



Genetic diversity in somatic mutants of grape (*Vitis vinifera*) cultivar Italia based on random amplified polymorphic DNA

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ABSTRACT. Random amplified polymorphic DNA (RAPD) markers were used to detect polymorphism and to examine relationships among four table grape clones from northwestern Paraná, in southern Brazil. The 10 primers used for RAPD fingerprints generated 126 reproducible fragments, of which 63, 68, 76, and 72 were polymorphic in cultivars Italia, Rubi, Benitaka, and Brasil, respectively. Among the primers, OPP-08 generated the highest number of fragments, whereas OPE-15 was the most efficient for discriminating polymorphic fragments. The distribution of the clones by cluster analysis indicated that there were no differences in RAPD markers between the colored mutant and the original clone (cultivar Italia), supporting the hypothesis that the non-colored and the colored mutant are the same cultivar. However, we found high levels of polymorphism within and between the cultivars Italia, Rubi, Benitaka,

and Brasil (65.1%), contrary to a previous hypothesis that the four clones are genetically uniform. This confirmed our expectation of genetic variation among the clones and within each clone. We conclude that the primers are useful for analyzing the development of the genetic diversity within each of these clones.

Key words: Table grapes; Random amplified polymorphic DNA markers; Polymorphism; *Vitis vinifera*