Vinifera master thesis abstract (template 2013)

Thesis title: **Characterization of old Portuguese grapevine varieties using microsatellite markers**

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Tribunal members (name/position):

- Olga Laureano, Investigador Coordenador, UTL/ISA
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- José Eduardo Eiras Dias, Investigador INRB

Date & location of the oral examination:
19-11-12 9:30 AM on Instituto Superior de Agronomia

Confidential: ☐ **Yes** ☒ **No**

Abstract (max 300 words)

Grapevine is an economically important crop cultivated all over the world. The long history of cultivation, the high ability of hybridization and the asexual propagation of selected plants has lead to the formation of numerous cultivars. The taxonomic classification of Vitaceae is inconvenient due to the high number of species within the Vitaceae family as well as the high polymorphism level of different cultivars. The classical ampelographic tools proved to be insufficient leading to an increasing number of synonymous and homonymous cultivars. Molecular methods for the identification and classification of grapevine were first used in 1970's. Till then a plethora of new tools allows the correct and conclusive identification based on DNA analysis methods. The new techniques used can help to improve and optimize germplasm collections all over the world while also creating a database in a common language as a reference for the researchers. In the current study we dealt with the identification of 24 grapevine cultivars using 20 SSR markers. The marker VVIv37 failed to amplify due to a mistake in the primer sequence. All remaining markers gave satisfactory results allowing to identify 150 total alleles ranging from 3-13 alleles per locus. The observed Heterozygosity was 73%. We observed 5 cases of synonymy and 1 case of homonymy among the studied cultivars. The genetic distances of the cultivars lead to the designing of a phylogenetic tree revealing the relations among the cultivars.

Keywords (5): Vitis vinifera, cultivar identification, microsatellites, DNA genotyping, phylogeny.

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