

PP-055 [Bee Health] Overcoming varroa destructor

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Varroa Varroa is today the greatest threat to honey bees globally, causing yield losses and, in extreme cases, the death of hives. Chemical and organic treatments, the basis of conventional management, have generated resistance in Varroa and dependence in bees, resulting in loss of genetic diversity. This loss limits the ability of bees to adapt to their own threats (Doñana Biological Station, 2025). However, in Santa Cruz, Bolivia, an innovative solution has been developed. Since 2000, a different approach has been worked on, presented at events of the Departmental Association of Beekeepers (ADAPICRUZ) and at APIMONDIA Chile 2023. This model, based on observation and supported by natural processes, promotes a positive co-evolution between bees and Varroa.

The approach is based on two pillars: natural swarming and quantified honey reserves. Swarming encourages genetic diversity, adaptation and resilience. The honey reserve ensures that they have the resources to carry out these processes. These principles have shown that bees, by developing their own defenses, can coexist with Varroa without the need for external treatments.

This system, called "A More Natural Beekeeping Production System that generates genetic diversity and is easy to manage", not only reduces costs and simplifies management, but also promotes bee well-being and resilience. As Nogués states (cited by Larson, 2025), "a species with genetic solutions is better prepared to face changes."

The Santa Cruz experience is an example of how trust in natural processes can offer sustainable solutions. In a world facing biodiversity loss and the climate crisis, this beekeeping system represents a hopeful alternative, showing that sometimes the best intervention is no intervention.