Exploration and Selection of the Wild Olive Genotypes*

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Abstract: Exploration on wild olive diversity carried out during the period 2000-2011, recorded a number of 27 wild forms. Morphological marker based analysis were performed for olive identity characterization, to determine their localization, usage limits as well as to build in-situ & ex-situ collection of 27 wild olive forms. Morphological description (Rezgen) was done for each olive genotype, in total of 49 characters; of tree, leaf, inflorescence, fruit and endocarp were measured during the study. Information was gathered for 27 forms with local designations, which represent 7 populations. Basing on the endocarp characteristics, as an important morphological marker, wild olive forms have been modelled and analysed (PCA), are clustered in two groups. (i) Olea europaea L. subsp. oleaster (Hoffmigg. & Link) 6 Varity, (ii) Olea europaea L. subsp. sylvestris (Mill.) 1 Varity. According to the oil content, genotypes are clustered in two main groups in: (i) low oil content (>14%), (ii) medium oil content (15% -18%). Some of fruit and endocarp features (D, d, D/d, P/E, weight) were highly related to the oil content (R²=0.887). The identified material is of great importance when considering genetic – selective work, as well as sapling production. According to the individual possessive characteristics we might classify: (i) Two individuals that possess long internodes with high germination power. (ii) Three individuals with healthy embryos after root taking. (4-D, 8-Kr, 2-KT). The Diversity Coefficient (KD) is classified in three regions. (i) South 2.61 (ii) Central 1.34, and, (iii) nord region 0.223.

Keyword: Olea europaea, diversity; genotype; endocarp; regions; oleaster; sylvestis

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