GOETHEANUM COMMUNICATIONS

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**Biodynamic preparations promote microorganisms in the soil**

**Jürgen Fritz‘ model explains statistically significant results**

**The use of specific preparations is a central part of biodynamics, but until recently there had been no scientific explanation for the way they work. Jürgen Fritz, agronomist at Kassel University, Germany, presents a model for the effectiveness of biodynamic preparations in ‘Living Farms’, a journal published by the Section for Agriculture at the Goetheanum in Switzerland.**

Jürgen Fritz‘ investigations have shown that biodynamic preparations change the soil microbiome. “We sprayed the preparations and then monitored the number of potentially growth-promoting microorganisms in the soil over a period of four months,” says Dr. Jürgen Fritz, who also specializes in environmental protection. At Kassel University he is a research fellow in the Department for Organic Farming and Cropping Systems and coordinator of Biodynamic Farming.

For its analysis of soil samples from 23 different locations in Germany and France, the research team used classical microbiological methods, multi-SIR-analyses (to examine substrate-induced respiration), and DNA sequencing to assess the composition and networks of soil organisms. After spraying, the researchers recorded a significant rise in growth-promoting microorganisms that lasted for several weeks. Soils treated with biodynamic preparations consequently differ to a statistically significant degree from untreated soils.

“For the first time we have a relatable model of effectiveness,” says Jürgen Fritz, but he also points out that one needs to consider that “inoculating with growth-promoting microorganisms does not work in the same way as conventional nitrogen fertilization, which always produces identical results. Soil life is very diverse, which means that we might see good results with preparations in one year and no effect at all in the following year. Many questions remain unanswered.”

These and other insights constitute an important basis for the international discourse on biodynamic research, which includes the International Biodynamic Research Conference at the Royal Agricultural University in Cirencester, United Kingdom, organized by the Section for Agriculture at the Goetheanum, the German research institute Forschungsring Deutschland, the Biodynamic Association United Kingdom and the Royal Agricultural University, United Kingdom.

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**Interview with Jürgen Fritz** The secret of biodynamic preparations unveiled, Living Farms 1/2025, pages 18–19, Print and **Web** www.sektion-landwirtschaft.org/fileadmin/landwirtschaft/Dateien\_zum\_downloaden/2501\_LF\_EN\_web.pdf

**International Biodynamic Research Conference** The Whole and Its Parts. Researching biodynamic agriculture, 31 August to 4 September 2025, Royal Agricultural University in Cirencester, United Kingdom **Web** www.biodynamic-research.org

**Contact person** Anna Stochenegger, anna.storchenegger@goetheanum.ch