

Research paper

Conservation and revitalization of endangered grapevine cultivars in Croatia and Montenegro as a model for similar efforts in horticulture

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Abstract

The South East European region hosts numerous indigenous (autochthonous) grape varieties which will irreversibly disappear in the near future if appropriate conservation steps will not be undertaken. In addition to obligate characterization and evaluation procedures it is necessary to ensure an effective cultivar preservation system linked to practical viticulture and nursery production. In order to prevent the ultimate loss of valuable genotypes of very rare and neglected indigenous varieties in Croatia and Montenegro and provide them with a chance of sustainability, multidisciplinary research and conservation actions were undertaken. A thorough survey was made through the available literature and available databases in order to choose locations of old vineyards for the field expeditions. Rare and neglected indigenous grapevine cultivars were detected and assessed for ampelographic and enological qualities. Tissue samples were collected for DNA fingerprinting and assessment of cultivar genetic variability was done using molecular markers. The level of virus infection was determined before the grafting on high quality virus-tested rootstocks for providing certified virus-tested stock material. Proper maintenance of material was ensured for future use in research and production by storing selected material in national and international *ex situ* repositories and nurseries. Results of research were uploaded in the European Vitis Database, upgrading the basic knowledge on the European *Vitis* gene pool. An overview of the project goals and results will be presented.

Keywords:

Conservation, grapevine, molecular markers, genotyping, virus-free