

# Glyphosate herbicide does not cause mortality in bumble bees

November 17 2021

---



Credit: CC0 Public Domain

Glyphosate is the most commonly used herbicide in the world, and is widely used in agriculture. While glyphosate has been deemed 'bee-safe' by regulators, some emerging evidence studies suggest that it has

negative effects on bees. For that reason, discovering whether glyphosate alone, or in combination with other stressors, is detrimental to bee health, has become a question of great importance.

A new study by authors Edward Straw and Prof. Mark Brown of Royal Holloway University of London (RHUL) expands the current knowledge on [glyphosate](#). It examines the impact of glyphosate on a previously untested species, the buff-tailed [bumble bee](#), *Bombus terrestris*, and incorporates a bee parasite, *Crithidia bombi*, that has never before been tested alongside glyphosate.

By using several different research methods from the field of ecotoxicology, the authors observed that there was no significant effect on bee mortality when bees were exposed to glyphosate, the bee parasite, or both stressors together. In addition, no significant effect was observed for reproduction or sucrose consumption.

The findings provide solid evidence that oral exposure to glyphosate does not cause mortality in bumble bees. Inconclusive evidence was found as to whether glyphosate made parasite infections more intense, but either way this is unlikely to be relevant at environmentally realistic concentrations.

Because the research finds no effects of glyphosate, the parasite, or their combination on any measurement of health, the results do not indicate any requirement to change the regulatory status of the active ingredient glyphosate as it pertains to bumble bees.

Despite the fact that the results find that glyphosate is unlikely to be harmful to bumble bees either alone, or alongside a common parasite, previous work found that it may have a negative impact on honey bees. For that reason, the authors of the article advise that further research on wild bee species and sublethal metrics would be useful to assist in

resolving whether this widely used chemical is safe for bees.

Edward Straw says "Glyphosate is a very polarizing chemical, with scientists divided over whether it's safe or not. As such, it's important that decisions about whether to restrict its usage are made based on rigorous science. Our findings are strong evidence that glyphosate alone is not causing mortality in bumble bees."

"As an incredibly important and useful herbicide we need more evidence from a wider range of species, exposures, and methodologies to determine if glyphosate is safe, so it can be used with confidence. Tests on the active ingredient (glyphosate) alone aren't enough because prior work has found the other ingredients used in the herbicide products can be dangerous to bees."

**More information:** Edward A. Straw et al, No evidence of effects or interaction between the widely used herbicide, glyphosate, and a common parasite in bumble bees, *PeerJ* (2021). [DOI: 10.7717/peerj.12486](https://doi.org/10.7717/peerj.12486)

Provided by Pensoft Publishers

Citation: Glyphosate herbicide does not cause mortality in bumble bees (2021, November 17) retrieved 18 April 2024 from <https://phys.org/news/2021-11-glyphosate-pesticide-mortality-bumble-bees.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.