

CAP ZERO PHYTO

Developing the concept of agroecological immunity

A multi-disciplinary consortium: 11 partners from 10 scientific disciplines

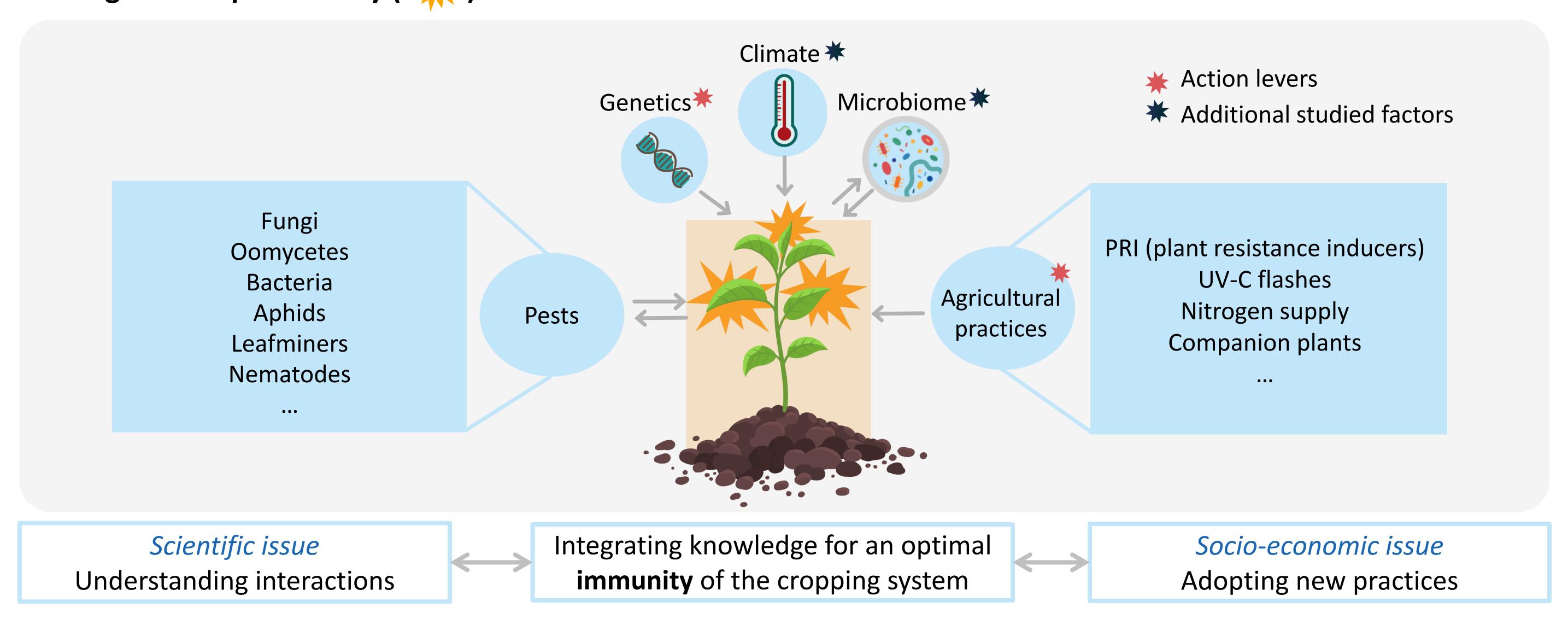
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CONTEXT & OBJECTIVES

The project aims to propose new crop protection strategies based on a combined use of agro-ecological levers to strengthen crop immunity (***).



METHODOLOGY & ORGANISATION

Studies under controlled conditions and system experimentations Transfer to other species Genetic resistance Individual analysis strawberry of levers Companion plants peach Combination pepper of levers **PRI** Transfer to exchange days Nitrogen supply 90 N profession co-design workshops tomato/apple **UV-C** flashes & education acceptability surveys Venturia inaequalis, Erwinia amylovora, rosy aphids

EXPECTED RESULTS

1) Improving knowledge on individual levers:

Botrytis cinerea, Phytophthora infestans, Oidium neolycopercicii, Meloidogyne spp., Tuta absoluta

- Identification of accessions and development of genetic markers for the selection of loci involved in genetic resistance or in response to punctual immunity levers (PRI, UV-C),
- Identification of effective companion plants with various strategies (repulsing or trapping pests; attracting and feeding auxiliaries),
- Proposition of a list of efficient punctual immunity levers (PRI, UV-C) and design of protocols for their application,
- Management of nitrogen supply promoting crop immunity while allowing an economically acceptable crop production.
- 2) Understanding i) the multiple interactions between levers and between levers and environmental factors, ii) how to rationally combine levers to control the various pests of each crop.

PERSPECTIVES

The goal of the project is to develop integrated crop protection strategies based on plant immunity with the most efficient combinations of levers on fruit and vegetable production. This could lead to the complete re-design of cropping systems, i.e. new cultivars and a novel spatialization of the crop mixed with companion plants, involving innovative management practices, and taking into account technical and economical feasibility.









