

**CALIFORNIA AVOCADO COMMISSION
PRODUCTION RESEARCH COMMITTEE
MEETING MINUTES**

July 25, 2017

A meeting of the Production Research Committee (PRC) of the California Avocado Commission (CAC) was held on Tuesday, July 25, 2017 at the University of California, Riverside, Hinderaker B-154, with the following people present:

MEMBERS PRESENT:

John Burr
Jim Davis
Derek Knobel
Ed McFadden
Leo McGuire
Tom Roberts
Ryan Rochefort

MEMBERS ABSENT:

Tyler Cobb
Dan Grant
Darren Haver

GUESTS PRESENT:

Aleyda Acosta, UCR
Dr. Frank Byrne, UCR
Dr. Akif Eskalen, UCR
Dr. Louis Santiago, UCR
Dr. Richard Stouthamer, UCR
Steve Wede

CAC STAFF PRESENT:

Dr. Tim Spann
April Aymami
Tom Bellamore
Ken Melban

ITEM #1 CALL TO ORDER

Leo McGuire, Production Research Committee (PRC) Chairman, called the meeting to order at 9:20 a.m. with a quorum present.

ITEM #2 OPPORTUNITY FOR PUBLIC COMMENT

There were no public comments. Leo McGuire introduced the guest researchers from the University of California, Riverside (UCR).

ITEM #3 APPROVAL OF MINUTES OF MAY 9, 2017 PRODUCTION RESEARCH COMMITTEE MEETING

MOTION

To approve the minutes of the May 9, 2017 Production Research Committee meeting. (McFadden/Burr) MSC Unanimous.

Motion 25-7-17-1

ITEM #4 RESEARCH PROGRAM DIRECTOR'S REPORT

A. Shot hole borer monitoring program update

Dr. Spann reminded the Committee that the CAC P/KSHB monitoring program was discontinued in the San Diego County area approximately a year ago, and that on October 31, 2017 the CAC P/KSHB monitoring program will be discontinued in the Ventura County area. Dr. Spann noted that growers will be able to keep the traps that are on their property, however they will not be serviced. Dr. Spann also discussed that the Ventura County Agricultural Commissioner may be interested in continuing to monitor for P/KSHB on their own.

The Committee discussed the possibility of keeping any unused/unneeded traps for future use. Committee Chairman McGuire noted that he is storing the unused/unneeded traps for the Commission.

The Committee also discussed that the approximate budget savings from discontinuing the monitoring is approximately \$40,000.00.

ITEM #5 RESEARCH UPDATES

A. Richard Stouthamer

Dr. Stouthamer gave an overview of his research on P/KSHB. Some findings that he discussed included:

- There are two different invasions in California, with KSHB mainly in the San Diego County area, and PSHB mainly in the Los Angeles County and Ventura County areas.
- Only female beetles can fly, and they will stay in a tree as long as the tree remains habitable.
- It has been determined that a P/KSHB will leave a host tree when the temperature is above 68 °F or when the tree is no longer suitable (for example, water stressed). They can spread up to 15 miles per year and they can fly for about an hour.
- Five generations of beetles a year are produced in the southern areas, while three generations of beetles are produced in the northern areas. This may be a result of the temperature differences in these areas.
- Also, Dr. Stouthamer is exploring the use of deterrents and parasitoids for control.

B. Akif Eskalen

Dr. Eskalen discussed his research on P/KSHB:

- On avocado, infestation can begin on the upper or lower parts of a tree. Infestations can occur on primary or secondary branches, branch collars, lower

parts of the trunk, on twigs or on pruning wounds. Also, it appears that on young trees the beetles prefer small twigs, and find stumped trees to be less desirable.

- Dr. Eskalen is also researching secondary fungal pathogen infestation on P/KSHB infested avocado trees.
- In 2015 a border of monitoring stations was established between Los Angeles and Ventura Counties, and within a year the beetle had moved from Los Angeles County to Ventura County.
- Dr. Eskalen was awarded a Specialty Crop Block Grant to move traps from San Diego County to Ventura County to continue monitoring the spread of the beetle, with the goal of establishing 35 permanent plots in Ventura County.

C. Frank Byrne

Dr. Byrne gave an update on his research on insecticides for the control of P/KSHB:

- Dr. Byrne will be conducting field trials on older and younger avocado trees to evaluate trunk injected insecticides such as Avermectin (Emamectin Benzoate) and neonicotinoids.
- Conducting insect bioassays using an artificial diet of Emamectin Benzoate to determine its efficacy on the beetles.
- Conducting fungal bioassays in petri dishes to determine the effect of Emamectin Benzoate on the fungi.

D. Lou Santiago

Dr. Santiago and his graduate student, Aleyda Acosta-Rangel, gave an update on their research regarding avocado trees and water use efficiency:

- At the leaf level they are looking at photosynthetic carbon gain vs water loss; at the plant level they are looking at the growth of the plant vs water consumed; and at the production level they are looking at yield vs water consumed.
- Also, they will be proposing to use sap flow to calculate an avocado crop coefficient by using sensors to measure whole plant water use.

ITEM #6 DISCUSSION ITEMS

A. Potential research topics for funding

i. Trellises

After some discussion, the consensus from the Committee was that this is not working very well in avocados, though many industries have moved toward the use of trellises.

ii. Crop coefficient

The Committee discussed the need to determine a crop coefficient, and how the current crop coefficient was put together from research that was not done specifically to determine a crop coefficient.

Dr. Santiago noted that a sap flow sensor array could measure the crop coefficient in real time.

The Committee discussed the need to tie the crop coefficient to yield, and how there could be privacy issues with the use of location data.

The consensus from the Committee was to have Dr. Spann work with Dr. Santiago to determine what would be needed for a research project on this topic.

iii. Alternate bearing

The Committee discussed the use of global weather data and correlating that with alternate bearing, as well as focusing on management tasks that could affect alternate bearing.

The consensus from the Committee was to have Dr. Spann gather information regarding alternate bearing from other parts of the industry to provide more information at a later meeting.

iv. Drones

The Committee discussed the usefulness of drones in providing cost effective imagery. There was also discussion that more information is needed to decipher the information provided by the imagery.

The consensus from the Committee was that drones are another tool that can be used, but that more information is needed in order to analyze the data that they can provide.

v. Pruning

The Committee discussed that much of the pruning information that is published is anecdotal. The Committee also discussed how a research project, or educational outreach, could be done; with specific objectives such as pruning for strong flowering or to minimize alternate bearing; and that could provide some general pruning guidelines.

B. Consider proposal on native bees from Dr. Gordon Frankie

Dr. Spann began this discussion with an overview of Dr. Frankie's previous work with native bees in Northern California, and how he plans to expand his research into Southern California.

Dr. Spann noted that some of the recommendations from Dr. Frankie's previous research will be incorporated into the gardens that surround the house at Pine Tree Ranch.

Committee members questioned the potential of native bees to be good pollinators, and how the return on investment in this project appears to be low.

The consensus from the Committee was that this is not something they would like to pursue at this time.

ADJOURN MEETING

Leo McGuire, Production Research Committee (PRC) Chairman, adjourned the meeting at 1:20 p.m.

Respectfully submitted,

Timothy Spann
Research Program Director

EXHIBITS ATTACHED TO THE PERMANENT COPY OF THESE MINUTES

EXHIBIT A July 25, 2017 Production Research Committee AB 2720 Roll Call Vote
Tally Summary



CALIFORNIA AVOCADO COMMISSION

Production Research Committee

AB 2720 Roll Call Vote Tally Summary

To be attached to the Meeting Minutes

Meeting Name: <i>California Avocado Commission Production Research Committee Meeting</i>	Meeting Location: <i>University of California, Riverside Hinderaker B-154 900 University Ave Riverside, CA 92521</i>	Meeting Date: <i>July 25, 2017</i>
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Attendees Who Voted	<u>MOTION</u> <u>25-7-17-1</u>
Leo McGuire, Chair	Yea
John Burr	Yea
Jim Davis	Yea
Derek Knobel	Yea
Ed McFadden	Yea
Tom Roberts	Yea
Ryan Rochefort	Yea
Outcome	Unanimous