

Environmental issues addressed by CROPS

• Water saving



• Soil & landscape protection
• Soil Health



• Agriculture



• Dynamic agrivoltaics
• Renewable energies



Consortium

Partners



Coordinator



Funded by
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Climate Resilient

Options for Productive Soils and Crops - LIFE

The logo for the CROPS project, featuring the word "crops" in a bold, black, lowercase font. The letter 'o' is replaced by a stylized graphic of a globe with a plant growing from it.



Background

European agriculture is increasingly exposed to climate change, leading to water scarcity, soil degradation, yield instability and economic pressure.

Agrivoltaics, and especially Dynamic Agrivoltaic Systems (DAV), offer a promising solution by combining solar energy production with crop protection against heat, drought and frost.

In addition, water management practices, cultural practices and soil restoration techniques offer great synergies, through their key role in improving resilience, productivity and long-term sustainability of farming systems.



Project overview & objectives

By addressing the entire soil-plant-atmosphere continuum, the project integrates advanced agrivoltaics technology with sustainable farming practices to enhance crop protection and soil health.

Key components of the project include:

- **Managed Agrivoltaics Panels:** These panels create a controlled microclimate, protecting crops from severe weather and improving soil ecological quality. They stabilize temperature and light exposure, fostering a more favourable environment for plant growth and soil health.
- **Optimized Water Management:** The project incorporates a sophisticated water management system, featuring controlled partial rainwater harvesting and efficient irrigation practices. This approach reduces water waste and ensures optimal use, crucial for adapting to climate variability.
- **Cover Crops and Soil Services Modelling:** Integrating cover crops enhances soil structure, nutrient cycling, and microbial activity. Soil services modelling supports this by optimizing soil functions and promoting sustainable agricultural practices.



Expected results

CROPS-LIFE aims to significantly increase crop resilience, improve soil health, and enhance water use efficiency. By combining these elements, the project seeks to develop a robust and adaptable agricultural system capable of withstanding climate-related stresses and contributing to long-term food security while adapting and replicating the approach for Mediterranean agricultural contexts. Through practical implementation and collaboration with farmers and stakeholders, the project promotes sustainable agriculture and secures future food production.

Expected results include measurable improvements across water savings, water efficiency, soil characterization, nematode fauna characterization, soil health dynamics, micro-climatic regulation and crop performance, demonstrating the overall benefits of the CROPS-LIFE approach under climate stress. Different soil and climate conditions will be monitored across various agrivoltaics sites around the Mediterranean area.