

The Pollinator Health Puzzle

Bee health can be a puzzling topic, but researchers and scientists have determined that the complex interactions among multiple stressors impact the country's pollinators.¹ What are some of the factors that influence pollinator health?

Australia, where the Varroa mite is not present, has a bee population healthy enough to export queen bees to replenish colonies abroad.³ A report published by the Australian Pesticides and Veterinary Medicines Authority (APVMA) found that **the introduction of neonicotinoids had "led to an overall reduction in the risks to the agricultural environment from the application of insecticides."** It added that "Australian honeybee populations are not in decline, despite the increased use of this group of insecticides in agriculture and horticulture since the mid-1990s."⁴

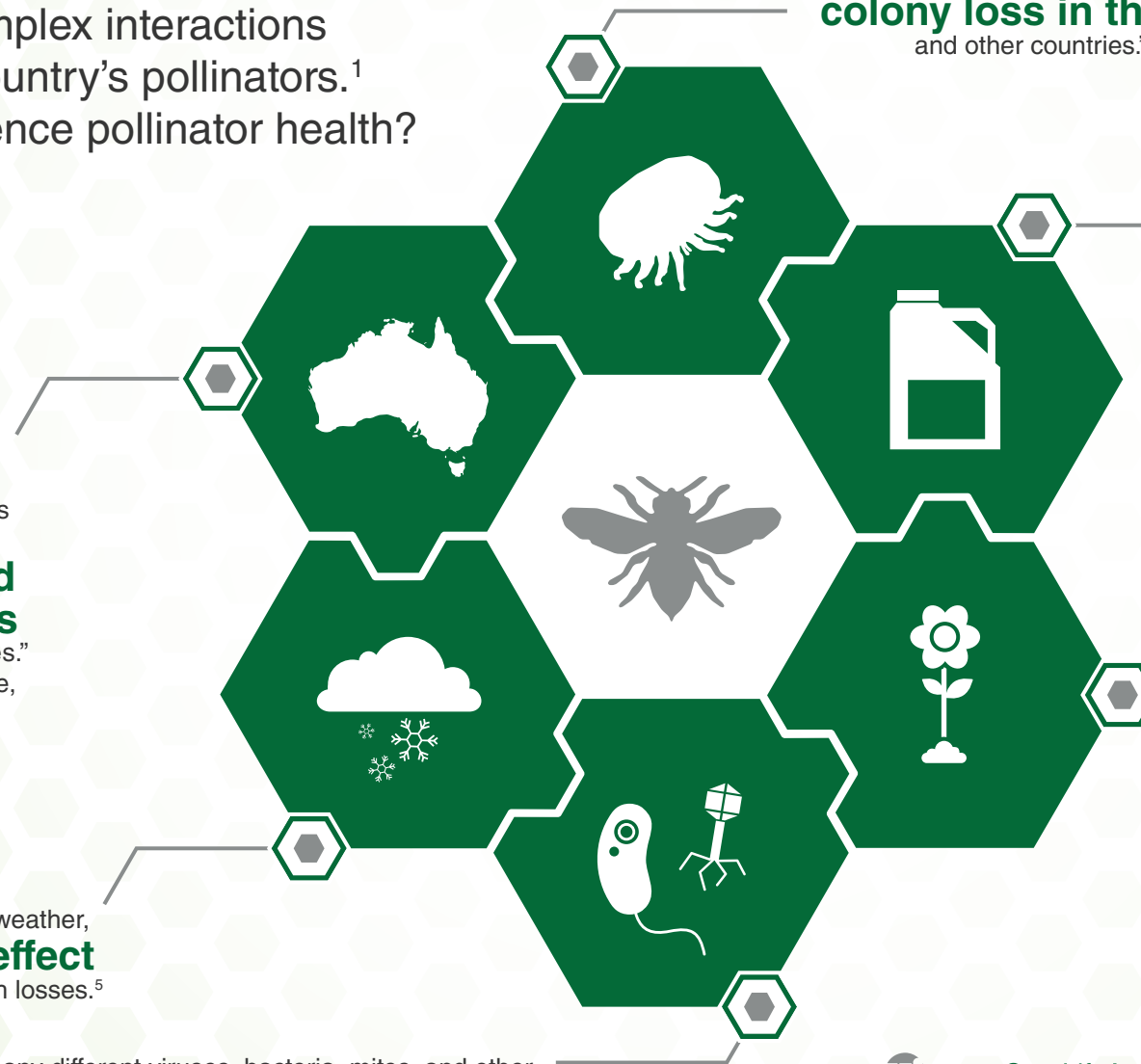
Weather, especially unusually cold weather, **can have a negative effect** on bee colony health and lead to high losses.⁵

Bees face many different viruses, bacteria, mites, and other pathogens that negatively affect their health, and **more are being discovered all the time.** These include: Varroa mites, tracheal mites, wax moths, American foulbrood, European foulbrood, nosema, chalkbrood, deformed wing virus and sacbrood virus.⁶

The U.S. Environmental Protection Agency and the United States Department of Agriculture in a joint report identified the Varroa mite as **"the major factor underlying colony loss in the U.S. and other countries."**²

When not applied according to label directions, pesticides can have a negative impact on bee health. It's important for applicators to **follow the label instructions** to help prevent adverse effects on pollinators.

Insufficient nutrition plays a direct role in bee health. Lack of forage can **weaken the honey bee's immune systems** and make bees more susceptible to other threats, such as pathogens.⁷ Farmers are encouraged to plant diverse and plentiful sources of nectar and pollen to boost forage for native pollinators and honey bees.



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¹<https://www.epa.gov/pollinator-protection/pollinator-health-concerns#factors>

²<https://yosemite.epa.gov/opa/admpress.nsf/0/E04602A5E7AA060685257B5F004A12D3>

³https://www.researchgate.net/publication/228361576_Honey_bee_colony_loss

⁴http://archive.apvma.gov.au/news_media/docs/neonicotinoids_overview_report_february_2014.pdf

⁵<http://www.pbs.org/newshour/run-down/beekeepers-feel-the-sting-of-climate-change/>

⁶<http://uaex.edu/farm-ranch/special-programs/beekeeping/hive-pests-diseases.aspx>

⁷<http://www.ars.usda.gov/News/docs.htm?docid=15572>