Vinifera master thesis abstract

Thesis title: **Characterization of the susceptibility of the vineyard of Château Margaux to the main fungal-like and fungal diseases**

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Institution/company involved: **Instituto Superior de Agronomia**

Tribunal members (name/position):
- Doutor Jorge Manuel Rodrigues Ricardo da Silva, Professor Catedrático do Instituto Superior de Agronomia da Universidade de Lisboa;
- Doutor Carlos Manuel Antunes Lopes, Professor Associado com agregação do Instituto Superior de Agronomia da Universidade de Lisboa;
- Doutora Maria Helena Mendes da Costa Ferreira Correia de Oliveira, Professora Associada com agregação do Instituto Superior de Agronomia da Universidade de Lisboa, orientador;

03-12-15 12:00 AM on Instituto Superior de Agronomia

Confidential: ☐ **Yes** ☒ **No**

Abstract (max 300 words)

In the context of reducing the use of phytosanitary products, precision viticulture searches to characterize the behavior of a vineyard by applying precise and exhaustive geo-located measures. The aim of this study is to create an epidemic zoning likely to explain variations of the vegetative development of vines and possible differences of the plants susceptibility to fungal-like and fungal diseases. It concerns the combination on three maps established at the Château Margaux, in the Medoc area of the Bordeaux vineyard (France). The maps represent the NDVI values, drainage quality and coarse element content of the vineyard. Each factor is expressed in three levels - low, medium, high. The combination of these factor maps introduces the concept of the Physiological Behavior Units (PBU).Every PBU consists of 5 consecutive vines for the disease monitoring (untreated control) and 8 vines around them for the physiological monitoring. During this experiment, 14 PBUs were distributed in the vineyard of Château Margaux and were physiologically and sanitarily monitored for the 2015 crop year. The results obtained show that the PBU concept can likely explain the variations in the physiological and sanitary behavior of the vineyard but however it demands a great precision in the selection and distribution of the experimental units. The results obtained were inconclusive due to the lack of replicates. As to continue this protocol, we propose to change the way of NDVI and drainage quality mapping in order to achieve a more accurate location of the PBUs in the vineyard of Château Margaux. Furthermore, we propose to do observations separately for every vine of the untreated control to better explain the variability existing in the untreated control. We also propose to have 3-4 replicates for the most represented PBUs in the vineyard of Château Margaux.

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