VITICAST OPERATIONAL GROUP: INNOVATIVE SOLUTIONS FOR THE PREDICTION OF FUNGAL DISEASES IN GRAPEVINE

VITICAST
GRUPO OPERATIVO SUPRAAUTONÓMICO

Unión Europea
Fondo Europeo Agrícola de Desarrollo Rural
Europa invierte en las zonas rurales

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Monet Tecnología e Innovación, Bodega Viña Costeira, Bodega Hacienda Monasterio, Fundación Empresa-Universidad Gallega, Universidad de Vigo, Plataforma Tecnológica del Vino and Asociación de Colleteiros Embotelladores Do Ribeiro take part in VITICAST, a supra-autonomous Operational Group whose aim is the implementation of innovative solutions for the prediction of fungal diseases in vineyard.

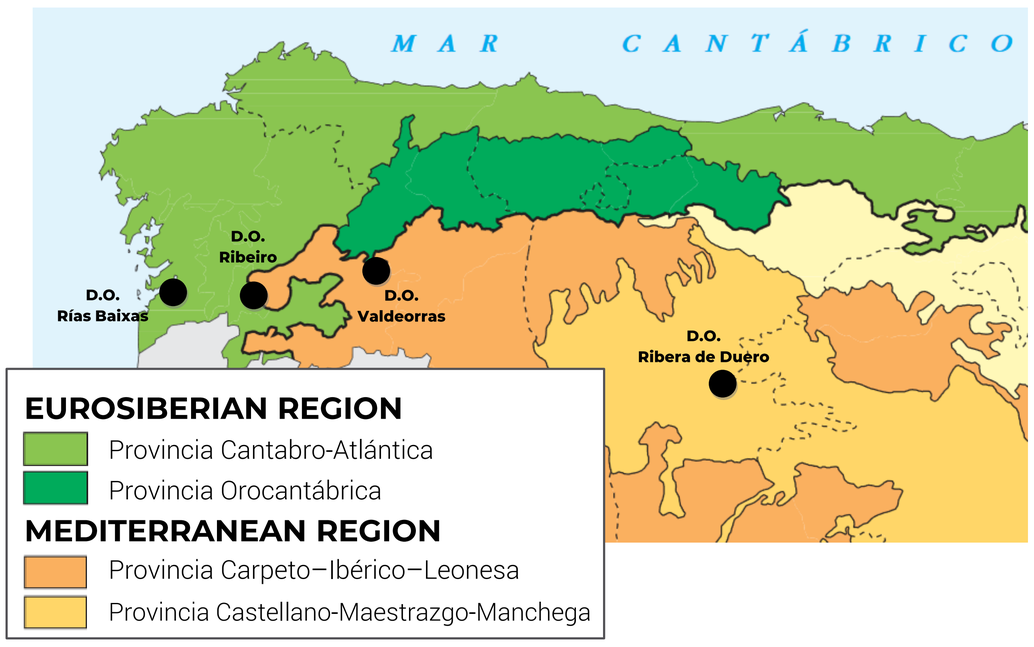


Figure 1 . Location of the D.O. object of study. Map source: Instituto Geográfico Nacional. Ministerio de Fomento

VITICAST, funded under the National Rural Development Programme financed by the Ministry of Agriculture, Food and the Environment (MAPAMA) and the European Agricultural Fund for Rural Development, pursues the **optimization of the production and sustainability of vine growing** through the development of a predictive tool for potential infections, combining **climate parameters** monitored in the vineyard, the prediction of the vine phenological stages and the concentration of spores and inoculum necessary for the infection to occur.

This tool will enable the forecasting of harvest production as well as reducing the antifungal treatments on the vineyard. It will make the work of the cooperatives and wineries easier and it will contribute to the elaboration of wine of a greater quality and to a more sustainable production, by reducing the application of phytosanitary treatments.

VITICAST project is focused on all the agents of the wine sector:

- Wineries and cooperatives
- Regulating Councils of Appellation of Origin
- Manufacturers of machinery and technologies related to the sector
- Private winegrowers
- Public Administrations related to agriculture, environment and rural development.

VITICAST focuses its study on four Denominations of Origin representing the most important bioclimatic provinces of Northwest Spain (Fig 1). The main objectives of the project are the following:

- Objective 1.- To establish predictive models for the concentration of spores of the main phytopathogenic fungi in the atmosphere of vineyards under study: *Plasmopara viticola, Uncinula necator* and *Botrytis cinerea.*
- Objective 2.- To develop a predictive tool for possible fungal infections, combining the climatic parameters monitored at the vineyard and the prediction of the start of the phenological phases of agronomic importance, the prediction of the amount of inoculum necessary for the infection to occur and the prediction of weather conditions.
- Objective 3.- To reduce chemical phytosanitary treatments in wine-growing, by setting up the predictive model and designing the warning tool.

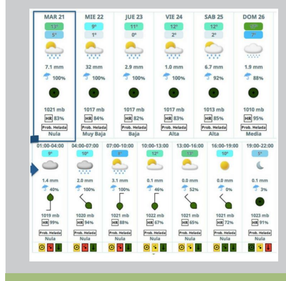
By considering the following parameters and processing the collected data, VITICAST aims to develop a **predictive model that leads to reduce the use of phytosanitary products and chemical treatments, thus achieving holistic and sustainable optimization of the vineyard**:

METEOROLOGICAL CONDITIONS

Processing of real-time climate data obtained by a weather station placed by the vineyard makes it possible to develop assessment models for the risk of disease in the crop

CONCENTRATION OF SPORES

Analysis of concentration of spores obtained by an aerobiological collector enables the evaluation of the presence of the pathogen in the environment



METEOROLOGICAL PREDICTION

Processing of climate data obtained by a personalized meteorological prediction by the vineyard allows the development of asessment models for the risk of disease in the crop

GRAPEVINE PHENOLOGICAL CYCLE

Prediction of phenological state of the grapevine allows to adjust the asessment and prediction models for the risk of disease on those stages where the plant is more vulnerable to infection

Should you require any further information on the project, please contact us at:

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