

Tools to help Europe's wine industry adapt to climate change

An EU-funded project is developing a decision support system integrating weather forecasting, seasonal predictions, climate projections, crop planning, irrigation modelling and other information to help the southern European wine industry adapt to climate change and remain competitive.



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Wine grapes are extremely sensitive to weather, and subtle changes in temperature can affect their acidity and sugar levels, cause over-ripening or make them more vulnerable to pests and diseases. This in turn affects the quality and quantity of the final product, which has implications for the economic competitiveness of Europe's wines.

Wine-growers need accurate information about when extreme weather events are likely to hit them, in order to make the best decisions about when to irrigate, fertilise, prune and harvest.

The EU-funded VISCA project aims to meet this need by providing a software application integrating the information winemakers need to adapt to changing conditions to ensure they get the best vintage and quantity.

The service will be able to deliver accurate short- and medium-term weather forecasts – ranging from 48 hours to 10 days. It will also provide seasonal forecasts, climate projections and warnings about extreme weather events.

The tool will also give winemakers advice on irrigation and specific aspects of crop planning, such as optimal harvesting and pruning times. In the short term, the project aims to help growers optimise yields, reduce costs and risks, and improve the quality and quantity of their wine production. In the longer term, the project goal is to support the wine industry in

strategic planning and adaptation decisions, for example giving hints on the potential geographical shift of viticulture regions.

The application will be tested in three vineyards in Spain, Italy and Portugal, which offer a range of wine-growing climates and grape types.

These sites were chosen because the world's best wine grapes grow in Mediterranean-like climate ranges. Southern Europe is likely to face more heatwaves, droughts and wildfires in the future. More flooding in northern and central Europe is likely to affect water availability further south.

Experiments are being carried out to develop the best product to predict extreme events, such as a heatwaves. This information would allow growers to irrigate their fields one or two days in advance, to minimise damage to their crops.

One strategy the project is testing for its effectiveness is called 'crop forcing'. This aims to ensure that grapes do not ripen during periods of high temperature and to move the harvest to cooler periods of the year. It involves removing all leaves and bunches from the vine to 'force' the plant's growth cycle to restart.

By combining knowledge of the plant's growth cycle and climate predictions, wine-growers will be able to apply the best management strategy for their vineyards.

The VISCA researchers will also evaluate whether or not the database can be adapted for use in other agricultural sectors, in forestry, and internationally.

Project details

- Project acronym: **VISCA**
- Participants: **Spain (Coordinator)**, Italy, Portugal, France, UK
- Project N°: 730253
- Total costs: € 3 197 958
- EU contribution: € 2 793 144
- Duration: May 2017 to April 2020

See also

Project website: <http://visca.eu/>

Project details:

https://cordis.europa.eu/project/rcn/210173_en.html

View the article online:

http://ec.europa.eu/research/infocentre/article_en.cfm?artid=49910

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