

THE WORLD OF SOIL MICROORGANISMS

An exploitable resource to protect and safeguard the health and quality of agricultural soils, the agri-food production and the environment

Webinar - June 9, 2021 - 10:00 - 12:00 - Registration: <https://bit.ly/3bx7RRF>

Soil is a highly valuable natural resource, hosting the largest amount of living biomass of the entire planet Earth. The series of complex interactions between the multitude of soil living inhabitants contributes to its maintenance in healthy conditions and are therefore the basis of goods essential for mankind survival such as food, water and clean air. Agricultural soils play a key role for decarbonisation processes. The adoption of practices that increase the CO₂ absorption capacity contributes to achieve the sustainable development goals, with a capacity to mitigate climate impacts.

The webinar represents an opportunity to discuss about tools to be adopted towards soil protection and the enhancement of microbial biodiversity. Ensuring and promoting sustainable soil management is increasingly becoming a strategic priority and a cross-cutting theme connecting the areas of food security, climate change, biodiversity and soil desertification. Italy has recently established a network of excellence at National level on soil research (Soil-Hub of the Italian Soil Partnership) to support our Country's participation to the Global Soil Partnership and European Joint Programme on agricultural soil management (EJP-SOIL). The main objective is to stem and mitigate the impact of climate change on agricultural systems and soil ecosystem functions. Recently adopted strategies have been focusing on the safeguard of microbial resources and the use of microorganisms isolated from the soil and rhizosphere of plants of agricultural interest, to be used as biofertilizers or as antagonists of phytopathogenic fungi. The MIRRI research infrastructure represents the largest European infrastructure that deals with safeguarding microbial biodiversity and ensuring the conservation and distribution of microorganisms for the purposes of environmental sustainability, biotechnological development and growth of the bioeconomy. Multifunctional microbial consortia composed of different species with complementary or synergistic traits are excellent candidates for promoting increased productivity in the presence of biotic and abiotic stress, and counteracting soil degradation by reducing the input of pesticides and nitrogen fertilizers. The challenge is the valorisation of soil microbial biodiversity to help the agroecological transition of agriculture towards systems that safeguard the soil and foster healthy and sustainable diets, able to reconcile human needs with the health of the planet. This is the goal of the Mission "Soil Health & Food" that the European Commission has launched in the context of the new Framework Program for research Horizon Europe 2021-2027, promoting the awareness of European citizens on the issue, through a process of bridging the gap between Science and Society.

Programme

- 10:00 • **Welcome**
M. Iannetta, ENEA - Head of Biotechnologies and Agroindustry Division
- 10:10 • **The H2020 Programme "Towards climate-smart sustainable management of agricultural soils – EJP-SOIL": framework, objectives and research areas on soil biodiversity**
R. Napoli, CREA - Research center Agriculture and Environment, Rome.
- 10:30 • **The several facets of microorganisms for the soil health and sustainable development: the role of Joint Research Unit MIRRI-ITC.**
Varese, Coordinator of the Microbial Resource Research Infrastructure Italian Node for the safeguard of microbial diversity
- 10:50 • **Selection and valorisation of soil beneficial microorganisms for a sustainable agriculture: the H2020 SIMBA Project**
A. Bevivino, ENEA - Head of AgriFood Sustainability, Quality and Safety ENEA Laboratory
- 11:10 • **Use of microbial inoculants for the valorisation of indigenous soil biodiversity and promotion of defence and nutrition of agricultural production: the H2020 EXALIBUR Project**
S. Mocali, CREA - Research center Agriculture and Environment, Florence.
- 11:30 • **XXXXX XXX The Mission "Soil health & Food"**
G. Corti, Presidente della Società Italiana di Pedologia
- 11:50 • **Discussion and Closure**
M. Iannetta, ENEA
- 12:00 • **Closure**

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