AMPELOGRAPHIC AND RANDOM AMPLIFIED POLYMORPHIC DNA (RAPDS) BASED ANALYSIS OF SIX GRAPEWINE VARIETIES OF RAHOVEC, KOSOVO

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Abstract

The Rahovec area located in Kosovo is well known for the production of grapevines of high quality since antiquity. During the last decades more attention is drowned toward the enlargement of the production area as well as to the in depth study of the agronomical and molecular characteristics of the main cultivars, aiming a better judgement on the genetic diversity of grapevines, and the identification of native cultivars. Present study describes the use of morphometric characteristics and Randomly Amplified Polymorphic DNA to verify genetic differences among six cultivars, namely Vranc, Prokup, Rrush Keci, Rrush Melik, Thanz i kuq and Thanz i zi.

The ampelographic data addressed were morphological and agronomical characteristics related to period of flowering, period of ripening, the vegetative growth rate, and biometric characteristics of leaves, considered in levels of estimation according to the descriptor of **International Plant Genetic Resources Institute** (**IPGRI**). Molecular data were based on the use of ten decamer primers, applied on template DNA extracted from ten parallel plants from each cultivar. The presence/non presence of the amplified fragments were used to construct a dendrogram of similarity with software NTSYS 2.1 based on **Unweighted Pair Group Method with Arithmetic Mean** - UPGMA cluster analysis.

Ten RAPD markers produced a total of 76 fragments 50 of each were polymorphic. The dendrogram of similarity grouped cultivars in two clusters, and clarified that they share 0.25 - 0.75% similarity based on the Jaccard's coefficient. There were no polymorphisms detected among parallel plants within each cultivar. The morphometric data displayed a level of similarity among cultivars comparable to that offered by molecular markers, which clearly differentiate the six cultivars from each-other.

The six main cultivars of Rahovec area differ from each other significantly, and none of them should be considered as homonymous. Phenotypic and genetic differences classify them in a similar way, in two clusters.

***Key words**: Ampelography, RAPDs, Grapewine cultivars, Dendrogram of similarity.*