

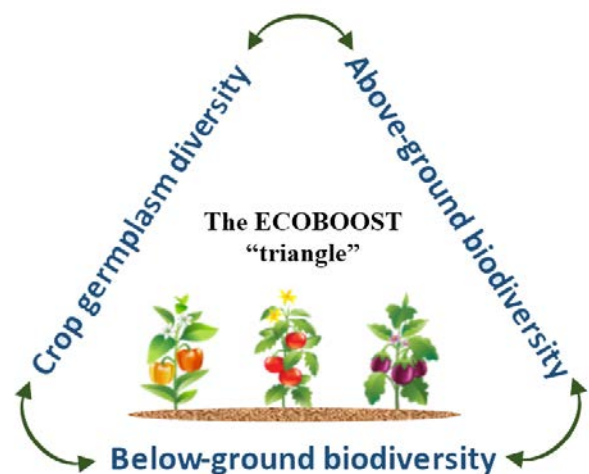


Boosting functional biodiversity to maximize ecosystem services for Mediterranean crop production

What is the goal of ECOBOOST?

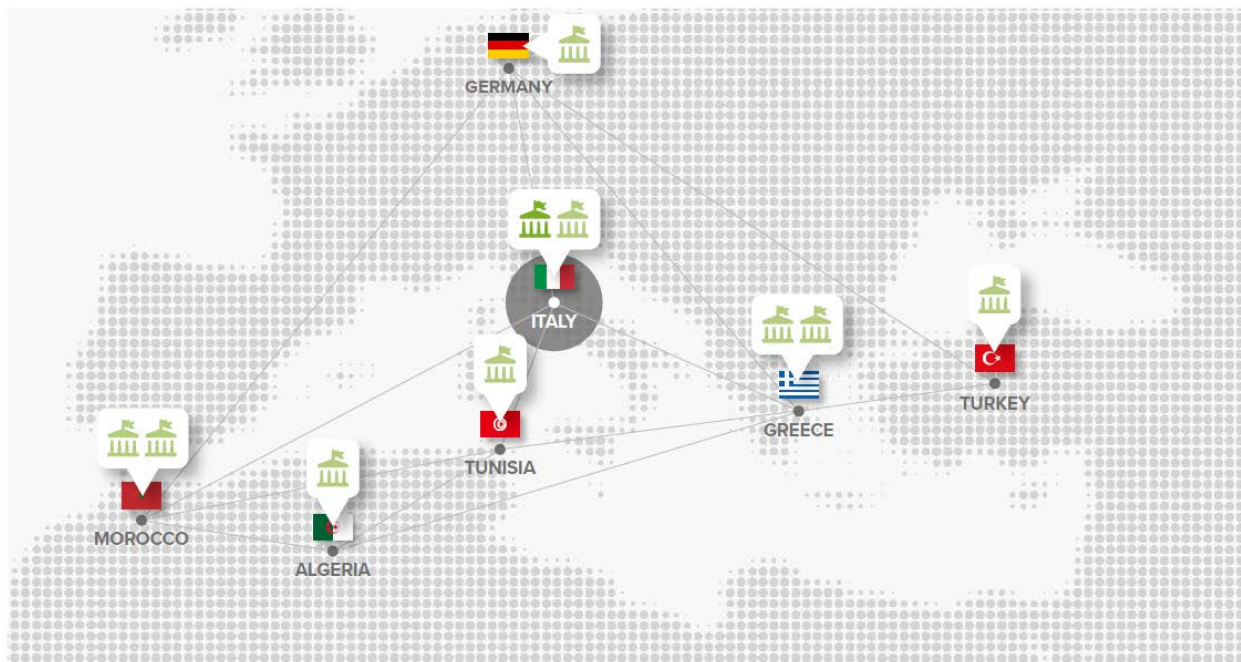
ECOBOOST aims to develop and implement agricultural practices that boost functional biodiversity and maximize ecosystem services for crop production, while minimizing negative environmental impacts of intensive agriculture. This goal will be achieved following a holistic approach (i.e., the “ECOBOOST triangle”) that will provide Mediterranean farmers with knowledge and tools needed to implement agroecological practices that promote biodiversity at three different levels:

- Crop biodiversity
(valorization of Mediterranean germplasm)
- Aboveground biodiversity
(enhancing the efficiency of pest’s natural enemies and pollinators)
- Belowground biodiversity (steering the soil microbiome to promote crop health)



Who are we?

Our consortium includes 10 partners from Italy, Greece, Germany, Algeria, Morocco, Tunisia and Turkey whereas farmers' associations, SMEs and NGOs have expressed their support to the project.



What agro-ecological practices of ECOBOOST can the farmers use to increase sustainability?

- Use germplasm adapted to Mediterranean conditions
Biodiversity occurring at the crop level holds great potential for Mediterranean agriculture: by rediscovering local varieties that cope well with abiotic and biotic stresses, external inputs can be minimized.
- Use beneficial soil microbes that promote plant health and growth
Beneficial soil microbes are known to promote plant growth and resistance to soil pathogens and pests. Thus, the use of soil amendments such as biochar and compost to steer the soil microbiome, is another possible way we could use to stimulate functional biodiversity and promote crop protection.
- Use flowering strips that support beneficial organisms
The rich diversity of Mediterranean plant species is a resource of potential native species that can promote ecosystem services related to pest control or pollination. The exploitation of native plants with desirable traits in flowering strips at crop field margins could maximize natural enemies' performance and pollinators' attraction with high benefits for delivering multiple ecosystem services in the Mediterranean farms.

Why should farmers adopt agro-ecological practices?

- Legislation reasons

Several pesticides are withdrawn mainly due to safety issues for human health and the environment in the EU and beyond. This reduces the availability of choices that farmers have when using chemical pest control. In this framework farmers are called to adopt agro-ecological practices to manage insect pests, diseases and weeds occurring into Mediterranean farms.

- Sustainability reasons

The excessive use of chemical pesticides reduces biodiversity of beneficial insects, destabilizes the soil microbiome, and exerts negative effects on the environment. Today the EU is supporting sustainable agriculture through the implementation of the 'Green Deal' and the Farm to Fork strategy that sets a target of 50% reduction in chemical pesticide use by 2030. There is thus the need to manage agro-ecosystems in a sustainable way avoiding as much as possible the use of chemical pesticides.

- Safety reasons

Sustainable use of pesticides minimizes the risks of chemical pest control for food safety, humans and the environment. This is possible in integrated pest management programs based on agro-ecological principles into farms, which is proven to support safety for food production in several crops.



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