

Varroa Treatments: Efficacy and Economic Impact

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PROJECT SUMMARY

Objectives:

- Determine the efficacy of various treatments for Varroa control on mite levels.
- Determine the treatment effect on colony strength and behavior.
- Determine the economic impact of the treatments.

Background and Discussion:

Varroa destructor continues to be the number one threat to the beekeeping industry despite its efforts to control it. The repeated application and misuse of registered acaricides over the years led the parasitic mite Varroa to become resistant to these products, and chemical residues have been found in brood combs as well as in apiculture products. Residues of such control agents in hives and their negative effects on bee health have become an important issue and need to be taken into consideration when making management decisions for Varroa control treatments.

This research project focuses on the efficacy of commercially available natural treatments for mite control and their economic impact. The efficacy of the natural treatments will be tested against Apivar, an effective but non-natural treatment. The ongoing field study was set up in September 2013 in Monterey County, CA and Mr. Gene Brandi provided 48 colonies. Colony assessment, mite counts and queen marking were performed in all colonies before the treatment application. The treatments are: Apiguard, HopGuard II, Mite Away Quick Strips and Apivar. The first treatment was applied in September 2013 following manufacturer's instructions.

Colonies were evaluated one month after the treatment application, in mid-October 2013. The data collected has shown that post-treatment mite counts have decreased considerably after one application. Colony data recorded at this time has also shown a decrease in frames of bees. No significant changes were observed on the number of frames of brood. Some brood damage was observed on Apivar colonies where the strips were hung but not significant enough to have a negative effect in the colony as a whole. All the queens were alive and accounted for at this time. It was noted that natural forage was dwindling in the area and nutritional supplements along with sugar syrup were fed to the colonies. Colonies will over-winter in Monterey County, CA and will be evaluated again in late January of 2014. Colony measurements along with queen survivorship will be performed before almond pollination and after each subsequent treatment in the Spring of 2014. Significant differences among treatments will be determined by a repeated measures analysis of variance. A detailed expense report log will be kept to calculate the financial costs of the different treatments at the end of the study. This will allow us to analyze the total costs to determine the economic impact of the treatment on the beekeeper's operation. The goal is to have strong and healthy honeybee colonies in sufficient numbers to provide efficient almond pollination.

Project Cooperators and Personnel: Mr. Gene Brandi, Gene Brandi Apiaries, Los Banos, CA; Dr. Gloria DeGrandi-Hoffman, USDA-ARS, Carl Hayden Bee Research Center, Tucson, AZ

For More Details, Visit

- Poster location 5, Exhibit A and B during conference; or on the web (after January 2014) at www.almondboard.com/researchreports