Vinifera master thesis abstract (template 2013)

Thesis title: **Estimation of Leaf Area in grapevine cv. Syrah using empirical models**

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

Tribunal members (name/position):

- Licenciada Olga Maria Carrasqueira Laureano, Investigadora Coordenadora do Instituto Superior de Agronomia da Universidade de Lisboa.
- Doutora Pilar Baeza, Professora da Universidade Politécnica de Madrid (Espanha);
- Doutor Carlos Manuel Antunes Lopes, Professor Associado com agregação do Instituto Superior de Agronomia da Universidade de Lisboa, orientador;
- Doutor Jorge Filipe Campinos Landerset Cadima, Professor Associado do Instituto Superior de Agronomia da Universidade de Lisboa.

Date & location of the oral examination:
7-03-14 11:00 AM on Instituto Superior de Agronomia

Confidential: ☐ **Yes** ☒ **No**

Abstract (max 300 words)

Empirical models for the estimation of the Area of single Primary and Lateral leaves, and total Primary and Lateral Leaf Area of a shoot, are presented for the grapevine cv. Syrah (*Vitis vinifera* L.). The Area of single Leaves is estimated with models using the sum of the lengths of the two lateral veins of each leaf, with logarithmic transformation of both variables. Separate models are proposed for Primary and Lateral Leaves. Models based on the Lopes and Pinto (2005) method, using Mean Leaf Area multiplied by the number of Leaves as predictors, are proposed for the estimation for Total Primary and Lateral Leaf Area. It is suggested, that failure to locate the Largest Leaf of a Primary or Lateral shoot, would not significantly impair the accuracy of the models. All models explain a very high proportion of variability in Leaf Area and they can by applied in research and viticulture for the frequent estimation of Leaf Area in any phase of the growing cycle. They are inexpensive, practical, non-destructive methods which do not require specialised staff or expensive equipment.

Keywords (5): Leaf Area, grapevine, Syrah, empirical model, non-destructive methods.

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