

Irrigation management tool to assess vineyard current hydric needs and predicts future ones

REGAVID is an Operational Group that seeks to implement a tool that allows modeling the real water needs of the crop based on data from soil moisture sensors, weather stations and weather forecasts for the area and being able to predict water future requirements irrigation.

Objectives

The general objective of this project is the development of an irrigation management tool that allows determining the current water needs of the vineyard and predict future water needs.



Results

A model will be obtained that will allow characterizing the sensor response based on different soil moisture content values and performing an effective adjustment of the crop coefficient. Additionally, prediction models for evapotranspiration (ET_o) and crop coefficient (K_c) will be obtained to determine the future water requirements of the vineyard.



Definition of study areas (actuation units' size and number of sensors to install), zoning with apparent electrical conductive map and soil analysis.



Measurements of soil water content with TDR sounding lines.



7

Execution of the dissemination plan (transferring the results to the sectors and carrying out dissemination actions).



Installation of equipment (soil sounding lines, TDR checkpoints and control counters of the applied water volume) and irrigation system evaluation.



Field controls (charge equilibrium, phenology and agronomic practices monitoring, vegetal canopy characterization, determination of the exposed foliar surface, maturation tracking, production evaluation and grape juice analysis).



Definition of treatments (dry land areas, frequent irrigation areas of the winery, irrigation area identified by the tool developed).



Development of models (correlation of sensors and TDR measurements, cultivation coefficient adjustment, current hydric needs modelling, 7-days reference evapotranspiration and cultivation coefficient prediction models) and development of an irrigation management tool.











Total budget: €180.000,00

Total grant: €180.000,00

REGAVID is financed by aid for the execution of operational groups of the European Innovation Association (AEI), 75% co-financed by the European Agricultural Fund for Rural Development (FEADER) within the framework of the Rural Development Program (PDR) of Galicia 2014-2020. Total budget €180,000.00 (100% subsidized). The Department of Rural Environment is the body of the Galician Administration which is responsible for proposing and executing the general guidelines in the rural area, and encompasses the competences in matters of agriculture, livestock, rural development and regional planning, rural structures, agri-food industries and forestry, mountains, prevention and defense of forest fires.