UNDERSTAND THE HEALTH FACTORS

It is simply miss-information to continue to promote a single cause, varroa mites, and therefore imply a single solution. It is misinformation to the food consumer, agricultural stakeholders, and policy makers to ignore other factors simply because it makes for convenient data collection.

The factors impacting honey bee health are pesticides, pests, pathogens, and poor forage. To continue the fallacy of a single pest is misleading. When examining bee health one cannot simply assess one pest, but every single factor, and the cumulative effects of all of the factors.

The intense use of pesticides contributes significantly to the weakened health of honey bees exacerbating the impact of the varroa mite. If it is just varroa mites impacting the health of honey bees, what has caused the decline in Monarch butterflies?

We must ensure research is complete, encompasses the bees’ real-world, and involves /acknowledges beekeepers in the research design, development, and implementation. Honey bee health will only improve when we acknowledge the complete experience of the honey bee and the beekeeper.

Bee health is not failing just because of the varroa mites; varroa mites are taking advantage of a hive already suffering a weakened immune system as they interact in their ecosystem. “It’s the mites, because ...”

“Improving pollinator density and diversity has a direct positive impact on crop yields, consequently promoting food and nutrition security.”
Jose Graziano da Silva, Director-General, Food and Agriculture Organization of the United Nations (FAO)

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A SINGULAR FOCUS IS MIS-LEADING

The focus on varroa mites, as the sole pest to honey bees, detracts from a primary factor affecting the health of honey bees: pesticides. The varroa mite has been in the USA since the mid-1980’s. Beginning in 2005 bees started dying in unprecedented numbers. As the cause had not yet been identified, it was called “colony collapse disorder (CCD).” The cause was not Varroa, beekeepers had been dealing with Varroa mites for years. Even if Varroa was the cause in a few operations, it isn’t a plausible explanation for the entire “CCD” phenomenon. While many researchers have correlated the ecosystem accumulation of systemic and conventional pesticides with abnormal bee mortality, too many continue to discount bee toxic pesticides, including those pesticides clearly defined as “bee toxic.” But in this bee health crisis “There is relatively little incentive for university entomologists to consider complex real-world issues such as the cumulative effects of toxic synergies that involve low doses of neonicotinoids, the way beekeepers might.”

(Suryanarayanan & Kleinman, 2016)

RESEARCH SHOWS THE ACCUMULATION OF PESTICIDES

Research across a number of years shows the residues of crop protection pesticides in bee hives creating sub-lethal and behavioral altering environmental levels of toxins within the “house, nursery, and food pantry” of the bee hive. When honey bees eat sublethal levels of toxins, when they feed it to their young, when it contaminates the pollen and nectar they bring into the hive, or the pesticides leach across frames contaminating pesticide-free pollen or nectar, of course the bees are susceptible to the effects of the varroa mite. A weakened immune system is typically attacked on many fronts. With honey bees the varroa mite is just the final straw in the colonies’ health. “It is the mites because” of the accumulation of pesticide residues on the bee forage, as well as pesticide residues in and on water.

“IT IS THE MISUSE AND OVERUSE OF THESE PESTICIDES THAT LEADS TO ADVERSE ECOLOGICAL AND HUMAN HEALTH CONSEQUENCES.”

National Strategy To Promote The Health of Honey Bees and Other Pollinators, May 19, 2015, pg. 47

Pesticide exposure alters the varroa-to-bee relationship allowing varroa to overrun the hive. Using Bee Informed Partnerships’ treatment threshold of no more than three varroa mites per hundred bees the composite sample of a bee yard is just under or at the threshold. When the bees are subjected to an insecticide spray, if it is in the city, maybe mosquito abatement, or in agriculture, aphid spraying on a blooming crop; a relatively “light hit” of pesticides may only kill half of the bees. What happens to the varroa to bee ratio then? Every varroa mite in a brood cell raising its next generation are happily feeding on healthy bee larva. In a matter of hours, the mite to bee ratio may double. Research is showing however, that varroa mites exposed to sub-lethal levels of these same pesticides go into hyper breeding mode. Several weeks out the hive is in trouble with a varroa mite overload; but it is mites because, not because of mites.