

Off-target effects of glyphosate on bacteriophages: mechanisms and implications for environmental health

Initiative: "Experiment!" (beendet)

Ausschreibung: Explorative Phase

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Projekt-Website: <https://www.vetmeduni.ac.at/en/veterinary-public-health-and-epidemiology/about-us/>

academic-staff/makarova-olga

Glyphosate, a common herbicide, is known to have off-targets effects on various organisms including those on bacteria. Bacteriophages - viruses that infect bacteria - are the most abundant form of life on Earth that play a critical role in the ecosystems health. Yet, there has been virtually no research into whether glyphosate may affect bacteriophages - despite the fact that both life forms are highly abundant in the environment. This project seeks to understand whether, to what extent and how glyphosate inactivates temperate bacteriophages and thus influences their life cycle, and what it means for the environmental health. Considering that the balance between dormant and active states in bacteriophages is crucial for many aspects of bacterial ecology and evolution (virulence, antibiotic resistance and population dynamics) and the vast scale on which glyphosate is released into the environment, the impact of this overlooked interaction is potentially far-reaching.

Projektbeteiligte

Dr. Olga Makarova

Veterinärmedizinische Universität Wien
Institut für Lebensmittelsicherheit, Lebensmittel-
technologie und öffentliches Gesundheitswesen
Wien
Österreich