

Treatment-free beekeeping: a case study of success in the Negev desert

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A successful story in chemical free beekeeping is presented.

It will describe the multi-disciplinary methodology developed and tested in the ten year operation from 2015 to 2025.

The apiary was settled in a semi desertic climate in BeerSheba city, Negev desert. Local bees are Italian breed already cultivated for 40 years now in the location.

As a result strong survivor colonies were obtained without applying chemical treatment for the last 5 years. Honey was also harvested in late fall through winter, where nearby professional operations in standard hives are fed to survive.

The project crossed the following phases:

- 1) Initial failures using standard hive and collecting swarms.
- 2) Pioneering experimentation on Primal hive in a warm climate as a central part of selective strategy
- 3) Final Hive design fine tuned in the field and symbiotic pseudoscorpion integration.

By practical operations, success key points are following resumed:

- i) The hives being used are Primal Bee, the only hive providing the nest optimal living conditions which are humidity and warm microclimate. It was observed as a colony in the original Primal Bee hive raised the nest temperature up to 45 centigrade (Celsius) during December of that year while the outer temperature was 15 centigrade. This is important because the other standards of beehives can't hold this temperature or even reach it. Primal Bee has been tested as a successful model that maximizes colonies' abilities to survive against Varroa mites and diseases.
- ii) There are genes that are continuously selected by the beekeeper over time.
- iii) The symbiotic life of bees with pseudo-scorpions, black ants and thousands bugs that live inside the hive and around its environment; they are an important part of the bee's life and flora. This is a subject being researched globally, not only on honeybees, and its impact needs more study.

Work highlights synergistic results between the innovative Primal Bee hive design, the environment, and bee biology, bringing results unknown in industry and active beekeeping communities. More researches are planned in the years to come.