What is OLIVITECH?

Fungal diseases in olive trees are difficult to predict, and their preventive treatment poses environmental and economic challenges for the olive sector. OLIVITECH is a Supra-regional Operational Group that aims to improve the prediction of fungal diseases and reduce the number of chemical treatments in olive groves through technological and aerobiological analysis. Thus, OLIVITECH will contribute to creating a more sustainable and competitive olive-growing sector by reducing the number of treatments and improving the quality of the olives produced.

To achieve this, OLIVITECH will evaluate the use of automatic aerobiological collectors to monitor the fungal spore concentrations in olive groves in real-time. It will also collect data on phenology, meteorology, and the symptoms of the most common olive tree diseases (leaf spot, Cercospora leaf spot and anthracnose). OLIVITECH will integrate and analyze this information using data mining techniques to develop an early warning tool for infection risks and provide "customized" treatment recommendations for each olive grove. In addition, OLIVITECH will also assess the impact of climate change on olive production.

Thus, OLIVITECH will contribute to creating a more competitive and sustainable olive sector. On the one hand, OLIVITECH will allow the reduction of the number of treatments and the associated costs for personnel, machinery, and equipment. It will also contribute to improving the economic performance of the sector, enabling access to higher-paying markets led by organic products with Designation of Origin. On the other hand, OLIVITECH will also contribute to creating more environmentally friendly agricultural practices by reducing the risk of water, air and soil contamination. In summary, by reducing the dependence on chemical treatments and maximizing the efficiency of interventions, OLIVITECH promises a revolution in the way olive trees are cultivated and cared for in Spain.

What are Supra-regional Operational Groups?

Operational Groups, main actors in the implementation of the EIP-Agri (European Innovation Partnership for Agricultural productivity and sustainability), are one of the key tools within the execution of the Strategic Plan of the Common Agricultural Policy (CAP) 2023–2027 to modernise agricultural and rural areas, promoting and sharing knowledge, innovation and digitalisation in agricultural areas. These groups consist of a combination of actors with different profiles and common interests, such as farmers, livestock producers, companies, research centres, training and outreach institutions, who come together to launch an innovative project aimed at providing a collaborative multi-sectorial response to a specific problem or need.

Do you want to know more about OLIVITECH?

You can send an email to feuga@feuga.es or call +34 981 534 180.

More information about the project is available on its website: olivitech.es.

The OLIVITECH Operational Group is responsible for these contents.

Co-funded by the European Union

GOBIERNO DE ESPAÑA — MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACIÓN

Optimization of Olive Farming through Technological and Aerobiological Analysis

Total project budget: €551,196.27   Total grant: €543,206.47

Co-funded by the European Union

GOBIERNO DE ESPAÑA — MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACIÓN

What are the **objectives** of OLIVITECH?

The main objective of **OLIVITECH** is to optimize phytosanitary treatments in olive groves by developing an early disease alert system that combines meteorological, phenological, and environmental phytopathogens in the environment.

To achieve this, **OLIVITECH** has the following specific objectives:

> Determine the phenological stages of olive trees and evaluate various climate change scenarios.

> Optimize aerobiological sampling using integrated and automated technologies.

> Develop prediction models for the fungal spore concentration necessary for infection.

> Create algorithms to predict fungal attacks by integrating different data sources.

> Develop a warning system for possible infections.

> Optimize the number of phytosanitary treatments in olive growing.

What **results** are expected from OLIVITECH?

The expected outcomes of the **OLIVITECH** project include:

- Developing a phenological stage prediction model for each plot.
- Assessing the impact of climate change.
- Calibrating automatic collectors to identify fungal spores and pollen grains.
- Develop a general spore prediction model for each pathogen.
- Develop disease risk models based on geographic and climatic characteristics.
- Establishing infection thresholds for each fungus (leaf spot, Cercospora leaf spot, and anthracnose).
- Designing a disease warning tool for olive trees tailored to each grove.
- Development of a cost-saving calculation model for annual savings (products and labour) per hectare.

OLIVITECH Activities

1 Installing weather stations and aerobiological traps; calibrating automatic aerobiological traps.

2 Collecting data on management practices, phenology, and disease symptoms.

3 Analyzing phenological stages, developing phenoclimatic models, and assessing the impact of climate change.

4 Developing mathematical models for diseases, phenology, and aerobiology.

5 Analyzing spore concentrations and evaluating infection risk thresholds.

6 Design and implementation of a phytosanitary treatment management strategy.

7 Profitability analysis of the proposed tool.

8 Disseminating, publishing, and transfer of results.

Who are the target groups?

The **OLIVITECH** project targets all stakeholders in the agri-food sector:

- Farmers, cooperatives, and olive farming enterprises.
- Farmers and companies in related sectors (e.g., viticulture).
- Designations of Origin/Protected Geographical Indication.
- Business associations and clusters in the sector.
- Companies that market technologies and equipment.
- Universities, research groups, and technological centres.
- Administrations involved in agriculture, the environment, and/or rural development.
- End consumers and the general public.

To maximize the impact of the results and knowledge transfer, **OLIVITECH** will conduct extensive dissemination activities at Regional, National, and European levels through articles, press releases, webinars, outreach events, and talks, among others.

Who are the members?

Beneficiaries: The Supra-regional Operational Group **OLIVITECH**, which spans the communities of Galicia and Andalusia, is coordinated by Fundación Empresa-Universidad Gallega (FEUGA) and includes the participation of MONET Tecnología e Innovación S.L., Aceites Abril S.L., Deoleo S.A., and OLEAND Manzanilla Olive S. Coop. And.

Subcontracted members: The University of Vigo (UVigo) and the University of Córdoba (UCO).

feuga — fundación empresa universidad gallega

Monet viticultura

ABRIL

Deoleo — The Olive Oil Company.

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