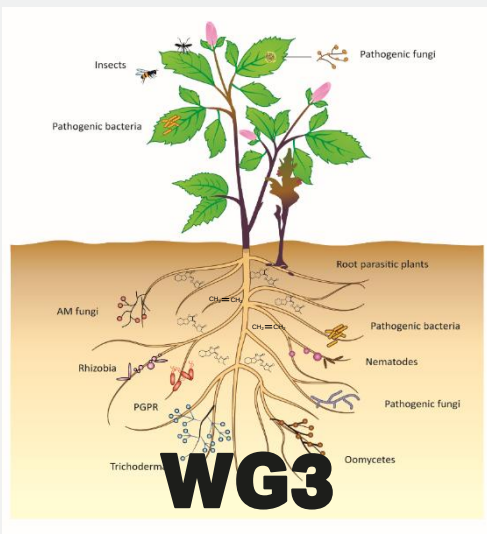




WG3



Ecology and economy

Ecological and economical services provided by the beneficial interaction networks

MAIN OBJECTIVE

Establish a network of researchers, support their application for third-party funding

Assess and quantify benefits of microbes related to

Plant/crop growth, yields and nutritional quality,

Non-nutritional quality of agricultural products

Pest/disease tolerance/resistance

Environmental resistance and resilience

Stability of soils/environment/ecosystems

Mitigation of risks, global change, water and air pollution

Propose/quantify economic value of the beneficial interaction networks



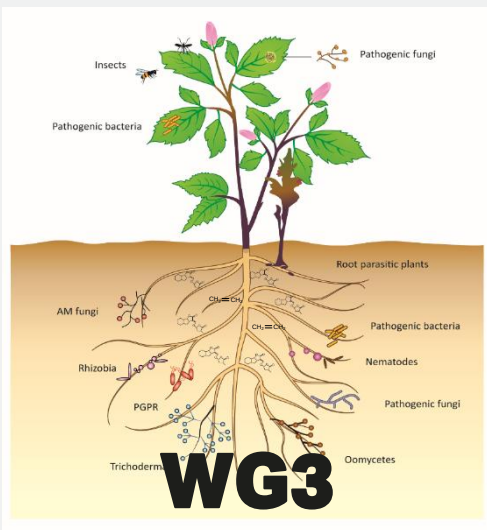
WG3

Ecological and economical services provided by the beneficial interaction networks

SPECIFIC OBJECTIVES - 1

Provide **comprehensive list of benefits** conferred by beneficial microbes/microbiomes, considering the different methodologies and approaches to assess the benefits - directly or indirectly (proxies)

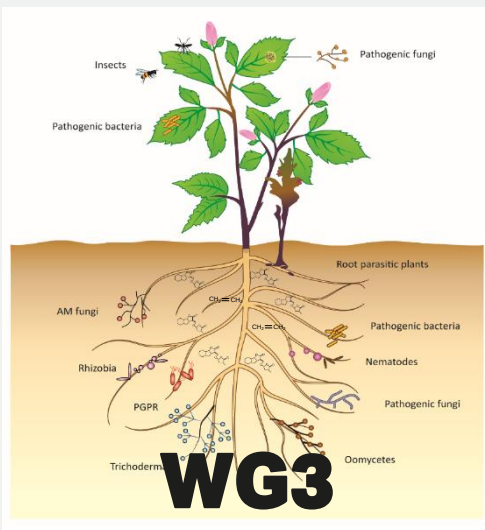
Consider the **concept of holobiont** – host plant and its beneficial microbes and their associated microbiomes



**Ecology and
economy**



WG3



Ecology and economy

Ecological and economical services provided by the beneficial interaction networks

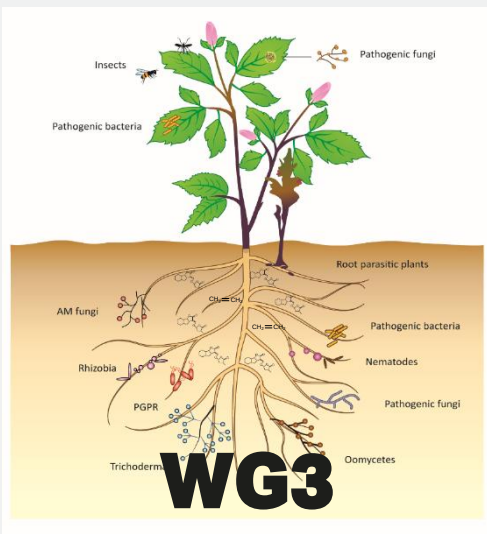
SPECIFIC OBJECTIVES - 2

Determine **economic value(s)** of the benefits

1. socio-economic value, incl life-cycle analyses, cost-to-benefit ratios
2. value of industry or economic enterprises
3. functional diversity, multi-functionality and synergism within the microbial communities



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**Ecology and
economy**

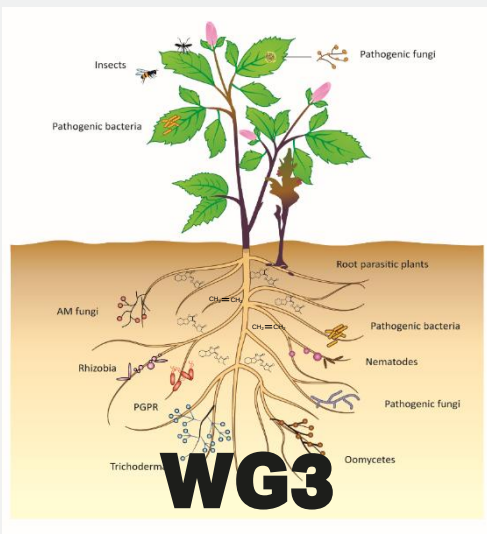
Ecological and economical services provided by the beneficial interaction networks

SPECIFIC OBJECTIVES - 3

Assess **modulation of the benefits** by changing environmental context, incl. agricultural management and/or global change



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Ecology and economy

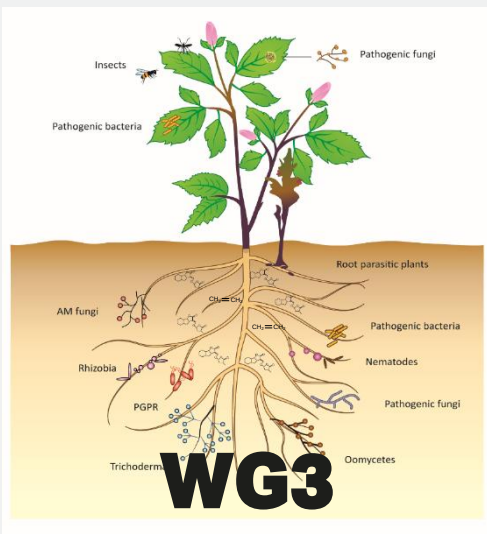
Ecological and economical services provided by the beneficial interaction networks

SPECIFIC OBJECTIVES - 4

Estimate the potential of beneficial interaction networks towards **securing agricultural production base** upon stable, changing, or fluctuating **climatic** and **geopolitical** backgrounds



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**Ecology and
economy**

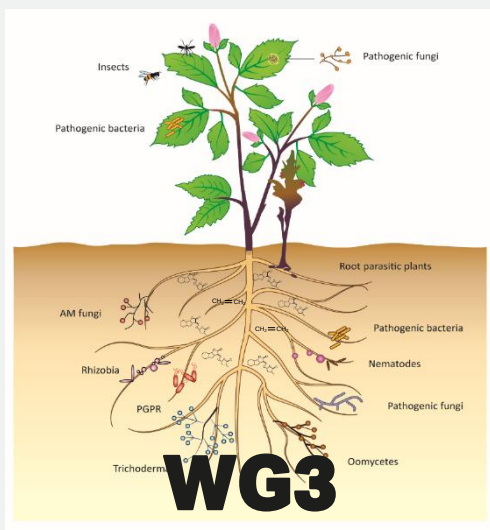
Ecological and economical services provided by the beneficial interaction networks

SPECIFIC OBJECTIVES - 5

Provide a strong basis for supporting **competitive scientific proposals** to study multifunctional interaction networks in agricultural settings



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Ecology and economy

Ecological and economical services provided by the beneficial interaction networks

DELIVERABLES

Deliverable 6. List of services conferred to agro-ecosystems and human society by beneficial interaction networks and how to measure them (guideline, M18).

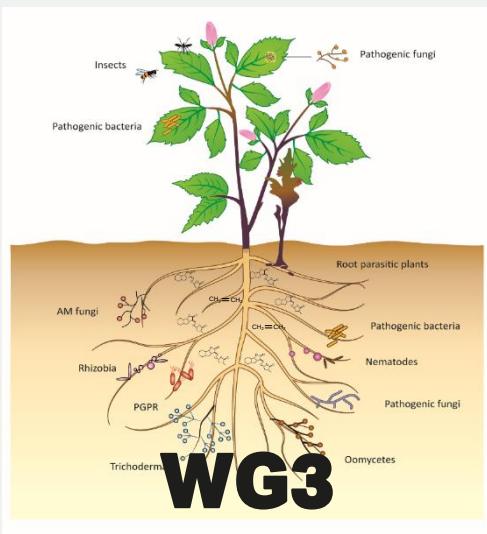
Deliverable 9. A comprehensive analysis of services conferred to agro-ecosystems by beneficial interaction networks (publication, M30)

Deliverable 11. Concept and mathematical models allowing predictions of economic benefits under various future scenarios (report or publication, M36).

Deliverable 14. An evaluation of beneficial interaction networks in changing and/or fluctuating environment, ecosystem resistance and resilience (report or publication, M42).



WG3



Ecology and economy

Ecological and economical services provided by the beneficial interaction networks

PARTICIPANTS

- 316 (E-COST, as per 13 May 2026)
- 276 approved, 36 submitted, 4 terminated
- 297 from 34 COST countries (+ Australia, Azerbaijan, Jordan, Tunisia, etc)
- 137 young researchers
- 172 females