

# National Agricultural Research, Extension, Education and Economics Advisory Board

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## National Agricultural Research, Extension, Education and Economics (NAREEE) Advisory Board's – Citrus Disease Research & Development Advisory Committee Minutes

**Tuesday, February 28, 2012, 12:00 p.m. – 5:00 p.m. EST.**

**Committee Members Present:** Tom Jerkins (Chair), Dr. Etienne Rabe (Vice-Chair), Joe Davis Jr., Victor Story Jr., Donald Roark, Paul Heller, Dr. Jacqueline Burns, and Dr. John da Graca.

**Committee Members Absent:** Ricke A. Kress, and additionally one member of the scientific community as of yet to be identified.

**NAREEE Board Staff:** Rob Burk (Executive Director), Shirley Morgan-Jordan (Program Support Coordinator)

**Others Present:** Dr. Ann Bartuska (Deputy Under Secretary of the USDA – REE Mission Area), Dr. Harold Browning, Dr. Tom Turpen, and Ron Muraro.



### I. Welcoming Comments

- Tom Jerkins (Chair) welcomed the committee and discussed the value of hosting the meeting in conjunction with the meeting of the Citrus Research and Development Foundation, Inc.
- Dr. Ann Bartuska discussed the importance of the industry. She noted that the USDA understands the need for speed to address the issue of citrus greening.

### II. Tour of the Citrus Research and Education Center

- Dr. Jacqueline Burns noted that the University had been at this location for nearly 100 years. The CRDF is hosted at this facility. The Florida Department of Citrus also maintains a citrus research staff at the facility. She discussed the displays at the facility, and specifically the focus on exotic citrus diseases.

- Dr. Burns discussed the plan for the tour of the facility to include the work at the facility to address huanglongbing (HLB), and Asian citrus psyllid. She noted that there would be four stops including: 1) citrus health management areas (CHMA); 2) pesticide resistance of psyllids; 3) novel strategies to combat the disease; and 4) GPS and sensor usage to detect HLB.
- Dr. Michael Rogers discussed CHMAs. This program is an area wide control program for psyllids. Each female psyllid lays up to 800 eggs. The thrust of the program is to get growers to coordinate psyllid suppression applications over large acreage to control psyllids and minimize the potential for development of pesticide resistance. The University of Florida led the development of CHMAs with growers.
- A question was posed on how organic growers can combat psyllids. Dr. Rogers noted that organic growers are able to employ oils but their options are limited.
- A question was asked regarding how abandoned groves are accounted for. Dr. Rogers indicated that abandoned groves are best handled by state regulations. Dr. Etienne Rabe (Vice Chair) questioned whether abandoned groves are less likely to allow psyllids to thrive (i.e. are they less desirable)? Dr. Rogers indicated that abandoned groves harbor infected trees that attract psyllids, but later psyllids move to healthy trees because they are preferred.
- Don Roark questioned the time lapse between identification of psyllid infestation and treatment. Dr. Rogers indicated that it could be approximately 2 weeks.
- There was a discussion of efforts in other states.
- Don Roark questioned the effectiveness of ground treatment versus air treatment. Dr. Rogers indicated that both are effective. However, an air blast sprayer is most effective when used on smaller groves. Aerial treatment is most effected on larger groves. In both cases, the effectiveness can be linked to the speed at which acreage can be covered, with the goal of being able to treat acreage quickly to minimize re-infestation.
- Dr. Lucas Stelinski discussed the work in his lab. He discussed pesticide resistance, and mitigation strategies. He noted that psyllids prefer healthy orchards. He noted up to 35% resistance to some current insecticides. For example, dosages of some insecticides that should kill up to 95% of the population are only showing 25-60% effectiveness. He also briefly discussed neonicotinoids and their effectiveness for suppressing psyllids in young trees. His lab is trying to identify ideal treatment scenarios and so that pesticide application modules can be developed. He discussed how pathogen infection of citrus impacts the behavior of the psyllid. Psyllids are initially drawn to infected plants because plants infected with the HLB bacterium emit a chemical signal attractant to the psyllid. He discussed psyllid movement in small and large areas. The psyllid can move up to 1 ¼ miles over 4 days. They will move between managed and unmanaged groves. He stated that area wide treatments are relevant, but the psyllids are very mobile.
- Rob Burk questioned Dr. Stelinski on what he thought the USDA should focus its funding on, where limited funding currently exists. He stated that alternatives to pesticides need further funding.
- Dr. Bill Dawson discussed carry over genes. He noted that they had worked on citrus tristeza for years. They developed a novel method to carry genes into citrus using a disarmed CTV virus. He discussed how they had manipulated the RNA/DNA to insert new genes/traits. He noted that they currently had over 80 projects/tests underway.
- Dr. Rabe questioned if the viral treatment would be considered transgenic. Dr. Dawson indicated that it would be considered genetically modified. In his opinion they must

deploy resistant germplasm to survive HLB, and this very well could occur by a transgenic approach.

- A question was asked about whether the viral genes could spread. Dr. Dawson stated that the spread is minimal, and only by aphids. He stated that they were working hard to make it non-transmissible.
- Reza Ehsani discussed methods being employed to monitor the spread of HLB by precision technology sensing procedures. This would be especially useful in areas where HLB infection is low or where the psyllid is found but not the disease. He is looking at optical (infrared and non-infrared) technologies, ground based sensors, and aerial monitoring techniques.

### **III. Presentations (powerpoints are available upon request)**

- Rob Burk provided an overview of ethics expectations of committee members.
- Ron Muraro spoke about the economic impacts of citrus greening disease in Florida, and the economic implications of managing exotic citrus diseases in Florida.
- Tom Jerkins questioned whether looking at the economics of citrus with or without the presence of HLB was accurate in the earliest years of presence.
- There was a discussion on the data presented.

Some discussion is missing from records... discussion involved Rob Burk, Dr. Ann Bartuska, and there was discussion on CHRP.

- Dr. Tom Turpen discussed efforts to date in controlling HLB and research/educational funding gaps.
- Dr. Harold Browning continued the discussion and stressed that HLB is a national issue and not simply isolated to Florida. Efforts to study, and fund the study, of HLB should not be isolated to Florida.
- Dr. Bartuska questioned how efforts were being coordinated with Brazil. Drs. Browning and Turpen noted that they were interacting through appropriate grant funding and through research collaborations. They noted that they don't care where the solutions come from. They noted the need to coalesce resources as they move forward. They also noted that if HLB were eradicated tomorrow, they would be much better prepared to address the need which may exist in regard to other pathogens.
- Dr. Bartuska questioned whether we were systematically addressing the concerns raised in the NRC report. Dr. Browning noted that 28 issues were raised and the CRDF prioritized funding and projects to address the NRC report structure.

### **IV. Strategy Session for Report Development**

- Rob Burk led a strategy discussion related to the formulation of a report by the committee. He noted that the deadline for the report is June 29<sup>th</sup>. He discussed the timing of the NIFA specialty crops grants in relation to the report. He noted that this report is the report of the Committee. His office could assist with its development, and the REE agencies could assist with data/information collection, but it would be up to the committee to actually author the report.

- Dr. Browning noted that APHIS had invested millions into research.
- Dr. Bartuska noted that requesting more money is a non-starter, as NIFA is either fully competitive, or foundational, unless the farm bill changes. Formula funds are a negotiation with the University and she provided the forestry example. She discussed the usefulness of pointing to the effectiveness of the CRDF structure in the committee report. NIFA regulations and grant review have to be through the RFP process, and include peer review panels.
- Rob Burk stated that the next step would be another meeting in California in which ARS, and NIFA are invited to attend. He would distribute reports of the NAREEE Board as examples. Rob would talk with the California representatives to identify a meeting location and ideal time.
- Dr. Rabe requested that a Doodle poll be conducted with the committee to identify the best possible time for a meeting.

The meeting adjourned at 4:50 p.m.

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Tom Jerkins  
Chair

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Rob Burk  
Executive Director

APPROVAL BY COMMITTEE:

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Date

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Initials  
Chair

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Executive Director