

'No solid evidence' for biopesticide-diarrhea link

July 17 2017

A report commissioned by EU food regulators wrongly linked a highly effective biopesticide with diarrhoea in humans, an expert says.

A [review](#) by the European Food Safety Authority (EFSA) found that *Bacillus thuringiensis* (Bt) posed a health risk equivalent to a related bacterium which causes diarrhoea.

But Dr Ben Raymond, of the University of Exeter, said there was "no solid [evidence](#)" Bt caused diarrhoea.

Writing in the journal *FEMS Microbiology Ecology*, he said recent evidence supported the view that Bt bacteria - especially the strains used in biopesticides - were "very safe for humans".

Microbial biopesticides are microscopic organisms that are used to control pests such as insects.

They are used as an alternative to chemical pesticides, and various strains of Bt are used to kill pests including fly and mosquito larvae, caterpillars and beetles.

"Microbial biopesticides based on Bt are widely recognised as being among the safest and least environmentally damaging insecticidal products available," said Dr Raymond, of the University of Exeter's Penryn Campus in Cornwall.

"It's the biggest-selling microbial control agent in the world, and it's a vital part of many environmentally friendly pest management systems."

EFSA commissioned a review of Bt safety after a food poisoning incident in Germany, but Dr Raymond said the review was "a poor representation of the evidence" and its findings were "potentially very damaging" to the bio-control industry and horticultural growers.

"Contrary to EFSA's findings, a critical examination of available data - and this latest incident - provide no solid evidence that Bt causes [diarrhoea](#)," he said.

"Bt has been used perfectly safely for 70 years, and EFSA's review created ambiguity where there was no need to.

"The *Bacillus cereus* group - to which Bt belongs, does contain bacteria which can make humans ill.

"But the evidence shows that the group is made up of distinct sections, and the section posing the greatest risk is only distantly related to the one containing all biopesticides.

"No strain produced to kill insects has been shown to cause infections or pose risks to humans."

More information: "In defence of *Bacillus thuringiensis*, the safest and most successful microbial insecticide available to humanity - a response to EFSA" *FEMS Microbiology Ecology*, 2017.

Provided by University of Exeter

Citation: 'No solid evidence' for biopesticide-diarrhea link (2017, July 17) retrieved 27 April 2024 from <https://phys.org/news/2017-07-solid-evidence-biopesticide-diarrhea-link.html>

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