

THE MOLECULAR CHARACTERIZATION OF APULIAN GRAPE BIODIVERSITY HERITAGE

DI RIENZO V.***, MIAZZI M.M.** , SCHNEIDER A.***, PIROLO C.*****,
SAVINO V.*****, LA NOTTE P.*****, MONTEMURRO C.***

*) Spin Off Sinagri s.r.l., Università di Bari Aldo Moro, Bari (Italy)

**) Di.S.S.P.A. Dipartimento di Scienze del Suolo della Pianta e degli Alimenti, Università di Bari Aldo Moro, Bari (Italy)

***) C.N.R., Istituto per la Protezione Sostenibile delle Piante, Unità Grugliasco, Grugliasco (Italy)

****) C.R.S.F.A. Centro di Ricerca, Sperimentazione e Formazione in Agricoltura Basile Caramia, Locorotondo (Italy)

*****) C.N.R., Istituto per la Protezione Sostenibile delle Piante, Unità di Bari, Bari (Italy)

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The grapevine (*Vitis vinifera* L.) is one of the earliest domesticated fruit crops and, since antiquity, it has been wide cultivated and prized for its fruits. Thousands of *V. vinifera* cultivars exist but the global market for wine production is dominated by only a few cultivars.

The aim of the RE.GE.VI.P. (Recupero del Germoplasma Viticolo Pugliese) project, funded by Apulia Regional Administration, (PSR 2007/13), was to characterize the Apulian autochthonous grape germplasm, with particular emphasis to the ancient rare and neglected accessions that do not have been extensively cultivated after the invasion of phylloxera at the beginning of '900, and are endangered to disappear because of market global trend. Six SSR markers and several phenotypic traits were studied in a subset of 62 grape accessions, belonging to a wider set of 153 accessions. A total of 84 alleles were detected, with extensive polymorphism among the accessions. Similar values of observed (0.79) and expected (0.86) heterozygosity were scored. Phylogenetic relationships among accessions revealed 4 clusters, mainly supporting their commercial purpose for table grape or wine-making.

Further research is required to determine accurately the extent of Apulian grape genetic diversity, by increasing the number of amphelographic traits and microsatellite markers. The genotyping of the entire set of accessions will allow the creation of a public database, with the primary purpose to determine the identification of unique individuals, the true number of Apulian varieties and their genetic diversity. This would have direct application for crop improvement.