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Morphological Characterization and Pollen Grain Fertility of Selected Olive Accessions

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THE NATIONAL objectives of the National Gene Bank and Genetic Resources (NGBGR) in Egypt include collection, conservation, characterization, and evaluation of agricultural genetic resources. The objective of the present study was to investigate the morphological characterization and pollen grain fertility of 8 Olive (*Olea europaea* L.) varieties. Olive varieties used in the present work were Coroniki, Coratina, Arbequin, Potelan, Verdal, Sevalano, Khouderi and Sourani.

Twenty-nine morphological characteristics of tree, leaf, inflorescence, fruit, and stone were used to distinguish varieties under the study. The morphological characterization showed wide range of differences among varieties. Characterization of tree vigor resulted in three degrees : weak, medium and strong. The morphological characterization of leaf shape showed seven elliptic-lanceolate varieties and one lanceolate. Fruit shape studies indicated that three varieties were ovoid, four were elongated and one was spherical. Shape of fruit apex (position A and B) demonstrated that five varieties were rounded and three were pointed. Color at full maturity fruit among varieties revealed that six were black and two were other. The stone shape (position A) L/W results indicated that four varieties were elliptic and four were elongated. The stone surface (position B) results indicated that two varieties were smooth and six were rogues. Other morphological studies are investigated and will be presented.

Studies of pollen grain fertility of Sevalano, Verdal and Coratina varieties demonstrated the highest pollen fertility. The rest of the variety showed intermediate values of pollen grain fertility percentage.

Keywords: National Gene Bank and Genetic Resources - Egypt - Olive varieties - Morphological description - Pollen grain fertility and sterility.

The olive is native to the Mediterranean region, tropical and central Asia and various parts of Africa. The olive has a history almost as long as that of Western civilization, its development being one of civilized man's first accomplishments. At a site in Spain, carbon-dating has shown olive seed found there to be eight