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INSTITUTO SUPERIOR D AGRONOMIA



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UNIVERSITEIT STELLENBOSCH UNIVERSITY



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# vWISE : Annex 3 : Intermediate / Final activity report

WP number	1
WP title	Vine adaptation to climate changes
Beneficiary / Partner	UNITO

## Visiting Researcher

Name	Gonçalo Filipe dos Santos Victorino
Position	PhD student
Home institution	Instituto Superior de Agronomia, Universidade de Lisboa, Portugal
Host institution	Stellenbosch University, South Africa
Mobility period (From ... to...)	From 01/01/2021 to 31/01/2021
Scientific contact at the host institution	Dr. Carlos Poblete Echeverría

## 1 : General progress of the project :

Based on the research mobility project, please indicate if the project:

- a) has fully achieved its objectives and technical goals for the period;
- ~~b) has achieved most of its objectives and technical goals for the period with relatively minor deviations;~~
- ~~e) has failed to achieve critical objectives and/or is not at all on schedule.~~

*If you answered b) or c) please include a detailed description of the modifications in the report*

## 2 : Project achievement

A : Scientific highlights and research achievements/outputs

The student took part in several research projects going on in a commercial vineyard located in the Stellenbosch wine region, South Africa. During this time, the student developed skills and knowledge using a number of sensors and techniques, namely:

- Neutron probe for soil water content assessment;
- Stem water potential using a pressure chamber to assess plant water status;
- Thermal imaging to assess plant water status;

*Gonçalo  
vic dos Santos*

- 2D and 3D vine and grape bunch imaging for plant phenotyping and bunch characterization;
- Multispectral vine imaging and spectral signature assessment of leaves and grapes;
- Infrared Gas Analyzer measurements to assess photosynthesis rates;
- Grape maturation analysis and winemaking activities at a research level;

Several skills were also developed considering data analysis, in particular using third party software such as MATLAB (ver. R2020b, Mathworks) and Rstudio (ver. 1.2.5, Rstudio team).

During data collection the student assisted and acknowledges the assistance provided by all the local Msc and PhD students with which he shared this mobility with. In parallel with participating in the active research projects, the student also developed an experiment of his own with the help of supervisors Dr. Carlos Pobleto Echeverría and Dr. Carlos M. Lopes.

The data collected and analysis resulted in one publication which is currently being revised. Other data, collected in Stellenbosch, will also become valuable for future publications as the student, so far, was limited to data collected in his home country.

This way, the work developed during the PhD project of student Gonçalo Filipe dos Santos Victorino will be greatly enriched by the data collected and teachings received during the vWise mobility to Stellenbosch University, South Africa.

B : Transfer of knowledge and Training activities (workshops...)

C : Dissemination of results (conferences, publications...)

D : Qualitative indicators of progress and success

The student hereby declares that the vWise mobility from Instituto Superior de Agronomia, in Portugal, to Stellenbosch University, in South Africa, was highly successful.

Instituto Superior de Agronomia was quick and helpful when processing the bureaucracy needed for this mobility. Stellenbosch University showed great hosting capacity along with a fluid and helpful communication, as a result of their experience in receiving foreign students.

There were difficulties when attempting to incorporate the vWise grant with the portuguese PhD grant from FCT (*Fundação para a Ciência e a Tecnologia*) with which the student struggled to find the best option and would have gained from extra support provided by either of the entities involved.

Visiting Researcher signature

Date

Place

Gonçalo Victorino

19/4/21

Lisbon, Portugal