

Enhancing the Tech Team Program for the Commercial Beekeeping Industry

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Problem and its Significance

We started a Honey Bee Tech-Transfer Team (Tech-Team) program to provide critical help for commercial beekeepers through personalized field assistance. The program is now run under the Bee Informed Partnership. Currently, there are 4 Tech-Teams: Northern CA, EastCoast/Southern CA, Hawaii, and Midwest.

Tech-Teams assist beekeepers with monitoring diseases and pests, selecting disease resistant stock, and facilitating research with interested labs.

Using the Tech-Team framework, we will investigate the most problematic pest in beekeeping: the parasitic mite *Varroa destructor*.



Extension

Information will be immediately provided back to the beekeepers whose colonies we test, and the overall findings will be made available to beekeepers at the Bee Informed website beeinformed.org.

Objective 1

Develop *Varroa* economic thresholds for commercial beekeepers through long-term longitudinal monitoring of how *Varroa* levels impact colony health.



Plans and Procedures

Determine the most effective times of year to treat commercial colonies and examine how different interacting factors can alter the thresholds.

Steps:

- Develop *a priori* hypotheses about *Varroa* and interaction factors including, *Nosema*, viruses, pesticides, nutrition, region, and treatments.
- Follow a cohort of bee colonies from multiple beekeepers, recording information about disease, *Varroa* levels and colony health factors, and mortality.
- Analyze data to test hypotheses.

Objective 2

Quantify success of the selection progress of disease resistance in colonies of honey bee breeders participating in the Tech-Team services.

Plans and Procedures

In operations selecting for disease resistance, we predict lower incidence of bee diseases chalkbrood and American Foulbrood (AFB), *Varroa*, and associated viruses.

Steps:

- Test colonies of bee breeders that are selecting for hygienic behavior and those that are not selecting.
- Track disease and mite levels over time.
- Compare levels of hygienic behavior, disease levels, and mite levels between beekeepers selecting and those not selecting.
- Develop a stock certification program.



Funding Sources

