

GENETIC DIVERSITY ASSESSMENT OF *HELICHRYSUM ITALICUM* (ROTH) G. DON MEDITERRANEAN GERMPLASM BY AFLP MARKERS

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Helichrysum italicum (Roth) G. Don is a spontaneous species typical of Mediterranean area that grows frequently in dry cliffs and sandy soil along the coast. The name derives from Greek words *helios* (sun) and *chrysos* (gold) because of the distinctive colour of its flowers.

In the last years the interest for this plant is strongly increased, both for ecological, ornamental use and for cosmetic and pharmaceuticals industry. The essential oils of *Helichrysum italicum* have antibacterial, antitoxic, diuretic and antiallergic properties that can be more exploited. The development of molecular biology allowed to examine plant genetic variation in much greater detail through the use of the large array of DNA. such as: RAPDs, AFLPs, ISSRs, and SSRs. These markers provide an opportunity for genetic diversity assessment, independent of any influence by environment and developmental stages. AFLPs markers are very useful to study species, such as *Helichrysum italicum*, with a lack of genetic knowledge. This kind of markers represents a powerful tool due to their high efficiency and informativeness as well as by good reproducibility. The aim of this research was to use AFLPs markers to assess the genetic diversity within a representative sample of Mediterranean germplasm of *Helichrysum italicum*. A total of 27 clones native of Corsica and different Italian regions (Apulia, Sicily Sardinia, Basilicata Calabria, Tuscany and Liguria) was analyzed with three AFLP primer combinations (P41/M37, P40/M42, P40/M38). A total of 110 polymorphic AFLP bands ranging from 80 to 300 bp were obtained. Genetic similarity was measured with the SIMQUAL programme, using the Jaccard similarity index. AFLP polymorphic bands were scored as either present (1) or absent (0). The similarity matrix was analysed by the Unweighted Pair Group Method (UPGMA), and the similarity tree was obtained by clustering the similarity data with the SAHN clustering programme. A dendrogram of genetic distances was elaborated and all the clones resulted to be distinguishable and grouped in three primary clusters without any cases of homonymy. The first one includes the large part of clones coming from Corsica; the second one is divided in two sub-clusters which comprise many clones grouped together derived from Puglia and Basilicata and others originated from Corsica and Sicily. The last cluster comprises clones from Elba Island, Tuscany and Liguria.