

The American Bee Research Report

A Summary Of The Proceedings From Galveston

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This year marked yet another tremendous joint conference of the American Beekeeping Federation, The American Honey Producers Association and the Canadian Honey Council. What an event! But, what you might not know is that this was also the time when the American Association of Professional Apiculturists (AAPA), Canadian Association of Professional Apiculturists (CAPA) and Apiary Inspectors of America (AIA) conducted the annual American Bee Research Conference (ABRC). The ABRC is a scientific conference focused solely on current honey bee research and held annually with one of the beekeeping conventions. The goal is to encourage interactions within the apicultural communities and allow beekeepers to see the latest and greatest research that may be of interest to them.

In our talks with many, many beekeepers we did note that not many are familiar with the AAPA so here is a quick overview of why we exist. AAPA has the following three primary purposes: 1) Promote communication within and between industry, academia, and beekeepers; 2) Develop and foster research on fundamental questions to help understand honey bee biology and improve the beekeeping industry; and 3) Create a venue to rapidly share new techniques to advance the field while maintaining focus on our favorite organism, the honey bee. As representatives of AAPA we wanted to highlight some of the impressive research presented at the ABRC, as well as provide a brief update of our business meeting.

We kicked off the conference with a great historical

presentation from our first plenary speaker Dr. Jeff Pettis (University of Bern). He briefly spoke about the history of AAPA and ABRC and it is worth noting here the names of those who started it all: John Harbo, Eric Mussen, and Malcolm Sanford. The conversation continued with the discussion of regulation of queen supersedure and ended on a high note with the conclusion that we are indeed most likely in the golden age of honey bee research.

The session continued with some excellent presentations from students and touched on various topics including characterization of honey bee cellular immune components, effects of pesticides, control of overwintering processes, colony management, queen physiology and *Varroa* mite management. A very interesting talk by Samuel Ramsey (University of Maryland) revealed a new understanding of *Varroa* behavior. Samuel discovered that *Varroa* mites primarily consume honey bee fat stores dispelling a widely-accepted notion that *Varroa* feeds primarily on bee hemolymph. Time to re-write some books! Talks by Kelly Kulhanek and Nathalie Steinhauer (University of Maryland) discussed results of the multi-year beekeeper survey which provides information for developing best management practices for U.S. beekeepers.

Being that *Varroa* mites and access to clean forage are on most beekeepers' minds, it is no wonder we had a large number of talks covering these topics. Several researchers presented their efforts to develop and evaluate various synthetic and bio-mitocides. Many others discussed their



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findings about honey bee foraging habits and what we can do to improve pollinator access to valuable food sources, including work done by James Wolfin (University of Minnesota) on how to make our lawns bee friendly. Not to be forgotten, several researchers spoke about the effects of other stressors on bees, particularly viruses and *Nosema* spp. Highlighting the need for improving our understanding of multi-stressor interactions, Frank Rinkevich (USDA-ARS, Baton Rouge, LA) discussed the effects of *Varroa* and management practices on honey bee pesticide sensitivity. The first day concluded with a poster session and a buzzing social graciously sponsored by

Veto-pharma.

Our second plenary speaker, Dr. Steve Pernal (Agriculture and Agri-Food Canada; CAPA), started us off on the second day by providing an excellent discussion of the progress of the marker-assisted selection guided by proteomics. This collaborative effort of Canadian scientists has built on their previous breeding efforts in order to use protein expression in various bee tissues from colonies exhibiting different resistance characteristics to American Foulbrood and *Varroa* mites. This is very exciting research as it is the first demonstration of using protein markers for selective breeding efforts which could make this challenging job a bit easier.

The remainder of the day was packed with great talks touching on everything from disease and pest detection to how to improve honey bee health with nutritional supplements. Much needed information on the levels of neonicotinoids and other pesticides found in nectar and pollen in ornamental plants was presented by several researchers, including Brian Eitzer (Connecticut Agricultural Experiment Station). We would be amiss if we didn't mention that there were a few talks about our favorite bee individual – the queen. On a more practical note, Marta Guarna (Agriculture and Agri-Food Canada) reminded us just how delicate queens can be when talking about the effects of queen exposure to temperature fluctuations (i.e. during transport) on subsequent colony performance.

The conference proceedings, where you can find the abstracts and details of the research presented, has been published in *Bee World* volume 94, Issue 3. The link to the proceedings can be accessed through the AAPA website (<http://aapa.cyberbee.net/>) and directly through *Bee World*.

The final day of the conference concluded with a very insightful Panel Discussion organized by Mark Dykes (Texas Apiary Inspection Service). The panel brought together members of academia, industry, extension services and apiary inspectors for exchange of current issues in the field and discussion of the immediate research needs to provide solutions for beekeepers. This discussion certainly brought the meeting full circle, as queen health issues were on the minds of beekeepers as brought up by Jeff Pettis in the opening plenary.

This certainly was a productive and informative conference offering something for everyone. It would not have been successful without ALL of the presenters, as the meeting featured 59 talks, including 19 student talks, and 14 poster presentations. We extend sincere thanks to our CAPA co-organizers Shelley Hoover and Leonard Foster, AIA members and specifically Mark Dykes, and Tara Zeravsky of Meeting Expectations. We also want to congratulate our student presentation winners (in no particular order): Courtney MacInnis (University of Alberta), Alexandria Payne (Texas A&M University) and Samuel Ramsey (University of Maryland). This year's AAPA student scholarship winner was Mehmet Ali Döke (Penn State University).

Our business meeting was completed in a record 63 minutes, but we certainly were very efficient and managed to finalize a lot of pending business. We even have some good news to report. In 2017, AAPA will be offering a competitive Postdoctoral Travel Award as well as a competitive Extension Award. The details will be announced soon so make sure you visit our website <http://aapa.cyberbee.net/> Thank you for reading and we hope to see you all in January 2018 in Reno, NV! **BC**

Reference

Proceedings of the 2017 American Bee Research Conference. *Bee World*. Volume 94, Issue 3; doi:10.1080/0005772X.2017.1294471

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