

# Soil health is as environmentally important as air and water quality, say microbiologists

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There are an estimated 40,000 to 50,000 species of micro-organism per gram of soil. Addition of certain microbes can tailor soil characteristics: removing contaminants, improving fertility and even making barren land available for farming.

The Microbiology Society's report calls for increased access to research into soil health, promoting outreach activities in agricultural colleges and schools and showcasing work in non-academic outlets. This, say microbiologists, is the best way to collaborate with farmers to improve soil health and agricultural productivity.

Tilling and excessive use of fertilizers have major effects on soil health. Microbiology can be used to help understand the impact of intensive farming and design feasible mitigation practices.

The report highlights collaboration with farmers as key for improving soil health, and sustainable soil management practices should be designed with agricultural requirements and practices in mind. Sustainable soil management should be incentivised, the report says, and research outcomes should be affordable and ready for use

on farms.

The UK is estimated to be 30 to 40 years away from "fundamental eradication of soil fertility," and the UN have warned that if current degradation rates are not reversed there may be less than 60 harvests left in the world's soil.

The EU has raised soil [health](#) as one its top five priorities and many global initiatives are emerging in the area of [soil](#) protection. The UK should take advantage of this increased profile to consolidate active communities working together to improve the uptake and development of new sustainable land management practices.

The full report, including [case studies](#) and opinion pieces from key experts in the field is free to read at: [microbiologysociety.org/public...3-policy-report.html](https://microbiologysociety.org/public...3-policy-report.html)

**More information:** Geertje van Keulen, Microbiology challenges and opportunities in soil health, *Microbiology* (2021). [DOI: 10.1099/mic.0.001001](https://doi.org/10.1099/mic.0.001001)

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