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Production Research:

Leaner and More Focused

The California Avocado Commission's (CAC) Production Research Committee (PRC) met in early August to review the production research program and develop funding recommendations for the 2016-17 fiscal year. In the current fiscal year, CAC funded 12 research projects totaling a little more than $1 million. Six of those projects concern pests and diseases, with five being shot hole borer/fusarium dieback related (see *Shot Hole Borer Update* in this issue), and the remaining one on persea mite and avocado thrips. Two projects are related to avocado breeding — rootstock development and scion variety germplasm preservation. The remaining four projects are related to cultural management practices.

The PRC was faced with the difficult challenge of reducing the production research budget by about 30 percent to meet anticipated budget reductions due to the industry's small crop for next year. Five of the existing 12 projects are finishing this year, which helped to account for a large portion of the budget reductions. The remaining projects were then examined individually to determine where the remaining budget reductions could be made.

Dr. David Crowley has been working on developing Decision Support Tools for the industry for the past five years and the project is set to wrap up early in the next fiscal year. Given the large investment in this project to date — about $700,000 — and the fact that Dr. Crowley has worked hard to complete the project about 1.5 years early and return $125,000 to CAC, the PRC felt the project should be funded through to completion. (See the Fall 2015 issue of *From the Grove*, for an update on Dr. Crowley's project.)

A large portion of the production research budget is allocated to rootstock breeding. However, the PRC has made a significant investment of time and resources in this program over the past several years (see the Summer 2015 issue of *From the Grove*) and recognizes the necessity for continuous funding to keep this type of work moving forward. In addition, Dr. Patricia Manosalva is still relatively new to the program (she started in January 2015), and the PRC wants to help her get established and strengthen the program so she can successfully compete for grant funding from other agencies to help fund the rootstock breeding program.

Drs. Joe Morse and Frank Byrne have been receiving funds to monitor for resistance to abamectin in avocado thrips and persea mite populations and to develop additional pesticide efficacy data to register new chemistries for use against these pests. The PRC is keenly aware of the need to prevent pesticide resistance for these pests. However, based on previous work by Drs. Morse and Byrne, the industry now has five different chemistries registered for use against persea mite and four for use against avocado thrips, in addition to abamectin. Thus, the PRC believes that to meet the current budget constraints this project could be safely terminated without serious risk to the industry.

In the end, the PRC was able to meet the budget target that had been set, but they recognized the lack of projects in the area of cultural management and have made this a priority going forward. Some topics of potential interest for future funding are:

- Cultural practices to minimize the effects of chlorides
- Optimizing irrigation delivery and quantity
- Exploiting the root microbiome to improve tree performance
- Real time chloride measurement to improve mitigation strategies

Furthermore, the PRC knows that a lot of work has been done on these and other important topics in other crops and in other parts of the world. A goal for the next year is to delve into the scientific literature and assess what is known, glean any possible recommendations for our industry that we can and formulate specific researchable questions for future requests for proposals.