic questions: What are the goals of the NIFA ECRDE program? What outcomes do you want to see? After discussion, the members agreed to the following statements about the ECRDE goals and outcomes, which it was also agreed Ms. Esch will wordsmith:

- To combat HLB and its disease complex in order to continue to be able to farm citrus in a financially sustainable way through collaborative approaches and knowledge.
- Transition from component research to deploying research outcome/conclusions.
- Encourage teams to bring knowledge together (doesn't seem to have result; more way to get to outcome).

CDS approved of the NIFA CAPs concept and agreed that such projects should be sought along with individual research that might lead to a breakthrough. After members made points about consolidating psyllid control as a national-scale effort and other categories, and the need to emphasize building on previous successes, the CDS developed the following list of CAP priorities:

- ACP regional eradication/Psyllid control (commercial and residential)
 - Resistance management
- Optimize ACP/HLB detection and surveillance/Psyllid attractants – Understanding psyllid movement
 - Early detection for HLB/CLAs; Early detection development requires understanding of mechanisms for confident implementation
- Citrus genetic resistance to HLB
 - Traditional breeding
 - Scalable commercial genetic solution for HLB
 - CRISPR or Understanding the gene-editing targets
 - Large scale evaluation of candidates (growability, marketing, economics)

- Cure the infected trees/Maintain HLB infected trees [avoiding infection]
 - Nutrition and their deliveries
 - Antimicrobials and their deliveries
 - Commercialize molecules that improve production and implement large scale field trials
- Consolidation of screening (intervention targets) -
 - Host plant
 - vector
 - pathogen

It was agreed that the CAP priorities should be kept on a single priority list, but the separate list of CAP priorities was also created because NIFA will need to apply specific requirements to the CAPs, such as the need for an advisory committee. The members approved a motion for NIFA to spend “up to \$50M” in a single year.

It was noted that at the FFAR convening the idea of a “leadership team” coordinating body was raised, with 40% ranking it as a top priority, and that proposal would require some structure. A member noted that MAC has a coordinating function and expressed hesitation about recommending another mechanism. The member asked if MAC needs to be strengthened or a new separate body created. The FFAR leadership team now exists in the MAC. A motion was made that CwwDS recommend to NAREEE and Secretary of Agriculture that the coordinating authority within the existing MAC structure be strengthened. The motion was seconded and all approved.

During public comment, a member of the public suggested that if the current funding might be the last funding under the Farm Bill, CDS might want to consider an economic study being done because it might give weight with Congress on continued or more funding. ERS has the authority and it is worth considering. After discussion, a CDS member made a motion that the CDS recommends ERS conduct a study of the economic impact of HLB and what needs to be accomplished in the next 10 years. The motion was seconded, and all approved.

RESOLUTIONS AND RECOMMENDATIONS

- Members approved a motion to communicate to the MAC the need for central searchable database at CRB or CRDF
- Members approved a motion to remove CRAFT from the list of priorities, placing it in a list of Other Recommendations (not priorities) but observing that industry needs “large scale trials” to take advantage of tools. The language in the Other Recommendations list states: “CRAFT (large scale field trials in FL) – Expand large scale field trials in other states.”

After discussing the ECDRE program Goals and desired Outcomes, members agreed that Michele Esch could wordsmith the language generally deemed agreeable:

- To combat HLB and its disease complex in order to continue to be able to farm citrus in a financially sustainable way through collaborative approaches and knowledge.
- Transition from component research to deploying research outcomes/conclusions.
- Encourage teams to bring knowledge together.
- All members agreed to remove “Epidemiology” from the list of Long-Term priorities.
- Members all voted for a motion to approve the January 25-26, 2018, CDS meeting minutes.
- Members approved a motion to adopt the list of top priorities (CAPs + individual projects) with the caveat it will be subject to wordsmithing at a later conference call.
- Members approved a motion that the ECDRE’s focus (agenda) is still the HLB pathosystem.
- Members approved a motion to express our deep interest in the CDS having greater input after the Relevancy Review and before the awards.
- Members adopted a motion approving spending up to \$50 million this year.
- Members approved the motion recommending that the CDS participate in an annual meeting where CAPs progress is reported and in addition that NIFA implement an independent review team that brings its findings to the CDS.
- Members approved the motion that the CDS recommends to NAREEE and the Secretary of Agriculture that the coordinating authority within the existing MAC structure should be strengthened.
- Members approved a motion that the CDS recommends ERS conduct a study of the economic impact of HLB and what needs to be accomplished in the next 10 years.

The members approved of the Coordinated Ag Projects (CAPs) concept discussed by Dr. Parag Chitnis and after discussion agreed that the following should be CAP Priorities:

- ACP regional eradication/Psyllid control (commercial and residential)
 - Resistance management
- Optimize ACP/HLB detection and surveillance/Psyllid attractants – Understanding psyllid movement
 - Early detection for HLB/CLAs; Early detection development requires understanding of mechanisms for confident implementation
- Citrus genetic resistance to HLB
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- Nutrition and their deliveries
- Antimicrobials and their deliveries
 - Commercialize molecules that improve production and implement large scale field trials
- Consolidation of screening (intervention targets) -
 - Host plant
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ACTION ITEMS

- Michele Esch will send to the CDS members a CDRF pie chart of priorities similar to the CDRE Portfolio Projects pie chart presented by Drs. Parag Chitnis and Michael Fitzner (slide 8 of 17) and a list of priorities developed during the 2-day HLB FFAR convening, including the items from the discussion of process.
- If CDS members have ideas for how to streamline and accelerate the RFA timeline, they should let NIFA know.
- Michelle Esch will work with volunteers Harold Browning and Justin Brown on wordsmithing a letter of CDS recommendations and will circulate the draft to CDS members for review and discussion during a follow-up conference call.
- Member were asked to think about language for the CDS recommendations letter and to bring this to the conference call at which the draft will be reviewed.