

Danielle's Discourse



Danielle Downey, Executive Director
Project Apis m.

Jan 2017

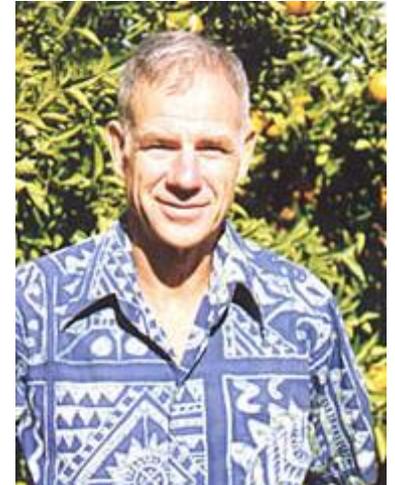
Christening Christi's Retirement

What a successful North American Beekeeping Conference! Congratulations to the American Beekeeping Federation, American Honey Producers Association and Canadian Honey Council on a great joint event- it is such a pleasure to have everyone at one venue for the annual meetings! One highlight of the very successful NABC meetings in Galveston last week was having Christi Heintz attend to receive honors for her 10 years of service to the beekeeping industry. It could be said that her service to beekeepers began before that time, while she worked at the Almond Board of California (ABC) on nutrition, and created the ABC Honey Bee Task Force, which funds pollination research. Dan Cummings recruited her from ABC to help build Project Apis m. (PAm), which began as a boot-strappy fund for beekeepers and growers to fund their own chosen research projects and is now the largest non-profit organization funding honey bee projects in the USA and Canada. To date, PAm has invested over \$6.2 million into honey bee health research and programs! For her visionary work, Christi received recognition from the Project Apis m. Board, and also from the American Honey Producers Association, who awarded her the 'Friend to the Industry Award'. Christi retired in 2016, passing the baton to Danielle Downey who is now the Executive Director of Project Apis m. Christi is now enjoying being a skiing, backpacking grandma... but she has been seen working on some new industry initiatives (is tackling honey diversion next? we shall see...) Kudos and thanks to Christi for all her service, especially for developing Project Apis m.!

December 2016

Advice from PAm's Traynor: How to Give with No Pain, All Gain

Project Apis m. formed 10 years ago at the interface of almond growers and beekeepers who wanted to fast track scientific answers to *their* most pressing questions. Those early days relied on committed founders who believed in the value of research so much they donated 'a buck a hive' to support PAM projects that needed doing; research by and for beekeepers and growers. The donors of PAM have changed a lot since then (keep your eye out for an article about where PAm's funding comes from and what's been done with it). But one of those founders has been unwavering in his commitment: Joe Traynor was an original board member and to this day his company, Scientific Ag Co., is a reliable PAM donor.



Joe says it's simple, adding a small fee to his contracts for pollination is "a painless way for both our beekeepers and almond growers to donate to research." Scientific Ag. Co. is a vehicle to give \$2/hive to support bee research, and Joe adds, "not even one of our growers has objected to this surcharge." Another example of this model of giving is our corporate sponsor, Costco. A small portion of their honey sales is set aside to support honey bees through PAM, and in just 4 years this has added up to over \$2 million! Joe explains, "A surcharge of only 50 cents/col, on the close to 2 million colonies rented to almond growers would be a windfall for bee research (and PAM)." Joe cites Varroa and the virus complex as a priority area for research funding. Despite decades of addressing Varroa, one might expect a trend toward a balanced relationship between the host and parasite. In fact, we see the opposite; economic thresholds for Varroa are *decreasing* over time. We don't know if this is due to coupled stresses of viruses, coinfections, or environmental factors, but we have much more work to do! Using your donations, PAM seeks solutions on your behalf, following our mission to *fund and direct research to enhance the health and vitality of honey bee colonies while improving crop production.*

Joe's bees are known to be of the highest quality and standards. His reputation, efforts to share information in the industry, and his dedicated support of research speak more than any words could. PAM thanks Joe Traynor and his company, Scientific Ag. Co., and encourages you to consider this donation model as you make your pollination contracts. It's also easy to donate online, from our homepage (www.projectapism.org) on the right hand column.



Nov 2016

All in the PAM-ly

Happy Thanksgiving! It is a time of year to be grateful for our loved ones and the bounty that surrounds us. It's also meeting season, and I think the two connect very nicely! I have been travelling nearly every week to meet with industry colleagues, and even if there are few familiar faces in the crowd, there is *always PAM family*. What I mean by that is on any given meeting agenda, there are always presenters who are part of PAM's sponsored projects. In ten years, over \$6 million will extend your research family quite a bit, and it is marvelous to see these groups and projects continue to develop value of PAM's investment in the industry! I want to take this opportunity to welcome our latest addition to the PAM-ly tree. We are pleased to announce the first Canadian PAM-Costco Scholar, Sarah Wood. As you would expect, Sarah has a very good academic record, she is successful and driven and has accomplished much already. However, what you might not expect to learn is that she is a veterinarian! Sarah is pursuing her Ph.D. at Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon. During finalist interviews this month at the Alberta Beekeepers AGM, it was clear that she has a strong commitment to beekeeping and bee research and has played a key role assembling a lab group with over 200 colonies for their studies which she maintains without a technician (a remarkable undertaking!). It is also worth mentioning that bridging the fields of veterinary science and bee science could not come at a better time, as regulations are changing for the use of antibiotics to treat honey bee maladies. Veterinarians and beekeepers will have to find a way to do business together. This has never happened in the past, but Sarah's work to offer veterinary students elective courses in apiculture is of great long term value to develop a new facet of that profession and bring veterinary animal science experts' attention to honey bee health. Sarah's chosen research project: "*The histopathology of worker honey bees (Apis mellifera) exposed to sublethal doses of the neonicotinoids*" has great potential to apply techniques that could offer standard, low-tech methods to assess honey bee health and toxicity of agrochemicals, something our industry has been requesting for years. Well-spoken and pleasant, and full of great questions, we believe Sarah will be an excellent representative for the PAM-Costco Scholar award. Make sure to congratulate her if you get the chance!



PAM-Costco Canadian Scholar Sarah Wood.

Oct 2016

Varroa Resistant Breeding Project at PAM

Project Apis m. is finishing the year strong! Our Seeds for Bees program, which offers free seeds to California's almond growers to increase diversity and duration of bloom for bee nutrition, has increased acreage 92% over last year! We are preparing to launch our forage project in the Upper Midwest--the Honey Bee and Monarch Butterfly Partnership--from a pilot to a regional program in 2017. This week we won a Specialty Crop Block Grant from the California Department of Agriculture and Food, to support our project breeding Varroa resistant bees, which will provide \$320K over the next 2.5 years. Our staff has been traveling to meet with stakeholders to present our work almost weekly. PAM nominated our first partner on a hedgerow project for a NAPPC Farmer-Rancher award, and Sran Family Orchards won! We are just about to close the request for proposals for the National Honey Board research funds, and we will select the first PAM-Costco Canada PhD Scholar at interviews next month. We are really on a roll! There is so much good work to share, but here's a look at the

best part--the bees! This short video captures the trait we select for in our Varroa resistance breeding program. If you have never seen it, take a look! (https://www.youtube.com/watch?v=uFNiVLX_bgE)



Honeybees removing mite infested brood.

It has reached over 90,000 people on our [Facebook Page](#), a hot post! Although there are many mechanisms of Varroa resistance in honey bees, including grooming and hygienic behavior, this is the mechanism of Varroa resistance we know most about, called Varroa Sensitive Hygiene (VSH). These bees can find the capped cells where a Varroa mite has entered to reproduce; they uncap those cells and remove the developing bee. As you can see in the video, the mite escapes alive, and she may try again. But the bees will interrupt her reproduction again, and this stops mite populations from growing. This behavior was discovered at the USDA Bee Lab in Baton Rouge, and since then they have selected and bred lines of bees to maintain this trait. The challenge

remains to stabilize that behavior in a bee with the full suite of desirable traits for commercial beekeeping use, to encourage commercial adoption. This is a significant endeavor. Breeding is a long-term commitment, and verifying the VSH behavior requires opening 100s of brood cells to inspect mite reproduction for each colony. It's a big challenge, but we believe it's worth doing--to develop a long-term, sustainable tool for Varroa control. We couldn't be more excited about all our projects to help bees. We look forward to sharing information with you at upcoming meetings!