

Highest winter mortality of bee colonies since 2010

More than a quarter of Dutch honey bee colonies did not survive last winter, according to reports from Dutch beekeepers. This puts the winter mortality at a level we haven't seen for more than a decade. These findings come from WUR's annual monitor. ♦ Photo Shutterstock



Resource enquired in 2019 as to what had happened to all the bee deaths. The answer this year seems to be: they're back with a vengeance. Of the 2779 Dutch beekeepers who were surveyed, 280 said they had lost all their colonies, while 1075 had not had any winter deaths. Mortality was highest in Utrecht province, at 41.6 per cent, while the beekeepers of Limburg reported the lowest mortality (16.6 per cent).

A clear cause has not yet been identified, says honey bee researcher Harmen Hendriksma. 'In fact, all the usual suspects are in the dock.' Weather conditions are among the possible causes he mentions: 2022 had a very dry summer and a mild winter. The long-lasting dry conditions may have negatively affected the local food supply. Then persistent high temperatures in the autumn meant that it took a relatively long time for colonies to go into hibernation mode. 'They kept producing new broods even though there was no longer enough food for them,' the researcher explains.

Hornet

The odds on a big role for the Asian hornet — currently in the news because the exotic species has now spread to nearly all Dutch provinces — seem low to Hendriksma. 'An Asian hornet can cer-

tainly harm a colony. If a predator hangs around the hive, the bees won't be so keen to fly out and back to forage. But the Asian hornet is not as common here as it is in Belgium, which already has hundreds or even thousands of nests. What is more, Limburg and Brabant have

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relatively low mortality rates whereas that is where the Asian hornet is most prevalent.' He thinks the Varroa mite is more likely to have been a significant factor in the winter mortality. This parasite reproduces in the bee brood and often carries pathogens. An example is the deformed wing virus. The mite also harms bee development indirectly. 'If a hive is already weakened when it goes into winter, the risk of mortality is much higher. Varroa is known to be highly correlated with winter mortality,' Hendriksma says.

He does not rule out other factors as well, such as how the beekeepers

manage their colonies. 'New beekeepers don't yet have that gut feeling for the health of their colony that more experienced beekeepers have. Some also deliberately don't use mite control products but try instead to increase the resistance of the colony through natural selection — which leads to higher mortality as a side effect.'

The data from the monitor will be analysed in further detail to get a better picture of the winter mortality and its causes. Those results are expected later this year. Hendriksma also hopes to get funding for multi-year research. 'I'm itching to get to work on figuring out the puzzle of winter mortality.' ME