LIFE FITOVID - Implementation of Demonstrative & Innovative Strategies to reduce the use of phytosanitary products in viticulture

LIFE13 ENV/ES/000710

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Project description:

Background

Pesticides are used in viticulture to maintain a good level of pest prevention in vineyards. Fungicides are applied to control fungal pathogens that can cause devastating diseases, such as grapevine downy and powdery mildews.

Treatment of these diseases generates resistance in pathogens, which can result in application of higher doses and use of more aggressive fungicides, which in turn increases the exposure of growers to these compounds. The presence of toxic molecules in grapes and wine can also increase, with subsequent transmission into the bodies of humans who consume these products, and negative impacts on the surrounding environment, particularly soil and water.

Objectives

The project will demonstrate that a reduction in the negative environmental impacts from the production of grape, juice and wine can be achieved by:

- Evaluating new management strategies to control downy and powdery mildews by reducing the number of treatments in endemic Atlantic & Mediterranean areas;
- Evaluating the action of so-called “zero residue” fungicides as alternatives to conventional products;
- Comparing the results of new treatment strategies in different climatic areas with different characteristics (topography, grape varieties);

- Creating awareness among users about the importance of correct maintenance and use of spray application equipment, and its effect on the efficiency of pesticide application;
- Using mandatory inspections of sprayers to provide training and information to users;
- Analysing fungicide residues in grapes, juice and wine, in different pesticide application scenarios;
- Evaluating the environmental and socioeconomical impacts of grape production; and
- Improving the efficiency of pesticides by demonstrating an imaging device that can detect fungal disease in its early stages, enabling early treatment.

Expected results:

- Comparison of the current approach to control of downy and powdery mildews with alternative treatment strategies;
- Demonstration that the number of fungicide applications to control mildews can be reduced by one third through smarter application;
- Comparison of the effectiveness of pesticide application using a carefully-adjusted and inspected sprayer with real-world scenarios. Implementation of a programme to make growers aware of the necessity of calibrated spraying equipment. Use of correctly maintained equipment can also contribute to a 30% reduction of pesticides applied;
- Showing that, through a combination of optimisation of spraying equipment and new treatment schedules, pesticide use can be reduced by at least 40%; and
- Establishment of an imaging system for detection of downy mildew disease, and an assessment of the feasibility of automatic early detection of fungal diseases.

Results

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Environmental issues addressed:

Themes

Environmental management - Cleaner technologies
Industry-Production - Agriculture - Forestry
Industry-Production - Food and Beverages
Risk management - Pollutants reduction

Keywords

pest control, agricultural method, environmental impact of agriculture, agricultural pollution, beverage industry

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	NEIKER - INSTITUTO VASCO DE INVESTIGACION Y DESARROLLO AGRARIO
Type of organisation	Research institution
Description	Neiker-Tecnalia, the Basque institute for agricultural research and development, is a non-profit state-owned company overseen by the department of economic development and competitiveness of the Basque Government. The institute's research covers agricultural production, farm management technologies and agri-food processing.
Partners	UPC(Universitat Politècnica de Catalunya), Spain UPV/EHU(University of the Basque Country / Universidad del País Vasco), Spain TECNALIA(FUNDACION TECNALIA RESEARCH & INNOVATION), Spain AZTI(Fundación AZTI – AZTI Fundazioa), Spain

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Administrative data:

Project reference	LIFE13 ENV/ES/000710
Duration	01-SEP-2014 to 30-SEP -2017
Total budget	1,428,885.00 €
EU contribution	711,470.00 €
Project location	País Vasco(España)

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