

What is VITICAST ?

VITICAST is a supra-autonomous Operational Group whose purpose is to provide innovative solutions for the prediction of fungal diseases in vineyards.

Its objective is the optimization of the production and the sustainable development of the vine cultivation in the most important bioclimatic regions in the Spanish northwest (vineyards under study are located within the following **Appellations of Origin: Rías Baixas, Ribeiro, Valdeorras and Ribera del Duero**) through the innovation in the management of fungal diseases of higher incidence (downy mildew, powdery mildew and botrytis).

The project develops a **tool for the forecasting of possible infections** which will combine: **meteorological data** measured at the vineyard level, **prediction of the phenological stages** of the vine and **concentration of spores and inoculum** necessary for the infection to occur. This tool will allow estimating the crop production in advance, as well as reducing antifungal treatments applied in the vineyard. Therefore, it will facilitate the work of cooperatives and wine cellars, contributing to the production of a higher quality wine and a more sustainable production by minimizing the impacts on the environment related to the application of phytosanitary products.



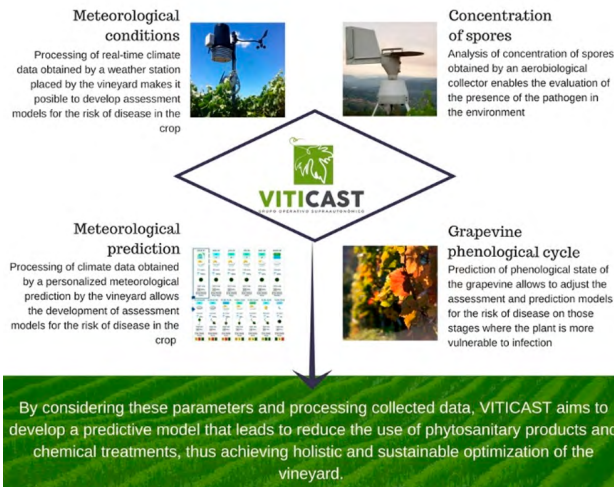
Vineyard of study in the Appellation of Origin Rías Baixas



Do you want to know more about VITICAST ?

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INNOVATIVE SOLUTIONS FOR THE PREDICTION OF FUNGAL DISEASES IN GRAPEVINE

Innovation project 80% co-funded by the European Agricultural Fund for Rural Development (EAFRD) of the European Union and 20% by the Ministry of Agriculture, Fisheries and Food, within the framework of the National Rural Development Programme 2014-2020.

Total project budget: 615,249.11 eur, Total grant: 599,957.11 eur.

What are the **Operational Groups** ?

The Operational Groups, main actors in the implementation of the EIP-Agri (European Innovation Partnership for Agricultural productivity and sustainability), are one of the key tools for the execution of the National Rural Development Programme 2014-2020 for promoting innovation in the agri-food and forestry sectors within the European scope. They gather agents of different profiles with common interests, such as farmers, ranchers, companies, researchers or training and dissemination actors, who are associated to implement an innovation project in order to provide a joint and multi-sectorial response to a problem or need.

Who is **VITICAST** aimed to ?

VITICAST project focuses on all the agents of the wine-growing 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
- Research centres, and general public

With the aim of maximizing the impact of the results and the transfer of the solutions to be developed in the VITICAST project, an intense dissemination work will be carried out at regional, national and European levels (articles, events, workshops, web, etc.).



Vineyard of study in the Appellation of Origin Ribera del Duero

What are **VITICAST** specific objectives and expected results ?

1. To determine the start of the different **phenological stages** in the studied areas based on grape variety, through field observation and phenoclimatic models; the trends of the phenological parameters will be evaluated to assess the impact of the various climate change scenarios predicted by the IPCC on the vine cultivation.

2. To establish predictive models for the **concentration of spores in the vineyard atmosphere necessary for the infection to occur**, to determine risk thresholds in each Appellation of Origin and to evaluate the symptomatology.

3. To develop **specific algorithms for each Appellation of Origin with the recorded meteorological data** to identify the most likely periods of phytopathogenic fungi incidence.

4. To establish in each Appellation of Origin a **warning tool for possible infections** to optimize the integrated and sustainable cultivation of the vine, which **combines phenological data** (objective 1), **prediction of spores concentration** necessary for the infection to occur (objective 2) and the **algorithms that allow prediction from meteorological information** (objective 3).

5. To **optimize the chemical phytosanitary treatments** in viticulture, which will result in a **reduction of production costs, an increase in the wine quality** and an **improved protection of the environment**.

Also, the following results will be obtained in order to evaluate the benefits of the implementation of the prediction and warning tools in the studied Appellations of Origin:

- A **model to determine the annual cost savings per hectare** obtained by the chemical phytosanitary use reduction and cultural management practices attained through the technology applied in the project.
- The **quantification of the improvement in the wine quality** by comparing multi-residue analyses carried out in the control vines and those in which the phytosanitary treatments are applied by the conventional procedure without taking into account the warning information provided by the tool.

Who are the members of **VITICAST** ?

Partners: the supraautonomous Operational Group, which involves the Spanish regions of Galicia and Castilla y León, is coordinated by the company Monet Tecnología e Innovación S.L. and counts with the participation of the cellars: Viña Costeira S.C.G., Bodega Hacienda Monasterio S.L., Bodega Matarromera S.L., as well as the Estación Fitopatológica Areiro (Diputación de Pontevedra), the University of Vigo (Plant, soil and subproducts utilization research group) and the Galician University-Enterprise Foundation (FEUGA).



Universidade de Vigo



The research group of Chromatography and Chemometrics, from the University of Santiago de Compostela, participates as a **subcontracted member**.



The Wine Technology Platform (PTV), the Association of Ribeiro Bottling and Harvesters (ACER) and the Galician Association of Viticulture (AGV) act as **collaborators**.

