

Development of Methods for DNA Extraction from Leaves and Must Grapes

**Daniela BRICIU, Doru PAMFIL, Alexandru BRICIU, Dana CURTICIU,
Erika BALAZS, Abdelmoumen TAOUTAOU, Iulia POP, Laura COȚA**

University of Agricultural Sciences and Veterinary Medicine, 3-5 Manastur Street,
400372 Cluj-Napoca, Romania; trifan_daniela@yahoo.com

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SUMMARY

The wine sector is one of the economically most important agricultural activities in the world. An enormous diversity of *Vitis vinifera* L. varieties (cultivars) can be used in the production of wine, although only a small number is of commercial importance.

Ten grapevine varieties have been analysed. Five varieties are used for red wine production and five for white wine production. Two types of samples were analyzed: young leaves and must. Leaves were collected at the S.D.E Cluj. Must was obtained right after grape crushing, containing the skin and the solid parts of the flesh.

Three different methods were tested: Lodhi *et al.*, (1994) modified by Pop *et al.*, (2003); Faria *et al.*, (2000); Sambrook *et al.*, (1989). The first method was used for DNA extraction from leaves and also from must. Analyses with DNA extracted from leaves and monovarietal musts were performed using the following microsatellite loci: VVS2, VVS5, VVMD5, VVMD7, ssVrZAG 47, ssVrZAG 62 and ssVrZAG79.

In DNA extraction methods we taken into account the fact that PCR is very sensitive to the presence of Taq polymerase inhibitors. Results showed that for must samples the second method was successful. In order to see if the allelic profile from the must is identical to the one from leaves it was charged in the same polyacrylamide gel PCR product from must and leaves. The size of microsatellite alleles obtained in must is in accordance with those from leaves. Extraction of DNA from leaves and must was achieved yielding SSR amplification. SSR markers could distinguish all varieties used in this study.

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