



Thesis title: A Review of the Influence of Rootstocks on the Production of Secondary Metabolites in Red Grapes

Student name:	Akshay BABOO
Institution/company involved:	Università degli studi di Torino

Jury members (name/position):

Names & emails of supervisors:

Vittorino Novello (vittorino.novello@unito.it)	

Date & location of the oral examination (if known) :

Confidential: Yes No

Abstract (max 300 words)

Topic position & objectives:

The use of rootstocks in the cultivation of grapes is obligatory owing to the 19th Century blight caused by the root-girdling aphid *Daktulospharia phylloxera* (WSET, 2012). Rootstocks play a vital role in the survival of the vine, as they are primarily involved in the assimilation of water and nutrients (Hikey, King, 2001). However, rootstocks have the ability to influence various parameters of berry development, such as Total Simple Sugars, Total Acidity, Quantity of Secondary Metabolites, etc. (Ivit, Baboo, 2013) . This thesis is oriented towards the comprehension, collation and codification of works relating to the influence of root-stocks to the production of polyphenols and anthocyanins and the study of the influence of the type and parentage of Rootstocks on the production of Tannins and Anthocyanins in red grape cultivars in varied terroirs.

Methods:

Bibliographic review

Results:

Patterns may be discerned within closely delimited geographical zones. More studies into the nature of the influence of the scion on the rootstock need to be conducted.

Main conclusions:

As demonstrated by the results, we cannot create a general link between lineage of the root-stock and the assumed characteristics of the same, as this follows the accepted scientific norm that co-relation does not imply causation. That being said, some interesting results come out of making this study. Further studies on the interaction of various scions on the rootstock characteristics need to be made. Also, as stated by Ivit, Baboo, et al., 2013, the terroir also has a major effect on the synthesis of primary metabolites, and it stands to reason that it also has a significant effect on the production of secondary metabolites in the vine.

Keywords (5):

Rootstocks, Tannins, Anthocyanins *Vitis vinifera*, Proanthocyanidins