

# EXPLOITING THE MULTIFUNCTIONAL POTENTIAL OF BELOWGROUND BIODIVERSITY IN ORGANIC FARMING: A CHANCE FOR IMPROVING HORTICULTURAL PRODUCTIONS

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## EXCALIBUR PROJECT

EXCALIBUR is the acronym of a project that aims at:

- improving the knowledge on soil biodiversity dynamics in relation to the different agro-ecological factors
- Enhancing the efficacy of biocontrol and biofertilization practices in horticultural farming, including organic production.

Soil biodiversity affects plant health, growth and yield

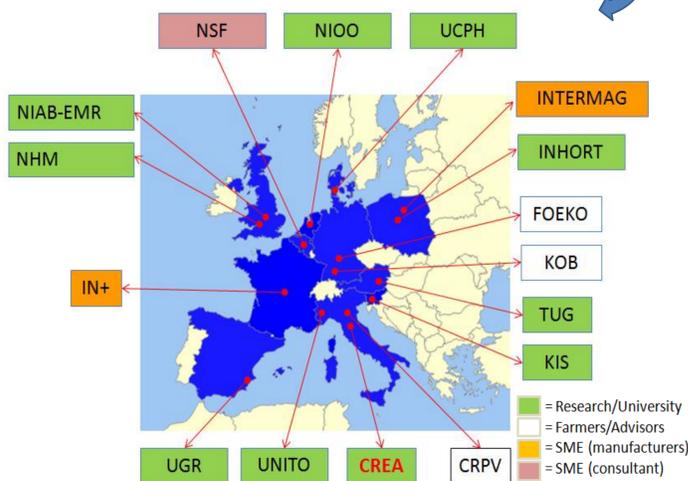
New multifunctional soil microbial inoculants and bio-effectors are tested on three model crops (tomato, apple, strawberry) under organic (and integrated) management across Europe.



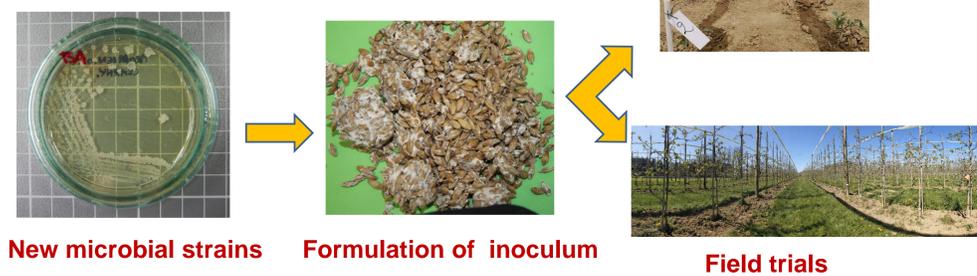
**Bio-inocula** = innovative and multifunctional beneficial soil microorganisms

**Bio-effectors** = compounds or by-products which directly or indirectly enhance plant performance

## EXCALIBUR PARTNERS



## EXCALIBUR ACTIVITIES



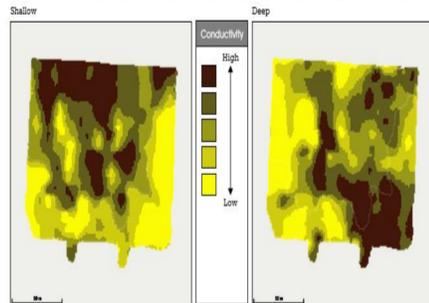
16 field trials on organic production under 3 climatic zones assessing how the efficacy of microbial-based products is affected by:

the plant genome



Different varieties or rootstocks

the soil characteristics



Different soil types

the agronomical practices



Soil management

the formulation and application mode



Liquid or solid formulations

## EXCALIBUR PLANS TO

- A. exploit the potential** of multifunctional bio-inocula and bio-effectors;
- B. optimize the formulation** and the application methods of these products;
- C. develop a strategy** to improve the exploitation of soil biodiversity interactions with bio-effectors and bio-inocula
- D. build a multi-criteria model** to assess soil biodiversity status of cropping systems for a more efficient use of bio-effectors and bio-inocula;
- E. develop technical tools** to monitor the persistence and dispersion of bio-inocula
- F. evaluate the effects** of the new strategy on economy, environment quality and ecosystem functions;
- G. disseminate results** to all stakeholders
- H. encourage the adoption of best practices** derived from the new strategy at local, regional and global level.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 817946.

