USE OF MOLECULAR MARKERS AND ASSESSMENT OF THEIR EFFICIENCY TO DETECT POLYMORPHISM IN INBRED LINES OF CUCUMIS MELO L.

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Molecular markers were used to characterize 31 inbred lines of *Cucumis melo* L. var. *inodorus*, belonged to a wide collection, including genotypes of the three botanical variety (*inodorus*, *reticulatus* and *cantalupensis*), collected in Apulia region and Albania.

The 31 lines, selected on the basis of preliminary bio-agronomical and molecular characterizations, were analysed by means of three classes of markers: RAPDs, AFLPs and SSRs.

Polymorphism data were used to elaborate three dendrograms of genetic similarity, in which it was possible to observe the higher discriminatory power of AFLPs and SSRs in respect to RAPDs. Furthermore, an assay index (Ai) was calculated in order to compare the efficiency of the three classes of molecular markers for detecting polymorphism.

The results obtained, comparing the dendrograms and Ai values, showed both the highest value of Ai for AFLP markers and the more accurate characterization of genotypes obtained by means of SSR markers. The work resulted also appropriate to select inbred lines of value for their agronomic traits (i.e. earlyness, yield components, soluble solid content, etc.) useful to develop mapping population or to start breeding programs in melon.