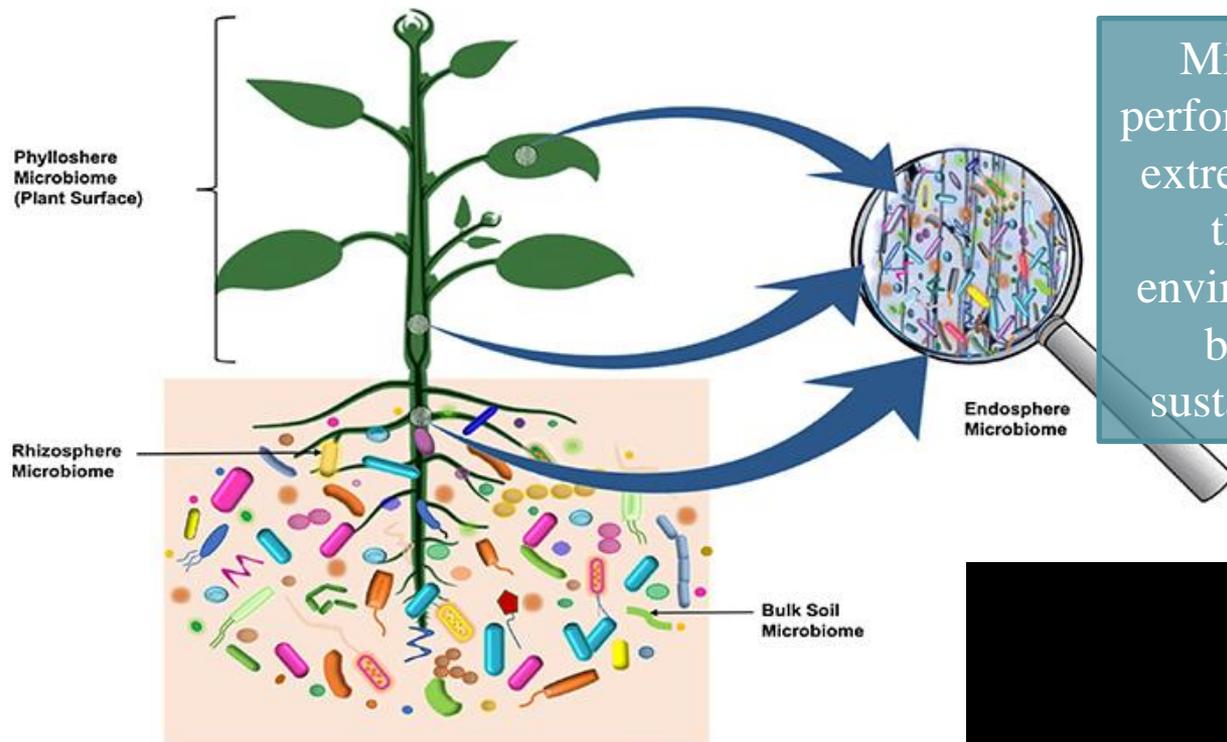


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*Soil and plant microbiomes to support sustainable
strategies for healthy food production*

Magdalena Frąc

*Head of Department of Soil and Plant System
Supervision of Laboratory of Molecular and Environmental Microbiology
Lublin, Poland*



Microbiomes in agroecosystems perform a number of functions and are extremely important for maintaining the quality of the agricultural environment and are used to develop biotechnological solutions for sustainable and organic agriculture.

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Khondoker M.G. Dastogeera, Farzana Haque Tumpaa, Afruja Sultanaa, Mst Arjina Aktera and Anindita Chakraborty / CC BY-SA 4.0

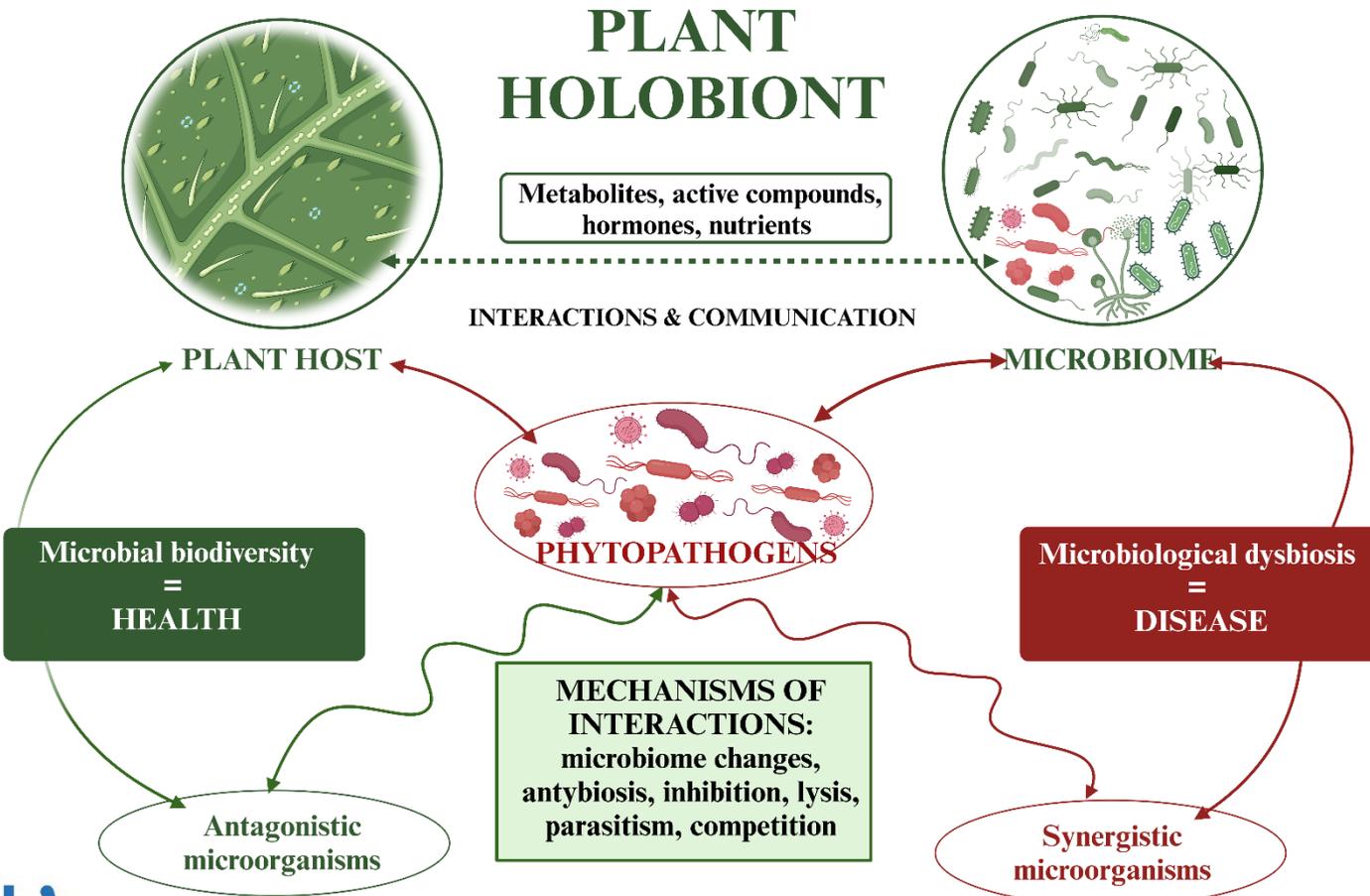


The image shows two logos. On the left is the **HoloBIOME** logo, which features a stylized green DNA double helix. To its right is the **microBIOME AGRO LIVING LAB** logo, which includes a DNA double helix icon above the text.

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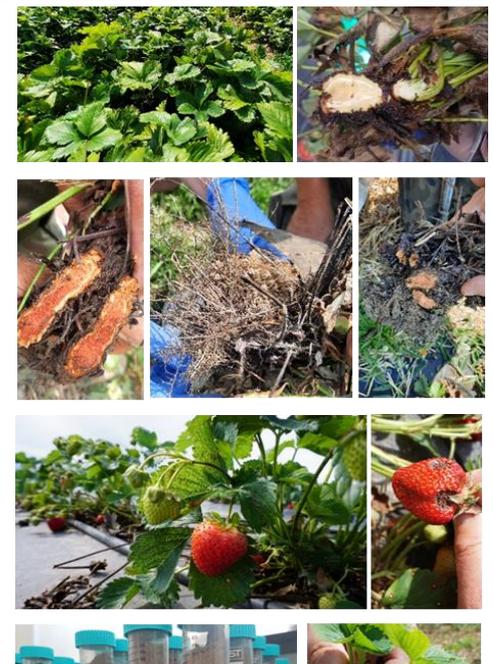
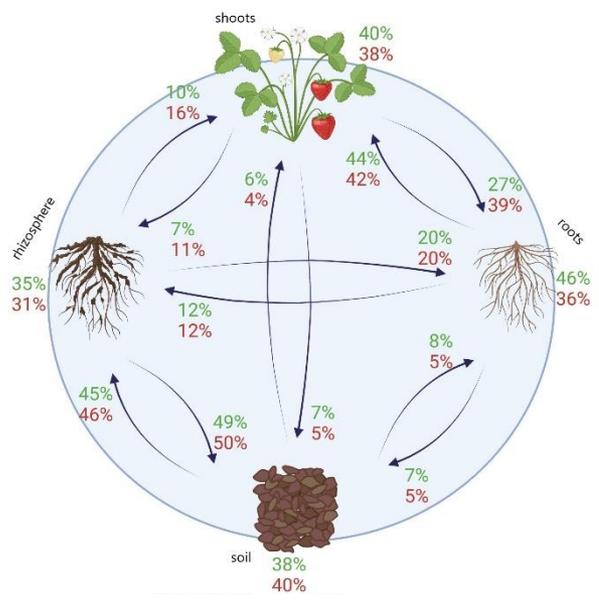
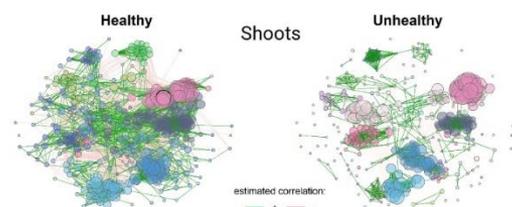
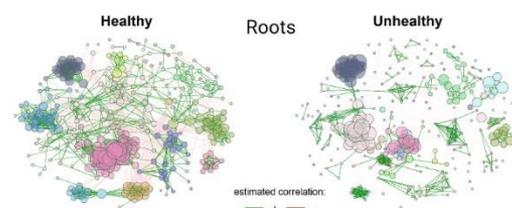
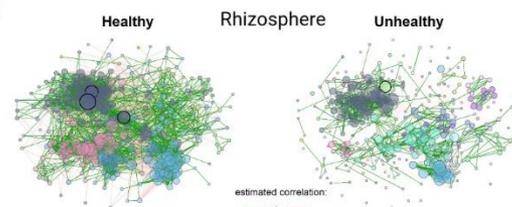
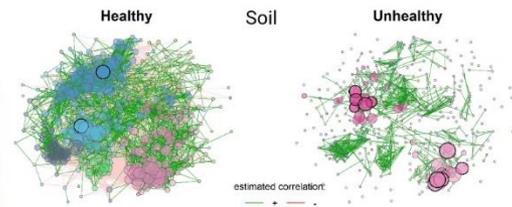
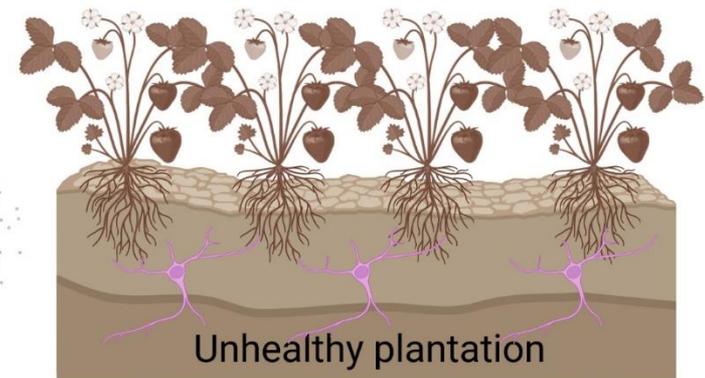
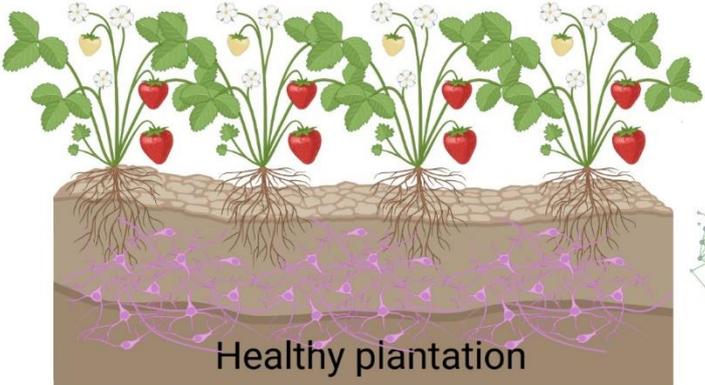
MICROBIAL DIVERSITY – DISEASE PREVENTION FACTOR AND BIOMARKER IN PLANT PROTECTION STRATEGIES



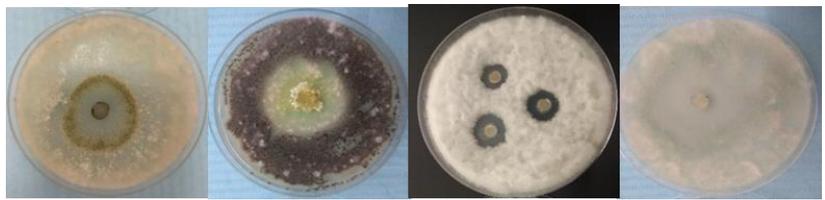
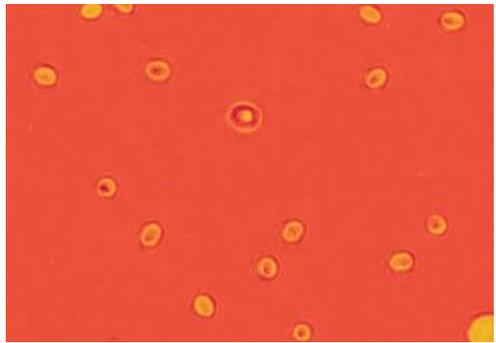
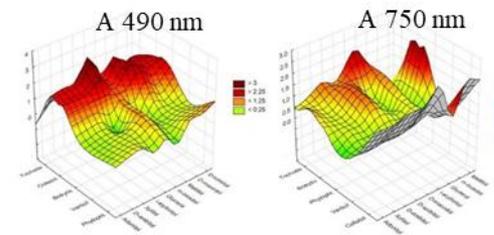
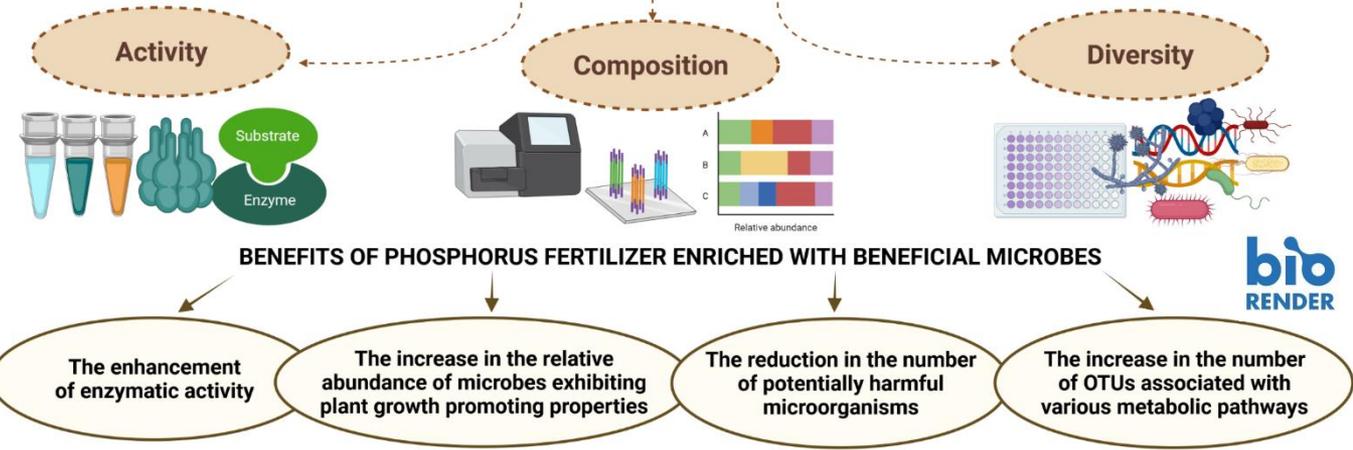
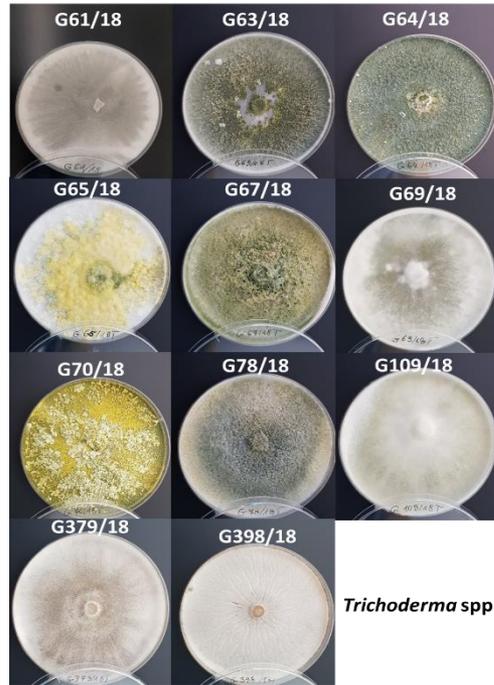
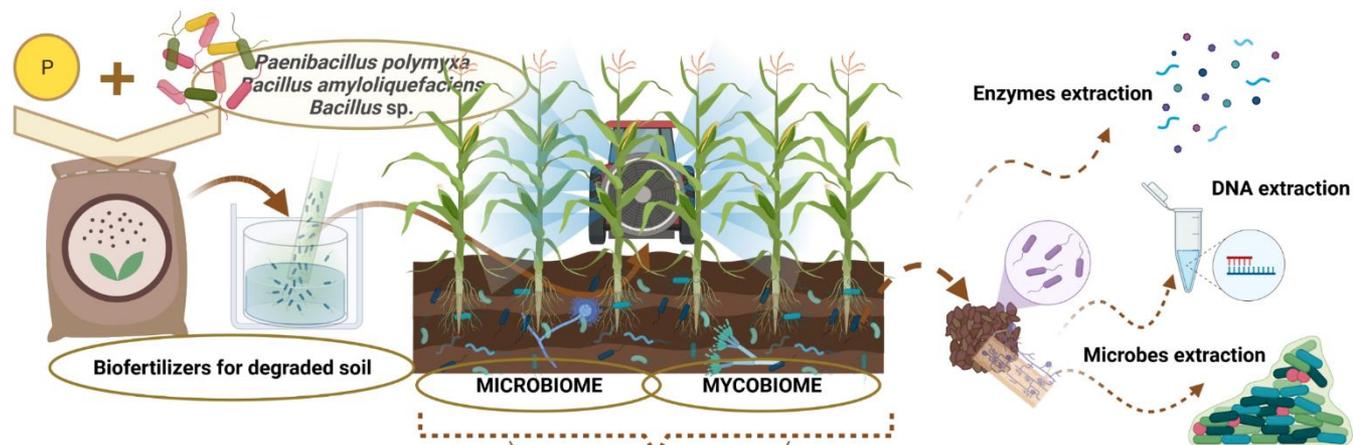
Healthy plants are associated with their microorganisms by metabolic co-operation and exchange of signals, hormones and nutrients.

Diseases are characterized by a microbial dysbiosis and a response of specific microbes, which can act as antagonists or synergists towards pathogens.

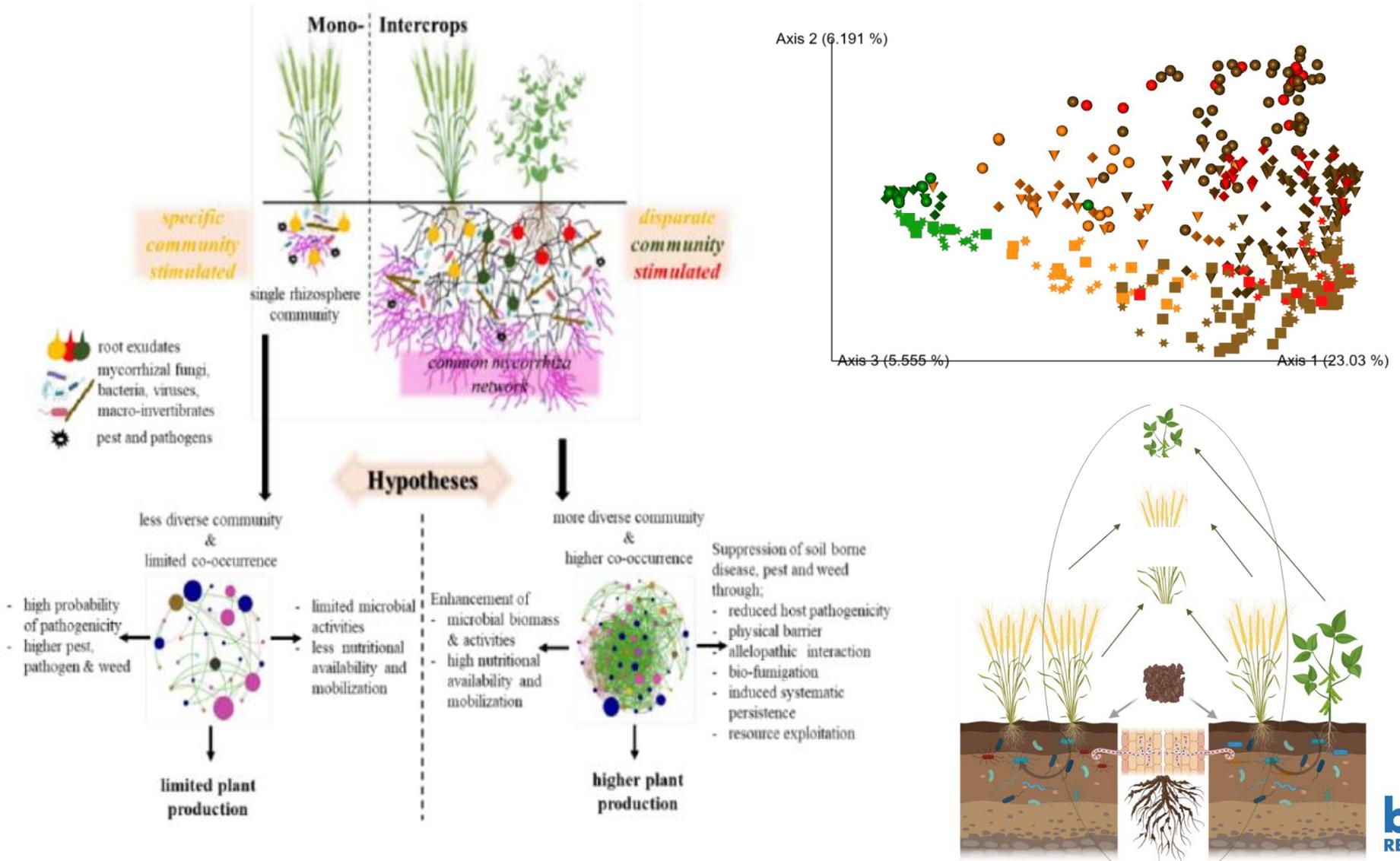
Fungal communities in the soil and plant niches from healthy strawberry farms create more stable and steady networks compared to those from unhealthy farms



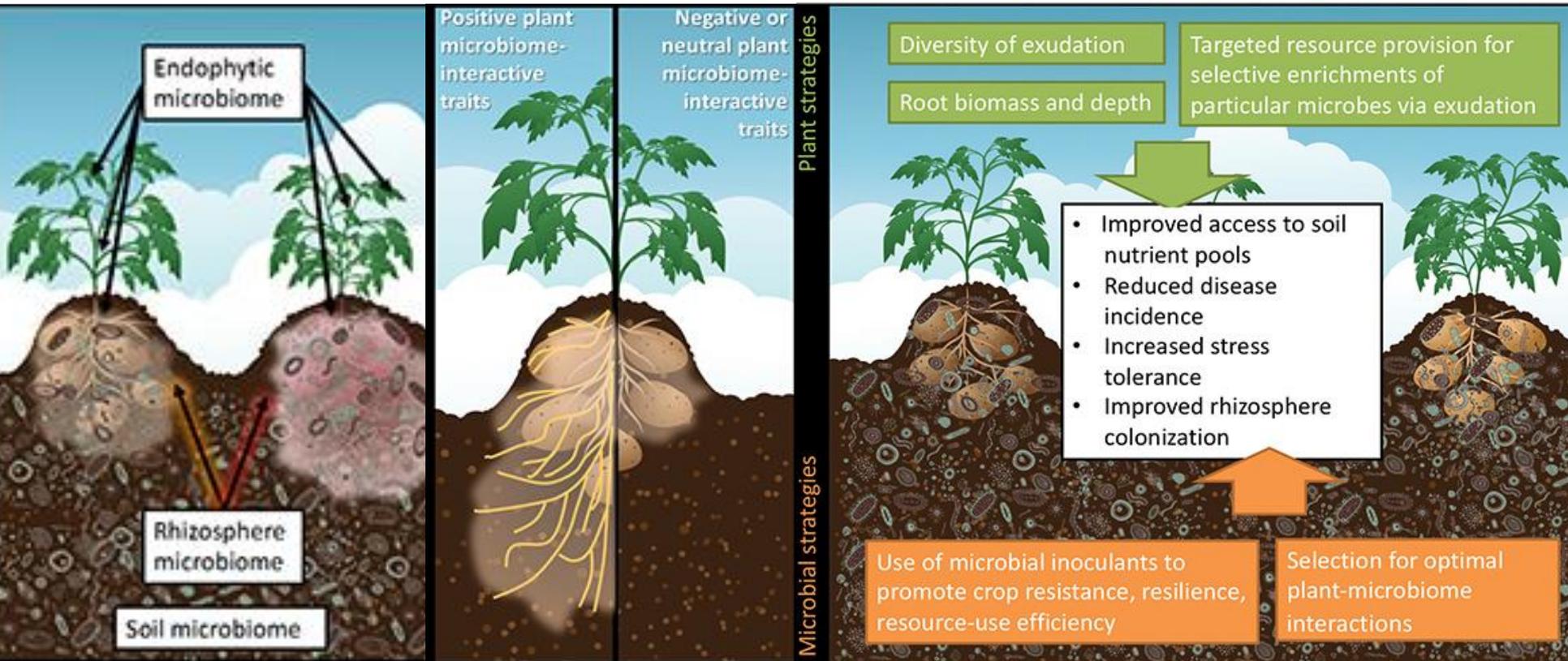
The development of the microbial-based bioproducts



Plant-soil-microbiome interactions in mono- and intercropping production systems for healthy food production



Harnessing the potato-microbiome interactions for development of sustainable breeding and production strategies



SusCrop – ERA-NET
Cofund on Sustainable Crop Production
FACCEJPI

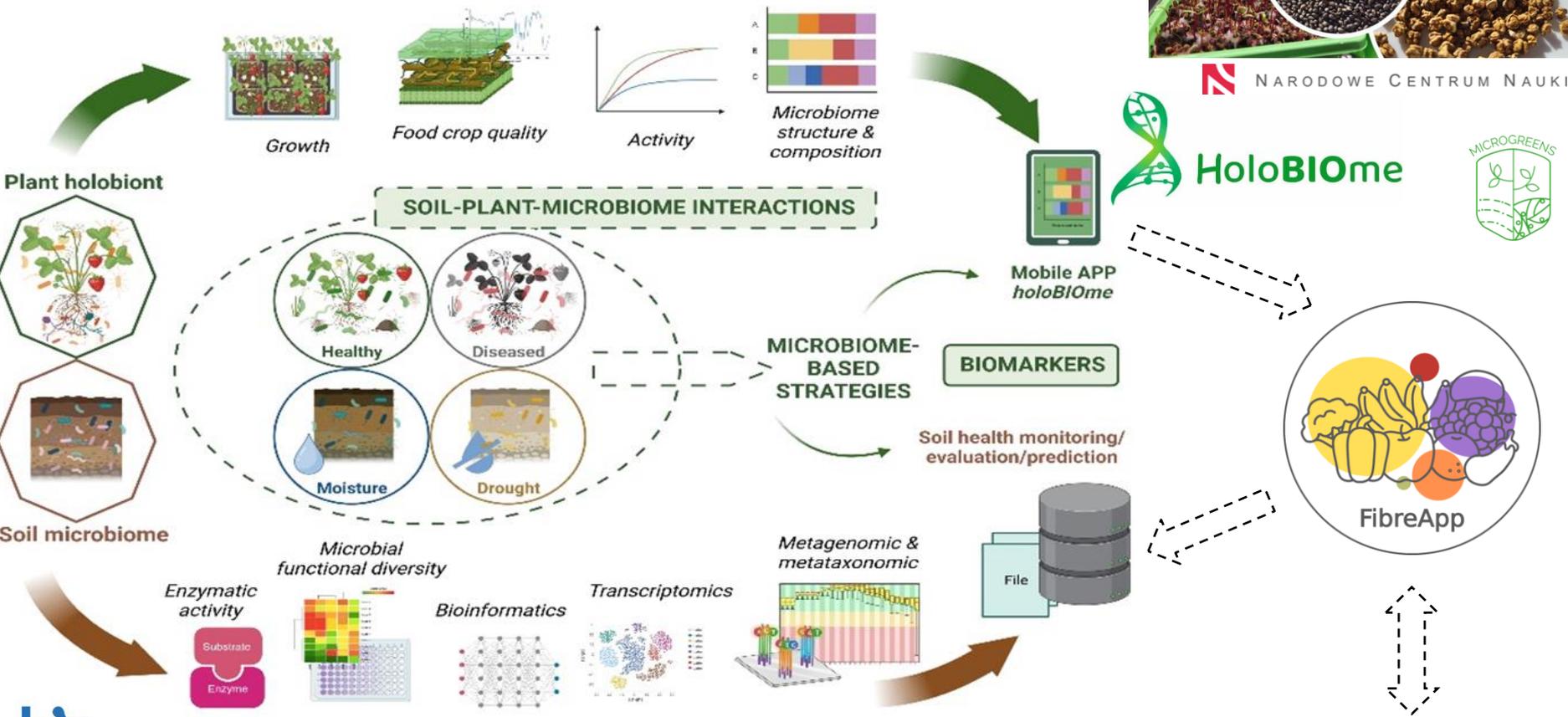


NCBR
National Centre for Research
and Development

Plant holobiont and soil microbiome as an opportunity for sustainable food production and healthy agroecosystems



NARODOWE CENTRUM NAUKI



Research and dissemination of knowledge about the content of pectin, cellulose and fiber in fruits and vegetables



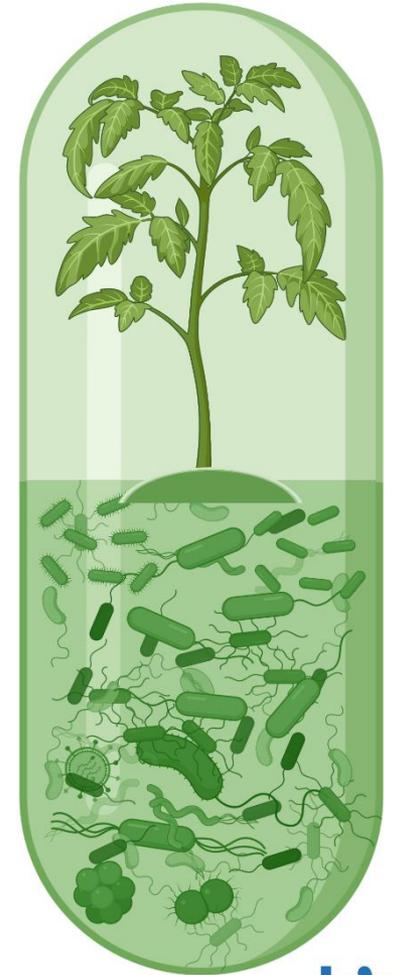
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Microbiomes in agroecosystems are key to support sustainable strategies for healthy food production - a new vision of agriculture => a close link to the microbiome

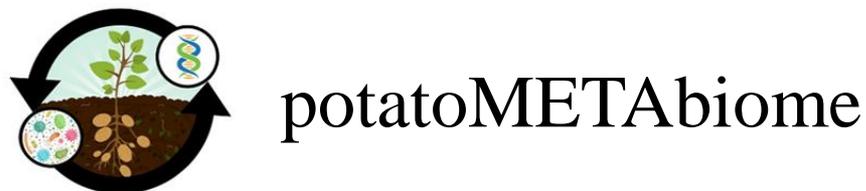
Plant and soil microbiome management for:

- increasing the resistance of plants to pests, pathogens, water, nutrients and other abiotic stresses
- selecting/developing pest/disease control practices the most appropriate for sustainable food production
- full integration of biological agents/changes or microbiome control with crops management depending on the place, conditions and environmental factors (e.g. climate zone, soil type, biotic and abiotic stresses)



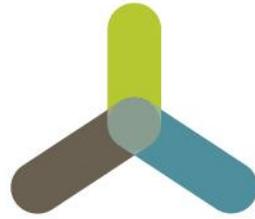
RESEARCH TEAM





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THANK YOU FOR YOUR ATTENTION!