



# Innovative technologies for producing microbially enriched bio-fertilisers supporting sustainable crop production and its adaptation to climate change

Siebielec Sylwia<sup>1</sup>, Woźniak Małgorzata<sup>1</sup>, Ukalska-Jaruga Aleksandra<sup>1</sup>, Lewicki Andrzej<sup>2</sup>, Pulka Jakub<sup>2</sup>, Szufa Szymon<sup>3</sup>, Piersa Piotr<sup>3</sup>, Adrian Łukasz<sup>3</sup>, Siebielec Grzegorz<sup>1</sup>

<sup>1</sup>Institute of Soil Science and Plant Cultivation - State Research Institute, Poland

<sup>2</sup>Lodz University of Technology, Poland

<sup>3</sup>Poznan University of Life Sciences, Poland



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Circular economy and management of renewable resources belong to principles of bioeconomy. Special attention is given to biomass, biodegradable waste recycling and production of bio-based products. **The INNO-MIK project** responds to the bioeconomy concepts and the need to adapt agriculture to climate change. Its main objective is to develop technologies of organic biofertiliser production based on various types of biodegradable waste and selected microorganisms. Such technologies are aimed at supporting sustainable crop production and biowaste waste circular management. **The technologies are especially dedicated to counteracting crop stress under drought conditions**, therefore they support adaptation of agriculture to the commonly observed water deficits in vegetation period.

The technologies are being developed for producing three types of biofertilizers based on liquid digestate, compost and biochar. The biofertilizers are carriers of microorganisms that exhibit mechanisms supporting plant growth under drought conditions. The reactors simulating the conditions of fermentation, composting and torrefaction are used to produce substrates maximally rich in phytohormones and humic substances and serving as carriers of the dedicated bacteria. **Digestates, composts and biochar** provide organic matter to soil that improves water retention capacity of soil.



**PROJECT COORDINATOR:**  
PhD. Sylwia Siebielec  
+81 478 69 52; 575 418 299  
ssiebielec@iung.pulawy.pl

**The main objective of the INNO-MIK project is to develop technologies of biofertiliser production based on biodegradable waste and microorganisms, supporting development of sustainable crop production and waste circular management.**



**The greenhouse and field experiments** showed strong beneficial effect of microbially enriched organic products on crop resistance to water deficit



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