CENTRAL COAST BEEKEEPERS NEWSLETTER

July, 2026

NEXT MEETING - Annual Picnic -August 22nd

Join us on Thursday, July 16th at the Newport Extension office from 1:30 to 3:30pm to hear a presentation on nutrition by Ben Nichols who, though raised in the Midwest, came to Oregon two years ago to work on his PhD at the OSU Bee Lab. He has worked with honey bees for nearly ten years, and conducted research with them over the past five years. He is very passionate about honey bee nutrition, integrated pest management of apiaries, and resource management that help our honey bees and native pollinators. He currently has twelve colonies back in Illinois that his father manages as his retirement hobby, and manages

nearly thirty colonies here in Oregon. He currently lives in Corvallis and spends most of his time in the valley, but the coastal range is where his heart is. His dream is to have a small beekeeping business in the coastal range working on honey bee nutrition research, and applying land management techniques to provide bees with a year-round buffet in this beautiful part of the world.

His presentation will focus on nutrition, which is a vital component for the health of honey bees, but is often an under looked component for beekeepers and the management of their colonies. Additionally, summers and falls in western Oregon are noted for their rough conditions when it comes to honey bee forage that provides their nutritional needs. This presentation will discuss the basics of honey bee nutrition, how nutrition impacts the health of both individual bees and the colony, and how beekeepers are affected by this. The talk will also discuss ways beekeepers can manage their apiaries to mitigate these risks, and look over the local forager available at this time of year.

We look forward to seeing everyone at the meeting!

SOME INTERESTING RECENT RESEARCH ABSTRACTS

https://academic.oup.com/jee/advance-article-abstract/doi/10.1093/jee/toag150/8698680?redirectedFrom=fulltext&login=false

Abstract: The European beekeeping sector is facing serious challenges due to the accidental arrival of the yellow-legged hornet (Vespa velutina Lepeletier, 1836). This invasive species undermines honeybee colonies and disrupts the workers' ability to forage effectively. Various control methods are currently used to manage this invasion. In this study, we evaluated the performance of a trap adapted from the design proposed by beekeeper Koldo Belasko, hereafter referred to as the Adapted Koldo Belasko (KBA) trap. We set up KBA traps across several apiaries within the Girona area (Catalonia, northeastern Spain) during 2023. The traps consistently captured high numbers of V. velutina and showed relatively high selectivity regarding non-target captures, particularly in the case of species smaller than V. velutina. These findings are highly relevant to the beekeeping sector and regulatory authorities, as they highlight how the KBA trap can help to prevent colony losses. Overall, the KBA trap is presented as a sustainable and environmentally friendly, for integrated hornet management in beekeeping.

Plain Language Summary: Koldo Belasko is a beekeeper in Spain who devised a mesh-and-funnel trapping system for hornets. The trap appears to have been publicly circulating since 2019. Researchers tested a modified hornet trap, called the KBA trap, in beekeeping areas in northeastern Spain and found that it caught large numbers of these hornets while minimizing the

capture of other insects. The results suggest that the KBA trap could be an effective, environmentally friendly tool to help protect honeybee colonies and reduce losses for beekeepers.

Lamas ZS, Chen Y, Niño EL, Boncristiani D, Mayack C, Seshadri A, Fine J, Evans JD. Chemical residues in declining commercial honey bee colonies. Environ Toxicol Pharmacol. 2026 May 29;124:105048. doi: 10.1016/j.etap.2026.105048. Epub ahead of print. PMID: 42217815.

Abstract: Following heightened colony losses, we screened 132 colonies from 23 commercial beekeeping operations in the states of Florida and California. We assessed chemical residues, finding beekeeper-applied miticides, followed by fungicides, were in the highest prevalence and concentration in all colony matrices. Insecticides comprised a minority of detections and concentration. Due to their heightened toxicity, insecticides contributed substantially to hazard quotients with one residue, the neonicotinoid imidacloprid, contributing 99.9% to overall HQ. We found both high prevalence and high levels of imidacloprid in adult bee bodies. Additionally, we preserved a small subsample of dying bees. Our findings highlight a survivorship bias, where dying bees had active ingredients known to have acute toxicity to bees. This result mirrors recent evidence for viral drivers of bee declines that were missed in whole-colony surveys. While bees die from multiple, often interacting, stressors, here we show single contributors at levels capable of causing acute harm.

Plain Language Summary: Researchers screened 132 managed honey bee colonies from 23 commercial operations in Florida and California in January and March, 2023, sampling dying bees. While previous results indicated high virus samples in dying bees from 2023 colony die-off events, multiple factors are likely at play. This new analysis identified imidacloprid as the largest contributor to hazard quotient based upon a pesticide exposure risk assessment. This is NOT an Open Access Article.

Petit L, Jack CJ. Sublethal Effects and Associated Risks of Acaricides Used Against Varroa destructor in Honey Bee (Apis mellifera) Colonies. Insects. 2026 May 19;17(5):517. doi: 10.3390/insects17050517. PMID: 42188183; PMCID: PMC13206983.

Abstract: Beekeepers widely recognize Varroa destructor (Mesostigmata: Varroidae) as one of the most serious threats to honey bee (Apis mellifera) health. To control V. destructor, beekeepers routinely use chemical treatments that reduce mite populations, benefiting colonies. However, these treatments also expose honey bees to compounds that may cause unintended harm. Honey bees and V. destructor share biological structures that are targeted by acaricides. In this review, we describe the main modes of action of commonly used synthetic and natural chemicals and discuss differences between mites and honey bees that explain selectivity. In addition, exposure to non-lethal doses can potentially disrupt honey bee functions outside the treatment's primary targets. Here, we synthesize current knowledge on the effects of V. destructor control chemicals on honey bee health at the molecular level, the individual level (including larvae,

workers, queens, and drones), and the colony level. Unfortunately, not all tissues and colony functions have been studied for every compound. Therefore, this review also identifies knowledge gaps where the effects are still unknown. We believe that a better understanding of the effects of V. destructor treatments on honey bee colonies will help beekeepers manage these treatments more carefully, benefiting both beekeepers and honey bees. Plain Language Summary: Varroa treatments are essential tools and the benefits of controlling mite infestations generally outweigh the risks associated with the products themselves. However, research shows that some commonly used treatments can have subtle, non-lethal effects on bee health, behavior, and colony performance that may only become apparent after long-term use. Beekeepers should continue to manage Varroa effectively while staying informed about potential side effects, rotating treatments when appropriate. This review includes several highly detailed diagrams and illustrations showing how different Varroa treatments can affect bees at the molecular, individual, and colony levels. Beekeepers interested in the science behind treatment impacts may find these figures particularly informative. This is an Open Access Article.

Le Bivic P, Alaux C, Höhener P, Gori D, Le Conte Y, Vidau C, Belzunces LP, Pioz M. Water dynamics in the honey bee colony (Apis mellifera): monitoring under high temperatures. J Insect Physiol. 2026 Jun;171:104987. doi: 10.1016/j.jinsphys.2026.104987. Epub 2026 Apr 5. PMID: 41946440.

Abstract: Water is essential to the development of honey bee colonies. It is mainly used for larval jelly production and brood thermoregulation. While the mechanisms by which colonies collect water are fairly well documented, the fate of this resource within the colony is not. Understanding this could help us grasp how honey bees cope with climate change. To address this knowledge gap, we used a stable isotope approach to track the fate of water within a colony. Using 5% (v/v) deuterated water (D2O) we estimated the water turnover rate in adult honey bees, as well as the dynamics of the water used to produce larval jelly and eggs. Next, we investigated how ambient temperatures affect the water used by the colony, including bee water consumption, and the water used for the production of larval jelly and thermoregulation. Unexpectedly, our study showed that the water loss rate in adult bees is lower than in other insects dealing with a high-water-content diet, such as mosquitoes. Additionally, our results revealed the shift in the colony's water usage pattern due to the thermoregulation's need for water. At 32 °C, 80% of the water collected daily being consumed by the bees. Above 37 °C, however, this shifted so that about 50% of the water collected daily being used for thermoregulation and the remaining 50% being consumed by the bees. In conclusion, our results suggest that there may be a limit to the amount of water that colonies can collect, raising questions about their ability to cope with intense, long-lasting heatwaves.

Plain Language Summary: Water is not only needed to feed developing larvae but also plays a critical role in keeping the hive cool during hot weather. This study found that as temperatures rise, colonies shift more of their collected water from bee consumption to cooling the hive, with about half of all water collected being used for thermoregulation when temperatures exceed 37°C (99°F). The findings suggest that honey bee colonies may face challenges during prolonged heatwaves if they cannot gather enough water to meet both their nutritional and cooling needs. This is an Open Access