

Healthy Bees LLC – BIP Field Trial

BeesVita Plus

Addendum: Observations and Possible Future Studies



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Bee Informed Partnership, Inc.

College Park, MD, USA

BVP TRIAL FEEDING REPORT 2018 ADDENDUM

TECH TRANSFER TEAM MEMBER STUDY OBSERVATIONS

While using the product in the field, BIP Tech Transfer Team members made a series of observations and practical notes that we include here to support the future evolution of this product.

Application Method or Product Delivery:

Providing a measuring device or applicator for precise dosage may enable quicker and more accurate application.

- Perhaps an inner cover tray or flat surface on which to place a scoop would allow for easier application. Preventing spillage between combs was unavoidable.
- Squeeze bottle application was useful but tended to clog, particularly in humid condition.
- If the goal is to have the bees constantly consuming the product, it may be better in a patty or other form that would facilitate a 'slow release' of the product, and the colony may also be less likely to view it as debris and remove it.
- Difficult to secure product bags.

Application Observation:

- Upon application, the bees appeared to initially avoid the product, but bees would investigate the product away from the hive.
- Hygienic behavior and overall hive population size may be a factor affecting how fast or well the bees consumed or moved the product out of the hive.
- This version of the product changes the wax color and honey cappings to a greenish color
- Small Hive Beetles were seen by the bag so, like pollen patties, this may be an attractant to that pest.
- When applied on the top of supers, some of the product spills into cells of unripe honey. Once capped, the product remains visible in the capped cells and in honey.

Concerns:

- The product smells unappealing to some people.
- Some beekeepers raised questions about queen acceptance rates during treatment and this may be a possible subject of future investigations.
- Difficult to apply the product in adverse weather such as rain or windy conditions.

POSSIBLE TOPICS FOR FUTURE RESEARCH

- Determine how this product works throughout the year especially in the fall when colonies start shutting down and will be less active with the product.
- Determine the effect on colony health in a true nectar and/or pollen dearth with no other supplemental feed. Previous research has shown that feeding pollen substitutes earlier in the fall and controlling *Varroa* adequately made for stronger colonies by the time of almond pollination, and especially when done in combination. A BVP feeding trial could be structured with a similar endpoint: frame count of colonies at almond pollination time.
- As a subset to the above trial, it would be worthwhile to compare this product to a standard protein patty and an untreated control group to determine the effect on brood rearing.
- Determine the effect of rain or wetness on the product and if that has a negative effect on colony acceptance.
- Determine if there is a nutritional benefit of the product beyond disease treatment.
- Determine this product's mode of action. As per discussions, we are seeing a large degree of plasticity in *Varroa* size that may be related to the mode of action of the active ingredients in varroacides, be it a fumigant or a contact miticide.

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