

Developing Specialized Tech-Transfer Teams to Help Improve Honey Bee Genetics and Stocks

Project Leaders: Marla Spivak¹ and Susan Donohue²

¹Dept. of Entomology, University of Minnesota, Twin Cities, 219 Hodson Hall, 1980 Folwell Ave., St. Paul MN 55108
(612) 624-4798, spiva001@umn.edu

²University of California Cooperative Extension, 2279-B Del Oro Ave., Oroville, CA
(530) 538-7201, jssdonohue@ucdavis.edu

PROJECT SUMMARY

Objectives:

- Establish a specialized tech-transfer team as a pilot project to work directly with bee breeders in California to improve stock selection, enhance genetic diversity, engage in disease - and parasite-related diagnostic evaluations, and participate in collaborative and interdisciplinary research on key issues.
- Use the pilot project experience as a basis for establishing a second tech-transfer team elsewhere in the United States.

Background and Discussion:

The almond industry is currently challenged by the presence of colony collapse disorder (CCD) and other adverse conditions that affect the well-being of honey bees and thereby of the \$18 billion pollinator-dependent U.S food crops.

This project is intended to help the beekeeping industry deal directly with this situation. Based on related work done by the project leader and others, it focuses on actively supporting the industry by providing the all-essential bee breeders with hands-on assistance in the form of expert services intended to improve honey bee genetics.

Those services are planned to include helping breeders (1) engage in effective stock selection and breeding for resistance-to-pathogens-and-parasites traits, (2) enhance the genetic diversity of their bee stocks, (3) use diagnostic evaluation

methods and information on integrated management practices to cut back on the use of medications, and (4) join other breeders and researchers in working collaboratively on key issues, such as the nutritional state of colonies.

The project calls for these services to be provided by a tech-transfer team consisting of a few independent and experienced professional consultants. This approach is based directly on the almond industry's tradition whereby growers work closely with specialized consultants.

This pilot program recently has become supported by the Bee Informed Partnership (BIP, beeinformed.org). The tech-transfer team will consist of three professionals under the guidance and support of the project leader, the project collaborators and BIP.

In addition, the project leader in conjunction with an economist funded by BIP will develop a five-year business plan for the tech-transfer team. It will be based on the assumption that the project is likely to lead to significant advances in honey bee genetics and stock selection and will become self-sustaining.

Project Cooperators: Susan Cobey, University of California, Davis; Steve Sheppard and Timothy Lawrence, Washington State University; Katie Lee, Coordinator, UCCE - Butte County

For More Details, Visit

- Poster location 46, Pollination Pavilion, Session 3; or on the web (after January 2012) at AlmondBoard.com/AICposters
- 2010 - 2011 Annual Report CD (10-POLL5-Spivak); or on the web (after January 2012) at AlmondBoard.com/ResearchReports
- Related Projects: 11-Poll4-Cobey; 11-Poll7-Sheppard