



BOOSTING FUNCTIONAL BIODIVERSITY TO MAXIMIZE ECOSYSTEM SERVICES FOR MEDITERRANEAN CROP PRODUCTION

The final ECOBOOST Meeting has been organized at Mohammed V University in Rabat (Morocco). The final ECOBOOST meeting, hosted by Prof. Laila Sbabou and her team, took place from 12-13 February 2026. During the event, the consortium presented the latest research findings and discussed the project's key outcomes, focusing on how to valorise functional biodiversity to enhance crop resilience in the Mediterranean region.

In addition, during the second day of the meeting, a dedicated session was also held with policymakers. This policymakers workshop provided an opportunity to present the project's objectives and key findings, exchange views on how the results can support evidence-based policy, and discuss ways to strengthen the link between research outcomes and agricultural and environmental decision-making.

ECOBOOST SYMPOSIUM, Mohammed V University, Rabat, Morocco, 12-13 February 2026 **Day 1, 12 February 2026**

Prof. Laila Sbabou (Mohammed V University – UM5R, Morocco) warmly welcomed the participants at the beginning of the meeting. The Project Coordinator, Prof. Antonino Cusumano (University of Palermo - UNIPA, Italy) gave a brief introduction to the overall program and the specific session. The leaders of each scientific work package (WP) presented their objectives, progress achieved so far, and the timeline for the upcoming activities.

WP2 – Crop biodiversity and selection for resilient traits of interest. Prof. Francesco Sunseri (UNIRC, Italy) shared the results of resilience analyses conducted on different varieties of tomato, pepper, and eggplant that had been provided by the project partners, focusing on their responses to both biotic and abiotic stresses. Ines Bellil and her PhD student Abir Medjdoub (UFMC1) presented the results on salt tolerance in tomato genotypes of Algeria.

WP3 – Integration of wild Mediterranean plants into farms as non-crop habitats to promote ecosystem services such as pest control and pollination. Dr. Eirini Anastasaki (Benaki Phytopathological Institute - BPI) presented laboratory results on the attraction of the parasitoid *Trichogramma achaeae* to volatile compounds emitted by flowering plants,

as well as the effects of floral resources on key biological parameters of the insect. Dr. Filitsa Karamaouna (BPI) followed with findings from two growing seasons of field experiments exploring the use of native wild plants to enhance the activity of natural enemies and pollinators. Tugcan Alinç (UNIPA) presented results on the attraction of flowering plants to the parasitoid *Trissolcus basalis*, while Prof. Maria Pappas (Democritus University of Thrace-DUTH - Greece) shared similar experiments focusing on the predatory insects *Macrolophus pygmaeus* and *Nesidiocoris tenuis*.

WP4 – Seed coating of tomato, eggplant, and pepper with beneficial soil fungi to assess effects on plant resistance. Dr. Catalina Posada-Vergara (University of Göttingen - UGOE, Germany), presented the results of work carried out by the UGOE research team and discussed the use of beneficial soil fungi to enhance the resilience of Solanaceous crops. Prof. Maria Pappas also reported on experiments involving commercial formulations applied to pepper plants and their effects on attracting natural enemies. Tugcan Alinç (UNIPA) contributed additional related findings focusing on the plant-mediated effect of beneficial soil microbes on stink bugs and their egg parasitoids.

WP5 – Steering the soil microbiome to promote soil fertility and plant health. Asmae Hami (UM5R, Morocco) presented the results of soil sampling activities focusing on the collection and analysis of soils from tomato crops, taking into account variables associated with soil microbial diversity and beneficial microbial communities.

The day concluded with a fruitful discussion among participants, marking the end of the first day of the meeting.



Day 2, 13 February 2026

WP6 – Field testing, demonstration and pilot application by end-users. Prof. Antonino Cusumano outlined the progress of on-farm trials, demonstration activities, and the involvement of end-users in testing and validating the project's solutions under real farming conditions.

WP7 – Assessing the environmental and socio-economic benefits of the ECOBOOST Project.

Prof. Hasan Yilmaz (IUAS, Turkey) presented in detail the results of the evaluation of the questionnaire conducted with Solanaceae growers in Turkey. His presentation highlighted growers' perceptions, current practices, and the potential environmental and socio-economic impacts of the project's proposed innovations.

Policy Workshop

A dedicated session of the meeting was held with policymakers. The discussion was coordinated by Dr. Panagiotis Mylonas (BPI) and was attended by Dr. Christos Arabatzis, Head of the Department of Phytosanitary Control, Directorate of Plant Production Protection, Ministry of Rural Development and Food; Dr. Athanasios Zounos, Head of the Department of Plant Protection, Directorate of Plant Production Protection; and Dr. Despoina Kapantaidaki, Head of the Department of Quality and Phytosanitary Control, Directorate of Rural Development of the Regional Unit of Heraklion, Region of Crete. During the session, each WPLEader presented the results and deliverables for their respective work packages to policymakers. This was followed by an open and constructive discussion on how to achieve sustainability in agriculture. The policymakers shared their perspectives and reflected on the extent to which the proposed agroecological practices could be directly implemented within the current regulatory and agricultural framework.



Running activities



Field trial with tomato seeds coated with *Trichoderma*

In the framework of WP6 a field trial was conducted in a greenhouse facility in Marathonas, Greece (historic place where the Battle of Marathon took place in 490 BC), to evaluate the performance of *Trichoderma asperellum* N1-t3-1 coated tomato seeds in enhancing plant resistance to nematode infestation under real field cultivation conditions.

Demonstration of tomato inoculation with beneficial soil microbes to farmers

In the framework of WP6, a living-lab activity was to design and implement a field-based experiment carried out in close collaboration with the farmers. The living-lab approach allowed us to evaluate the effectiveness of the below-ground biodiversity-based approaches proposed in ECOBOOST under field conditions, directly in an organic farm. The primary goal was to validate the positive effects that had been previously demonstrated under controlled laboratory conditions by UNIPA, and to

understand whether such benefits could be reliably reproduced at field scale, where variability, ecological complexity, and plant stress factors are inherently higher.

Specifically, the trial was carried out at the farmer cooperative “Val DiBella,” located in C/DA Balletto (Camporeale), Sicily, using the tomato cv. “Dwarf San Marzano”. We used the plant growth-promoting fungus (PGPF) *Trichoderma harzianum* T22, originally isolated from the commercial product Trianum-P and subsequently cultured on potato dextrose agar (PDA, Oxoid) under controlled conditions. During the tomato growing season, growth parameters, crop yield, and the phytosanitary status of the crop were assessed.

