The Bee Box

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Russell Heitkam (CA) and Robert Snyder (CA Tech Team) checking colonies in almonds this year. Photo courtesy of the Bee Informed Partnership

Christi Heintz and Tara McCall from Project Apis m. have generously passed the honor of writing this column to those of us at the Bee Informed Partnership. In the spirit of the Olympics, we view this as handing off a hive tool baton to a fellow team member in the struggle to improve colony health. We are proud to be associated with both PAm and *Blue Diamond Growers* and are excited to have this opportunity to describe who we are, what we do and report what is happening in the field and in the lab.

You may have heard of us from Christi's last article when she summarized our latest colony loss report. The Bee Informed Partnership began more than 5 years ago as a USDA/NIFA grant to monitor colony loss, management practices and to start a single Technical Transfer team in northern California to work with the queen breeders in that area. The grant has ended but the work continues and we transitioned into a non-profit that has evolved and expanded on the work we started years ago. We have now grown into five Technical Transfer teams based in California, Oregon, Texas, Florida and Minnesota and our outreach efforts and management results can be found at our highly utilized website – www.beeinformed.org.

Technical Transfer Teams

Undeniably, the greatest asset of the Bee Informed Partnership is our Technical Transfer Teams (TTTs). This small group of highly trained honey bee experts

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Katie Lee, Midwest (MN) Tech Team lead sampling colonies. Photo courtesy of the Bee Informed Partnership

work closely with commercial beekeepers in their region to quickly disseminate information to their beekeepers as well as monitor, sample and provide near real time diagnostic data to these beekeepers so that the operations can make informed decisions - decisions driven by data from their own colonies. Following colonies longitudinally, we are able to identify diseases or problems early and prevent unnecessary losses. Ours is a unique and special relationship and it takes years to develop the trust of these experienced and large operations. Once we have garnered the trust, the TTT acts as a second set of eyes, ears and hands for the commercial operations and often becomes one of the family. Although closely bound, we make sure that all data remain anonymized and confidential.

Since most commercial beekeepers are migratory, our TTTs also follow colonies to almonds and other pollination events as well as those areas where they are stationary while either making splits, packages, nucs (nucleus colonies), requeening or producing honey. Typically, a TTT will meet and sample a beekeeper three to four times a year, but the real strength of these teams is working one on one with a beekeeper to determine the optimal sampling regimen for that specific operation.

Other uses of our TTT include hygienic testing of queen breeder stock, testing new products or treatments, pesticide analysis, incidence response, treatment efficacy, queen health and protein testing.

Why are the teams located there?

Our TTTs are located in areas of the country where there is a high concentration of commercial beekeeping operations within a day's drive. Usually these regions exist due to nearby pollination needs, high honey production, or longer or warmer growing seasons that aid in splitting, queen production or package/nuc production. In some cases, for example our Pacific Northwest team based out of Oregon State University, we serve beekeepers in adjacent states such as Washington and Idaho in addition to Oregon. Many routes overlap in the migratory map and several of our TTTs are able to help each other in the field when colonies converge as in California for almond pollination or in North Dakota for honey production. Putting in long hours and many miles on our trucks are all part of being a TTT; however, our teams love what they do and they have a rare view into this small cadre of critical beekeepers that our food security relies on.

Participation helps lower losses – and how that helps growers

By collecting longitudinal pest and pathogen data on a percentage of colonies in an operation, we are able to inform a beekeeper's management decisions. Our central diagnostic lab, located at the University of Maryland, is able to turn around sample results on average in eight days from the sampling date (or within four days of receipt of the sample). Because of this near real time data exchange and because of other critical data we provide to the beekeeper, participating beekeepers have been able to significantly reduce their colony loss.

For the first time, we are able to present multi-year results of those commercial beekeepers active in our program compared to those beekeepers who are not. All told, beekeepers in TTTs lose 35.6% fewer colonies annually than their counterparts who are not serviced by tech teams. For the typical 2,000 colony operation this means that our members, on average, would save almost 300 colonies per year - a savings of at least $74,000.

Keeping more colonies alive and healthy enables more pollination units and a more stable population for growers. Healthier colonies in orchards and on farms mean that less disease is spread to neighboring colonies. We think this is a win-win for everyone.