

The Olive Tree, Daughter of the Sun

By Anne-Marie Walker

Along the French Riviera where the Alps plunge steeply into the Mediterranean, there is a very large and venerable olive tree found just outside the medieval walls of the perched village of Roquebrune. Still producing fruit, the tree thrives in rocky limestone earth. Revered as a national treasure of France, biologists estimate the tree is at least 2,200 years old. In the picture, the author is visiting the tree, *Olea europaea*, and whispering these lines from a Greek stanza: "I am the Daughter of the Sun; I am the Olive Tree, the Blessed One."

Botanists speculate the botanical ancestor of the olive is *Oleaster olea sylvestris*. Native to Asia Minor, its descendant, *Olea europaea*, thrives in areas with a Mediterranean climate, including California where it was introduced by Spanish missionaries in 1769 at Mission San Diego. Olive trees like it hot in the summer with a slight winter chill.

Cultivated for over five thousand years for cooking, lamp and cosmetic oil, olives play a particular and significant role in horticulture in Italy, Spain and increasingly, California. Italy is the largest importer and exporter of olive oil while Spain is the largest producer (45%). California, which currently accounts for about 1% of world production, is generating a lot of excitement having established in 2008, The Olive Center, a research facility at UC Davis Robert Mondavi Institute for Food and Wine. The Olive Center is the only such research facility in North America and is teaching farmers "super high-density planting." With this technique, trees are planted 650 to an acre compared to 100 trees per acre one finds in Tuscany. One advantage of high density planting is quick harvesting, guaranteeing fresh fruit juice at pressing. Researchers are finding this is paramount to a good olive oil.

The olive is a subtropical evergreen tree with opposite leaves, lance shaped with grayish hairy undersides that slow the rate of transpiration, important in a dry climate. Each leaf grows over a two year period and yellow leaves in the spring signify the abscission process. Most olive trees are self-fertile but production can be increased with cross pollination - achieved with wind moving the pollen from tree to tree. Trees have both perfect and staminate flowers. The perfect flowers, containing both stamen and pistil, can become fruit whereas the staminate flowers have only the male parts. The fruit of the olive is a drupe, botanically similar to apricots, cherries, peaches and plums. Full bloom occurs in May with fruit maturing on average in November, depending on the cultivar.

A member of the *Oleaceae* family, *Olea europaea* is one of about 20 species of *Olea*, and the only one which produces edible fruit. The family contains the genera *Fraxinus* (ash), *Forsythia*, *Forestiera* (*F. neomexicana* which is called the California wild olive), *Ligustrum* (privet) and *Syringa* (lilac). The word *olea* derives from the Greek, meaning oil. Fossilized olive trees,



50,000 to 60,000 years old, have been found in volcanic rocks on the Greek island of Santorini. Because the olive tree can flourish even in the most barren soil, it has long been a symbol of glory and peace, its oil used to anoint kings (branches of olives were found in Tutankhamen's 14th century BCE tomb) and its leaves to crown athletes (in the first Olympiad 8th century BCE). But the fruit is not edible without processing as it contains the bitter glucoside oleuropein. Several simple methods to remove the bitterness include mixing the olives with salt in a bowl or soaking them in a strong salt solution (one cup of salt per quart of water) and changing this twice a day until the fruit is no longer bitter (about two weeks).

At about five years of age, olive trees will bear fruit. It is borne on branches budding above the point where the leaves join the stem on the previous year's growth. The trees should be pruned between harvest (November) and bloom (May); some time in January, February or March. When the tree is about three feet tall, the number of scaffold branches should be reduced to between 3 to 5 branches to simplify picking. The pruning cut should be made at the collar to avoid suckers. While drought tolerant, the olive tree needs water to make fruit. Keep watering until the fruit reaches a mature size and then cut back to avoid a watery olive. While very efficient at taking nutrients from the soil, a good compost high in nitrogen applied in December assists in bud development. Olive trees are alternate bearing meaning a heavy crop is usually followed by a light crop the following year.

Pests and disease are best managed with good cultural practices including water management, proper pruning and clean up of fallen debris and fruit. Two common pests are the olive fruit fly and peacock spot. Olive fruit fly can be controlled by a hanging trap filled with *Torula* yeast tablets and water in each tree. Peacock spot, as we call it in California but known elsewhere as olive leaf spot, has a characteristic yellow halo around the spot. This disease reduces productivity but can be controlled by applying a copper fungicide in late fall before the rainy season.

To select the best cultivar to plant in your garden, several factors may assist in the selection process. When I planted my four trees twenty years ago in the pre-McEvoy Ranch days, the only olive tree to be found in Marin nurseries was the Mission olive. Now, homeowners in Marin have more choices. Olive connoisseurs who cruise the olive bars know their picholines and arbequinas from their kalamatas and cerignolas. So, how do you select which olive cultivar to plant? The first step is to select your spot. Remember, olives thrive in poor soil but not loamy, love full sun and require good drainage. Next, develop your criteria. Do you want to eat the olive, make oil with it or both? How much time do you want to spend pruning and picking? When do you want to harvest? And lastly, if you will participate in community press days, coordinate those dates with the harvest date of the cultivar you select. McEvoy Ranch usually holds a Community Press Day mid-November and mid-December. The chart below may assist in evaluation and selection of cultivars based on availability and suitability to our Marin climate. Because our county has considerable variations in climate, be sure to do that final check; right plant, right spot. Your careful selection will reward you with many years of seductive fruit!

Olives Available and well suited to plant in Marin County:

Cultivar Date	Origin	Tree size	Table/Oil	Harvest
Small Fruit				
Frantoio	Tuscany	vigorous to 20'	Table/Oil	December
Moraiolo*	Tuscany	low to 14'	Oil	December
Medium Sized Fruit				
Manzanillo	Spain	low spreading to 15'	Table/Oil	December
Maurino*	Tuscany	medium size	Oil	February
Mission	Mexico	big to 50'	Table/Oil	November
Large Fruit				
Ascolano*	Italy	to 30'	Table	September

*need pollinator such as Frantoio