



Funded by
the European Union

PRESS RELEASE

Innovative Practices, Tools, and Products Enhancing Soil Fertility and Replacing Peat in Horticultural Cultivation (SPIN-FERT)

SPIN-FERT (<https://spinfert.eu/>) is one of about 50 projects funded under the Soil Mission within the Horizon Europe program. The project is coordinated by a Polish institution, the Institute of Horticulture – National Research Institute. SPIN-FERT aims to validate several innovations to improve alternative substrates to peat used in horticultural cultivation, as well as to integrate various practices for sustainable soil health and fertility management.

The main objective of the SPIN-FERT project is to optimize the production process of various composted products derived from agri-food waste and to define innovative protocols for regenerating substrates containing coconut fibers by improving their composition. This will be achieved by enriching these substrates with microbial strains and/or humic extracts, which will enhance their properties and applicability, especially in nurseries. Soil management methods will include innovative techniques for encapsulating beneficial microbial strains, the use of cover crops, and other practices, which will be verified in field experiments across four regions of Europe.

The project also plans to employ artificial intelligence to develop various tools, including an automated robot for soil biodiversity analysis, an electronic nose (e-nose) to assess soil microbial activity, and a soil quality index that considers its physical, chemical, and biological parameters.

SPIN-FERT envisions conducting an economic, social, and environmental assessment of peat-free substrates and integrated practices. This is intended to demonstrate and showcase their effectiveness in ensuring sustainable development, which will contribute to the broader adoption of these innovations by both professionals (farmers and producers) and ordinary citizens (consumers). Communication and dissemination of project activities and outcomes are also innovative, incorporating tools that bridge art and science, particularly through new technologies (e.g., virtual reality) and visual artworks.



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