The influence of variety on the anthocyanin content in grape and wine of the red wine varieties in Montenegro and Macedonia

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Abstract

This paper presents the results of the examination of the anthocyanin content in grape and wine, as well as the polyphenolic composition of the red wines produced from the grape varieties grown in Montenegro and Macedonia. The varieties examined include: Vranac, Kratosija, Merlot, Cabernet Sauvignon and Syrah. The experiments were performed during 2005 and 2006. The analysis of the anthocyanin content in grape was carried out by extraction in methanol vapour in the Soxhlet apparatus, whereas the anthocyanin content and the content of other phenolic substances in wines were examined by means of standard spectrophotometric methods. The wines tested were young.

The results of the research showed that the grape varieties Cabernet Sauvignon, Merlot and Vranac grown in the Skopje Vineyard had a substantial content of anthocyanins in their skin during both seasons tested. In the Podgorica subregion, Vranac featured a high content, whereas Merlot and Cabernet Sauvignon had medium values. In both regions examined, Syrah and Kratosija had medium and low anthocyanin content respectively. The content of anthocyanins in wine did not match their content in grape, due to different extraction percentages. A substantial presence of anthocyanins in the wine produced in both regions tested during the experiment was found in the Vranac variety, whereas a slightly lower content was measured in the varieties Merlot and Cabernet Sauvignon, followed by Syrah and Kratosija, which featured the lowest.

In both regions tested, the total polyphenolic content was at a medium high level for all wine varieties, except for Kratosija, which again featured a lower content. The anthocyanin content in the skin was found to be greater than the content values given in the literature, whereas the polyphenolic substances in the wines of the tested varieties proved to be in accordance with the data provided in the literature.

Key words: red grape varieties, anthocyanins, wine, Macedonia, Montenegro