



THE OLIVE ALONE

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Julian Duval, SDBG President and CEO
with a wild olive tree in Israel.

Note: The Jerusalem Botanic Gardens (JBG), located in Israel, is a sister garden to the San Diego Botanic Gardens. Dr. Fragman-Sapir is the Director of Research and Conservation at JBG.

The Common European Olive (*Olea europaea*) is a Mediterranean, evergreen tree. The oldest olive finding that was discovered in Israel, in archeological digs in Mount Carmel, is in the form of olive pits, which were dated at around 10,000 BCE, suggesting that prehistoric man fed on olives. The domestication of the tree occurred around the year 4,000 BCE. Today the olive is primarily a cultivated tree in Israel, meaning most of the olive trees are planted, or are the seedlings of cultivated trees. Real, native wild olives may be found in Israel only on Mount Carmel and Western Galilee. These trees are shrubby olives, with smaller fruit.

Wild olives are also found along the whole of Africa. Between the Mediterranean European Olive and the African Olive (*Olea africana*) one can see intermediate fertile forms. Mediterranean and Wild African Olives can be seen in the South Africa Section in the Jerusalem Botanical Gardens in Israel.

The survival of the olive

Most olive trees are tens to hundreds of years old. It is impossible to tell the age of the olive on the basis of its trunk rings, since olive trunk rings are not regularly annually created. After a hundred years or more, the olive trunk rots partially, but it frequently manages to rejuvenate at the base, and theoretically the tree can live forever.

In April-May the olive tree is covered in many whitish, small flowers. The flowers disperse a good deal of pollen into the air, and they are pollinated both by the wind and insects (the pollen is allergenic). In the course of summer, fruit develops. The green olive is in fact an unripe fruit. In autumn, the green olives turn black spontaneously and their oil content rises. Therefore, the green olive and black olive are just two stages in the development of the fruit.

Olive leaves are rigid and live for several years. The leaf upper side is green and its bottom side silvery. The leaf's silvery felt-like coat decreases water loss. In addition, the silvery color constitutes an additional insulating layer, which further reduces water loss.

The olive in the service of man

In ancient times olive products were exported from the land of Israel to Egypt. In that period man utilized olive oil to light lamps, which enabled continuous lighting in the dark hours, and freed man from camp fires. To the light of olive oil lamps, man could engage in cultural and administrative activities at night.

At first olive propagation took place by seed, later on, as man learned to root branches, the offspring were identical in quality to the mother plant. Later on varied domestic olives were grafted.

Olive oil and leaf extract had, and still has, many uses in popular medicine. Oleic acid in the oil is known as an efficient antioxidant and one reason why the consumption of olive oil is so healthy. Olive oil is also used in the soap and cosmetics industry. In ancient times, the anointment of the body with oil was reserved for members of the upper classes. Another important use of olive oil, traditionally, was for ritual purposes.

The olive harvest

The time of the olive harvest is one of the symbols of autumn. In Israel it takes place in October-November, around the holiday of Succoth, and various festivals are held around it. Traditionally olives were grown throughout the country on mountainous terraces. In recent years, olives have been grown in the Negev Desert, where the trees are irrigated with saline groundwater, which is unsuitable for other crops.

