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BOOK of ABSTRACTS

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PHENOLIC CONTENT OF VRANEC GRAPES DURING RIPENING

Violeta Ivanova[1], Marina Stefova[2], Borimir Vojnoski[3], Klime Beleski[3], Violeta Dimovska[1]

violeta.ivanova@ugd.edu.mk

1-Faculty of Agriculture, University Goce Delčev, Stip, R. Macedonia

2- ***Institute of Chemistry, Faculty of Natural Sciences and Mathematics, University Ss. Cyril and Methodius, Arhimedova 5, 1000 Skopje, R. Macedonia***

3-Insitute of Agriculture, ***University Ss. Cyril and Methodius, 1000 Skopje, R. Macedonia***

Grape polyphenols are characterized by a large range of structures diversely distributed in every part of the berry. The knowledge on the phenolic composition of grapes and its evolution during ripening is thus of crucial importance in relation to wine quality. Among them, anthocyanins, located in the skins, are responsible for the red colour of the grapes, while flavonoids and especially flavan-3-ols intervene in their taste, astringency and bitterness. In this study, total polyphenols, flavonoids, flavan-3-ols and anthocyanins were determined in the pulp, skins and seeds of Vranec grapes in three ripening stages: veraison, technological and physiological ripeness, applying standardized spectrophotometric methods. Extraction of phenolic compounds from grape pulp, seeds and skins was performed with acetone/water mixture (80/20, *v/v*). Results showed that the concentration of total phenolics in skins increased during ripening (21.21 mg/g, 48.17 mg/g, 61.55 mg/g, at the beginning of the ripeness, at technological and physiological ripeness, respectively), but they slightly decreased in the seeds. Concentration of the total flavonoids in skins and seeds increased during the ripening process, as well as the anthocyanin content in skins, which was the highest in the late harvested grapes. Flavan-3-ols in the seeds were present in highest concentration at the veraison phase, while in the skins their content increased during ripening reaching the highest amount at the technological stage. Vranec grapes presented high content of phenolics, flavonoids, anthocyanins and flavan-3-ols, which are main antioxidant components in the wines. This traditional domestic variety, rich in polyphenols and colour, dominates in the Macedonian vineyards and possesses a strong capacity for making a high quality wine recognizable in the world.

Keywords: Vranec variety, grapes, total phenolics, flavonoids, flavan-3-ols, anthocyanins, ripening.