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# Life Resilience project concluded, 18 genotypes of olive trees potentially resistant to Xylella have been identified

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It ended **Life Resilience**, the European project – supported among others by the Villa **Filippo Berio** Agricultural Company owned by **Salov** – **born with the aim of counteracting Xylella fastidiosa (XF)** by promoting a model of **sustainable agricultural production**, reducing the carbon footprint and mitigating climate change through the use of technological resources. Four years of intense work have ended, which have allowed us to obtain a model of best practices that can be replicated throughout the Mediterranean basin. Among the achievements, the achievement of **18 genotypes potentially resistant to Xylella fastidiosa** and the identification of good practices that have enabled a significant reduction in CO2 emissions and in the water footprint.



Xylella fastidiosa and Life Resilience Xylella fastidiosa is a parasitic bacterium that can attack various types of plants including grapevine, peach, almond, citrus, oleander and olive, causing their death in many cases: **a disease that represents a serious ecological and economic problem**, as the rapid loss of specimens significantly damages the ecosystems and the rural economy of the countries of the Mediterranean region. Suffice it to say that in Puglia alone, Xylella fastidiosa has caused over 1.6 billion euros in damage in 6 years.

Faced with this situation, various organizations from Italy, Spain and Portugal – the Villa Filippo Berio di Salov Agricultural Company, the Institute for Bioeconomy (Ibe), belonging to the National Research Council (Cnr), Balam Agriculture SL, the University of Cordova (Uco), Agrifood Comunicación, Greenfield Technologies SL, Asaja Nacional, Nutriprado Lda, Sahr-Sociedade Agrícola de Herdade do Charqueirao, SA; – took part in the Resilience project in 2018 which was co-financed by the European Union as part of the Life program, created for **develop genotypes of productive and pathogen resistant plants** apply sustainable practices and propose the use of natural methods for the control of pathogen vectors.

The project also took into consideration a priority issue for the EU, that is **mitigation of climate change through better land use and more environmentally friendly forestry**. In order to improve the sustainability of agricultural practices, the project also focused on optimizing the water supply and use system and reducing the carbon footprint. The main result of Life Resilience is the obtaining of 18 potentially resistant genotypes to Xylella fastidiosa characterized by excellent agronomic properties – earliness of entry into production, vegetative vigor and productivity – as well as excellent fatty acid profiles of the oils. On a practical level, useful information has emerged to optimize the monitoring and control of *Sputacchina*, the main insect vector of the bacterium Xylella Fastidiosa, obtaining a greater knowledge of the ‘insect’ system within the olive groves.

An interesting aspect of the project is to have considered **the olive grove as a whole** rather than the single olive tree. With this in mind, thanks to the introduction of auxiliary flora, nest boxes and the correct management of pest control, an increase in biodiversity has been achieved in all areas of the agricultural environment. Furthermore, it was possible to apply precision agriculture thanks to the use of data from satellites and drones that helped to understand how to make the activity inside the olive grove more sustainable. Finally, thanks to the implementation of sustainable Life Resilience practices, we contributed to **a reduction in the use of plant protection products and fertilizers, as well as a decrease in the use of water and fossil fuels** reducing CO2 emissions by 18,665 tons and the water footprint of 389,375 m3 in the 250 hectares of demonstration farms where the project was implemented (Villa Filippo Berio, El Valenciano, Herdade do Charqueirao).

**Salov**, in the four years of the project, made the land of Villa Filippo Berio available to study the implementation of sustainable practices, control of vector insects, increase in biodiversity and soil health. The 50 hectares involved in the project have been divided into 16 plots with 4 different land and plant management: – 1 area where the olive trees are cultivated



according to traditional techniques – 1 area where it has been planted, at the base of the olive trees, a herbaceous cover to favor the development of insects useful for plants and to counter the establishment of harmful species – 1 area in which natural phytostimulant products have been used to increase the physiological resistance of the plants – 1 area in which the previous variables are added, then the planting of the herbaceous cover and the use of natural fertilizing products on the leaves of the trees.

Some of the potentially resistant genotypes to *Xylella fastidiosa* are planted in the experimental plots of Villa **Filippo Berio**. These **experimental plots** they will continue to be monitored even now that the project is concluded, to define the resistance to the bacterium and the agronomic characteristics of future new olive varieties.

“The results obtained from this project are very interesting and have confirmed, once again, the importance of research. Aware of the dynamics and needs of the sector in which we operate, today more than ever, like **Salov**, we feel the responsibility of having to contribute to improving the entire system for quality olive production. At a time when the challenges posed by climate change are increasingly urgent, we are proud that our soils can help identify possible solutions for a more sustainable and resilient agriculture” he comments **Fabio Maccari, CEO of the Salov Group**.

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