

SoildiverAgro project

Adoption of new management practices to increase crop production and quality



THE WHAT AND WHY

Savings from sustainable farming practices: decision support systems

To overcome the situation of climate change and environmental degradation, the European Union adopted the European Green Deal and the “Farm to Fork” strategy, a set of policy initiatives aimed at putting the EU on the path to a green transition and achieving climate neutrality by 2050. One of the objectives is to halve the use of pesticides by at least by 2030.

Therefore, the implementation of more environmentally friendly strategies and their pros and cons must be known and tested by farmers.

One of the most important measures to meet the above objective is to rely on climate models for the prediction of diseases in agricultural crops, the so-called decision support systems. In a study carried out in A Limia (Lusitanic area) during the 2021 and 2022 crop cycles, it was possible to reduce

fungicide applications in potato crop against *Phytophthora infestans* by 50% and 43% respectively, when treatments were carried out following the prediction model warnings versus the conventional system. In addition, tractor passes were reduced by 50%, which avoids soil compaction and loss of biodiversity. This measure also contributes to saving water and reducing greenhouse gas emissions by 50%. Economically, it saved between 46 and 49% of the average cost that a farmer would spend on the purchase of fungicides compared to the conventional production system. As for the disadvantages, it is necessary to invest in weather stations located in the plots and to have warning systems. In view of the results, this investment can be economically beneficial to the farmer while at the same time being committed to an environmentally friendly management of the use of pesticides on farms.



1. A weather station installed on potato crop.



2. A stem of potato plant with symptomatology of *P. infestans*.

KEYWORDS

Solanum tuberosum, *Phytophthora infestans*, “Farm to Fork” strategy, climate model, environmentally friendly management, resilience

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 817819

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