

## Prevention of *X. fastidiosa* in intensive olive & almond plantations applying productive green farming practices (LIFE RESILIENCE)



### Resumen:

*Xylella fastidiosa* is a bacterium with pathogenic potential that has led to diseases in a variety of Woody crops and trees. It has set alarms across Europe since its detection in 2013 in olive groves surrendering over 1 million olive trees to Olive Quick Decline Syndrome (OQDS). Detected in France, Germany and Spain the disease has the potential to spread across other climate-similar countries and other species such as almonds. The EU considers this quarantine organism "one of the most dangerous plant bacteria worldwide [due to its] causing of a variety of diseases, with huge economic impact for agriculture". Spain, Italy and Greece, the world's main producers of olives and olive oil are currently at risk of losing millions of euros.

Given the high risk of *Xylella fastidiosa* spreading across important agricultural areas of the EU, LIFE RESILIENCE proposes to develop pathogen-resistant and productive plant genotypes, apply sustainable practices and innovate on natural vector control methods to demonstrate their efficacy in preventing the negative effects of *Xylella fastidiosa*. Specifically, this project will develop and test 10-20 new olive cultivars that will be resistant to *Xylella fastidiosa*, with good agronomic characteristics and compatible with intensive production systems. The tests will be carried out in infected fields (in Italy) and uninfected regions (Spain).

### Objetivos:

The project will:

- Evaluate and crossbreed pathogen-resistant olive varieties as resilient options for olive producers in potentially infected areas, minimizing the risk of losses due to XF and other pathogens. These new olive varieties can create different olive oils with new organoleptic qualities, increasing the competitiveness in the sector.
- Demonstrate sustainable best practices and technologies for intensive Mediterranean olive and almond production systems, on 250 ha in Spain, Italy and Portugal, that lower their water consumption and carbon footprint, increase biodiversity and resistance to pests/pathogens without compromising yield.
- Provide a replicable model of best practices for olive, almond, and other woody crops such as citrus and grapevine production systems in Europe, increasing their capacity to adapt to CC and future epidemics to be replicated ten-fold (2500 ha) during the project.
- Involve multidisciplinary actors in transnational collaboration to provide new prevention strategies and EU policies for uptake.

### Objetivos contribución:

The University of Cordoba will carry out trials for olive breeding with the objective of developing new varieties that will be able to resist this deadly disease.

### Entregables:

- C1: Report on the selection of parent plants and seed germination.
- C1: Report on results of forced growth in environmental chamber.

### Impacto:

The project will develop two main strategies to prevent and mitigate the spread of *Xylella fastidiosa* in Mediterranean production systems:

- 1) Develop and create new olive varieties that are pathogen-resistant and favorable to intensive, irrigated production systems
- 2) Demonstrate sustainable production practices, including natural vector control methods that will help prevent the spread of and increase resilience towards pest/pathogen outbreaks.

The goal is to increase system resilience, quality and environmental sustainability.

**Presupuesto:** 2,968,675.00

### Equipo de investigación

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**Enlace:** <http://www.liferesilience.eu/>

**Estado:** published

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