



# **THE LEGACY OF MICROBIAL INOCULANTS IN AGROECOSYSTEMS**

## **POTENTIAL FOR TACKLING CLIMATE CHANGE CHALLENGES**



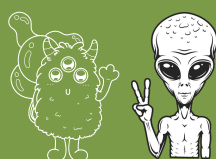
### **FUNCTIONS IN MULTIPLE WAYS**

Microbial inoculations can influence agroecosystem functions in multiple ways and show great opportunities to increase services such as climate change mitigation and adaptation.



### **ALIEN MICROORGANISMS**

Microbial inoculants can lead to microbial invasion: the process by which alien microorganisms enter and affect the resident community.



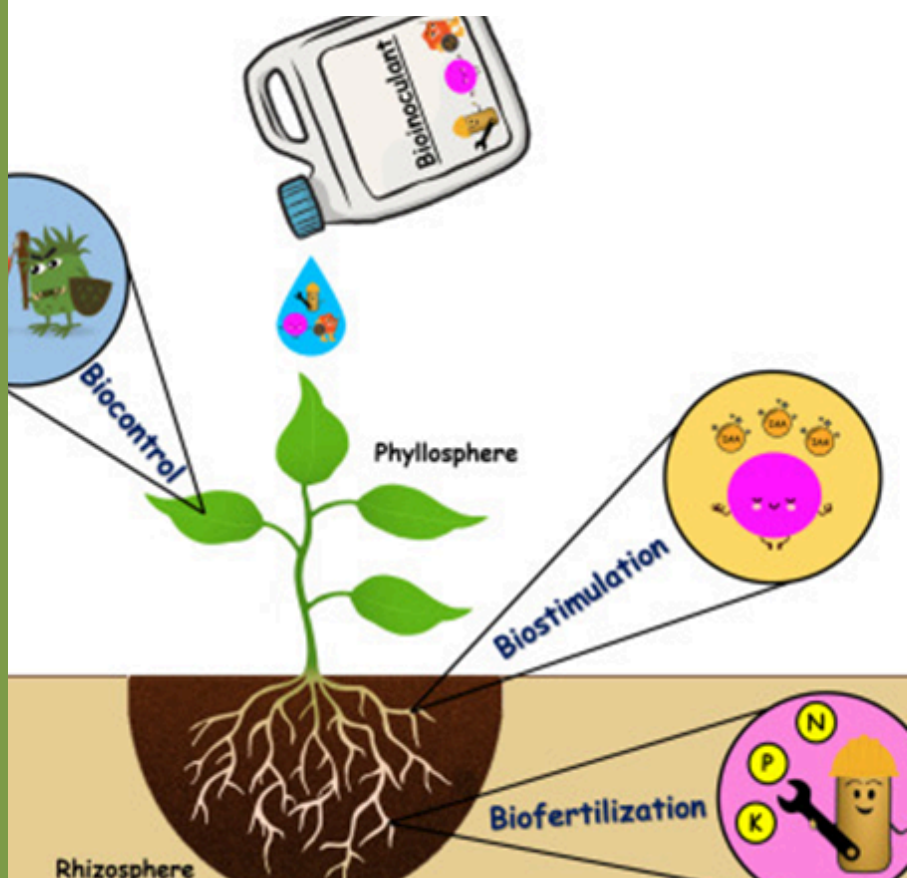
### **NO DISTURBANCE**

For a sustainable approach, it is key to ensure that inoculants do not have an impact on the abundance and activities of keystone species of the native microbial community.



### **AUTHORS**

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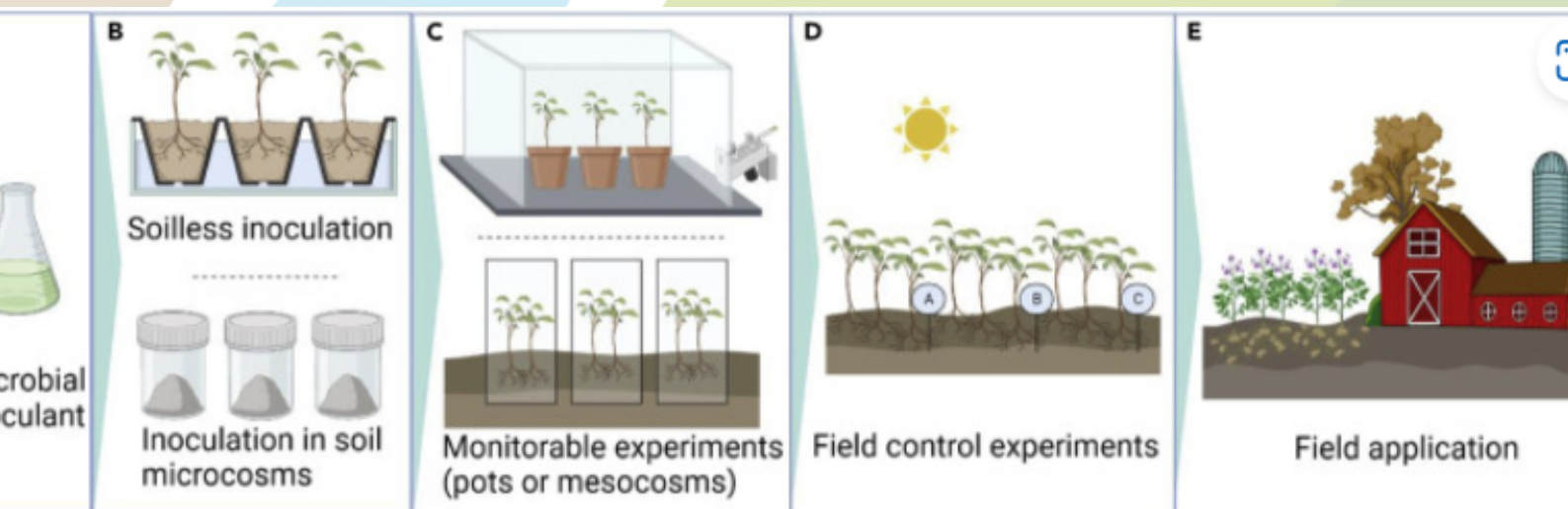


## **Reshaping soil microbiome**

Plant-based and soil microbial inoculants can directly interact with the indigenous soil microbial community. These interactions may determine whether the inoculant can survive and how they function.

Positive interactions helped plant growth abilities

# EJP SOIL INNOVATION HIGHLIGHTS



## TOWARDS CLIMATE-SMART SUSTAINABLE MANAGEMENT OF AGRICULTURAL SOILS

EJP SOIL is a European Joint Programme on Agricultural Soil Management addressing key societal challenges including climate change and future food supply.

The goal is to improve the understanding of agricultural soil management by finding synergies in research, strengthening research communities and raising public awareness.

1100+ scientists, 24 countries, addressing multiple aspects of soil management across different European agroecosystems.

## EJP SOIL SCIENTIFIC PAPER AGRICULTURAL SUSTAINABILITY IN THE ANTHROPOCENE

*An increasing number of strategies based on microbial inoculants will likely be developed to steer agroecosystem functions and particularly to tackle the climate change challenge.*

*Applied at a large scale, inoculations could then contribute to pursuing agricultural sustainability in the Anthropocene.*

*Figure above: Diversity of approaches used for evaluating microbial inoculation effects on soil and agro-ecosystem in the climate change context.*

## TARGET EJP SOIL EXPECTED IMPACT AND EU MISSION SOIL OBJECTIVES

Fostering understanding of soil management and its influence on climate change mitigation and adaptation, **sustainable agricultural production and environment.**

**SOIL MISSION: enhance soil biodiversity**

### HIGHLIGHT FACTS FROM:

Scientific publication - Further information and requests: Joana Falcão Salles



Applicability:  
all climatic zones according to  
Metzger et al. (2005)  
<https://doi.org/10.1111/j.1466-822X.2005.00190.x>

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