



## Olive Care Sheet

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S & S Bonsai of Colorado Springs, Colorado  
(Most of the included information is obtained from several  
online sources.)



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*"Live as if you were to die tomorrow. Learn as if  
you were to live forever."*  
*—Mahatma Gandhi—*

## The Olive

*(Olea europaea )*

**General Information:** With over 5000 years of cultivation, history, and literature devoted to the olive tree, it is one of the oldest known cultivated trees. It is mentioned in Homer's Odyssey, Greek and Roman legend, the Bible and the Qur'an.

The olive branch, with its characteristic leaf structure is known as a symbol of peace, but also of abundance and glory. The olive is typically associated with Athena, and was often given as an offering to the goddess, as well as presented to the winners of both competitive games and war.

Olives are extremely long lived trees in the landscape. There is a tree that grows on Crete that has been dated through tree-ring dating at over 2000 years old. A tree in Italy has been claimed to be older, perhaps as old as 3000-4000 years. A grove in Spain claims trees that have been carbon dated to over 8000 years old.

Olives are a genus of 20 species of broadleaf evergreens from the family Oleaceae. The Common, or European Olive, which is focused on here, is native to the Mediterranean, Asia and parts of Africa. Because it has been cultivated for over five thousand years though, it is difficult to pinpoint the original native distribution.

Olive has silvery green foliage, darker on the top, and lighter, almost true silver underneath. The leaves are oblong, coming to a slight point at the ends, and occur alternate and opposite, usually 1 ½- 4inches(4-10cm) long. Olives retain their leaves down to temperatures of around 43°F (6c). Leaves are replaced every few years, leaf drop usually occurring at the same time as new leaf growth. The leaves have a waxy coating, and slightly hairy underside, both of which help reduce transpiration and retain moisture during drought.

In immature trees, the bark will be smooth and silver-grey. Over their life time, olives develop naturally gnarled and twisted trunks and branches. Though appearing rugged, the bark and wood beneath can be very soft, and damage easily.

Small and fragrant white or cream flowers are borne on previous year's growth, on long stems at the leaf axils. They occur in clusters, with anywhere from ten to forty blooms. Olives will produce two kinds of flowers, a complete or 'perfect' flower with both male and female parts, or flowers with only the male stamen. Olives are largely wind pollinated and many are self pollinating. Though some varieties produce better fruit when cross pollinated with other plants, and some are completely sterile without other trees to pollinate with. Flowering will only begin after several years, usually once the tree is around seven years old, and increases with age.

The ubiquitous olive fruit ranges from ½-2 inches (1-5cm); a single seed encased within, occur in late summer to early autumn. To encourage setting of fruit, olives require a period of cooler temperatures, as the fruit will only ripen fully in winter. To encourage fruiting, the plant should be kept for several weeks with nightly temperatures of 35F and daily temperatures of 60F. Wild varieties have smaller, thinner fleshed fruits. Fruits generally start green, ripening to a deep purple, though there are some cultivars that remain green, and others that ripen to a copper brown. Fruits come in a variety of shapes, ranging from round, to oval, and some slightly pointed at one end. Edible, the fruit is too bitter to eat without being treated with brine to remove the oleuropein, a bitter glycoside unique to this species, that causes the unpleasant taste in raw olives. Olives tend to bear fruit cyclically, meaning they will bear very well one year, and not as well the next. There are non-fruiting varieties available, due to their inability to self-pollinate.

## CARE

**Temperature:** Zones 8-11. Very tolerant of areas of high temperatures in the summer. Though they can be grown indoors, olives do best if kept outside in summer, and are given a dormancy period in winter where they are kept at below 64°F (17C). They can tolerate short periods of below freezing temperatures in the landscape, but should be protected from frost in bonsai cultivation; the roots dislike freezing temperatures. Keep ideally above 43°F (6C), as it will retain leaves down to that temperature. It has an extensive, spreading root system, and the fine feeder roots are particularly susceptible to prolonged freezes. Some cultivars are more frost hardy than others, but as cultivars are occasionally mislabeled, it is best to treat an olive as tender.

**Lighting:** Full sun in summer. Olives grow well in hot, sunny locations. Partial shade can be given in winter.

**Air:** They are tolerant of wind (both hot and cold) and high altitudes. European olives can be found at altitudes from sea level to over 4900 ft (1500m), with other species found at over 8000 ft (2500m).

**Watering:** Water thoroughly, but less frequently, allowing it to stay on the drier side, but never allow to dry out completely. Olives have evolved to be water opportunists, meaning that when water is available, they will take it up readily and quickly, but sustaining themselves when water is scarce. The rate an olive may take up water when it is abundant can lead to a mistaken assumption that they constantly need high levels of water. Resist the urge to over water your olive.

**Fertilizing:** Balanced feed through the growing season. Dose two or three times in autumn with a nitrogen free formula (0-10-10) before winter. Do not feed through winter. Olive can benefit from an application of trace elements once a year.

**Pruning / Training:** Pinch back new growth as needed during the growing season. Pinching back during the growing seasons (spring through autumn) will result in back budding all over the tree. Do not pinch back if you want to encourage back budding and ramification however if temperatures are below 50°F(10C) or above 100°F(35C). Pinching between these temperatures will also encourage smaller leaf size and shorter internodes. Remove buds growing directly up and down. New growth will be three colors. First green, then purple, and finally tan. Green shoots will ramify less than those that are purple or tan. Young trees can be pinched back to 1 to 3 leaves, depending on the direction of the last remaining bud (the direction the new shoot will grow) when growth is purple or starting to turn tan. Older and more mature trees, where ramification is closer to complete, pinching can be done when the shoots are green or almost purple.

When larger branches are cut during the growing season, it will result in coarse, vigorous, and often times congested new growth at the site of the cut, which, if left unchecked, can cause inverse taper. Rub off unwanted buds as they grow to prevent that problem when pruning larger branches. To avoid the problem all together, prune unwanted shoots that are not needed to thicken an existing branch or trunk as early as possible. Also try pruning large branches (1in, or 2.5cm or more) in late autumn or winter when growth has slowed. Olives can be unpredictable in their reaction to heavy branch pruning, and shortening of these can sometimes cause the entire branch to dieback, new shoots emerging from the trunk.

Wire: Olive can be very brittle, and the bark and wood are easily damaged, so take care wiring, and only do so when necessary. Wire young branches, under 3 years old with care, in late autumn or winter. Use raffia when wiring larger or older branches to avoid damage.

Jin/Shari: Though deadwood is often seen on olive

in the landscape, the wood of the olive rots easily. If there is deadwood on a collected specimen, be sure to treat it with lime sulphur and possibly additional wood hardeners/preserver.

**Insects / Pests:** Aphids, black scale and spider mites. Certain lepidopterous caterpillars. Verticillium wilt, Anthracnose and Olive Knot (caused by the bacterium *Pseudomonas savastanoi*). Olive fly in Europe.

**Propagation:** Seeds: Pits from jarred olives will not germinate, the brine kills them. Seeds do not always breed true to the parent tree, and are difficult to germinate, sometimes with as low as a 30% success rate. Soak in hot water or an alkaline solution for 24 hours before planting in early spring.

Cuttings: Best method. Take cuttings in late spring to early summer. Semi-hardwood cuttings, up to a half inch (1.75cm) in diameter and 4-6in (10cm-15cm) long root the best. Remove all leaves but 2-4 sets at the top of the cutting. Use rooting hormone to increase chances. Greenwood cuttings are not always mature enough to root. Try using a mix of 90% sand or perlite and 10% peat moss. Keep misted, but not soaking. Addition of bottom heat is helpful, and will increase cutting viability dramatically. Rooting of hardwood cuttings can be done, though can take several months. Semi-hardwood cuttings can also be rooted sometimes in straight water. The olive also suckers, and may be propagated by division.

Truncheon: A truncheon method involves removing a branch, 3-4in (7.5-10cm) in diameter from a tree, cutting it into 12in (30cm) lengths and planting it horizontally in well tilled, aerated soil. New shoots will often grow, and these can later be separated, or used to create a raft planting.

**Repotting:** Every two to three years in the Spring as needed for younger trees, longer for more mature specimens. Cut back up to a third of the root mass, leaving as much of the fine feeder roots as possible, while pruning heavy roots back hard. Olive have a high tolerance for all soil types, though tend

to do better in slightly alkaline (calciferous) soils. Consider adding a form of lime in small amounts to the soil. Ensure good drainage and high inorganic content. Do not fertilize for three months after repotting.

**Design and Styling:** All styles except formal upright, broom and exposed root (though extensive, the root system is delicate and can be easily damaged by this style).

Many cultivars of Olive are useful in bonsai cultivation. Beside those listed look for those with naturally smaller habit and fruit.

“**Arbequina**” Smaller form, frost resistant.

“**Little Ollie**” a dwarf cultivar growing only 2-4 feet tall, with dark green leaves.

“**Montra**” Smaller habit, popular for bonsai.

“**Mission**” Cold hardy cultivar.

Subspecies Var. **Africana**. Glossy green leaves above, and brown underneath. Globular, pea-sized fruit. Freely self seeding and considered invasive in some areas.

Other Species for Bonsai: **O. laurifolia**- Black Ironwood. South African native. Glossy green leaves grow up to 4inches (10cm) and are better suited to larger bonsai. Heartwood is very hard, hence the common name, and is well suited to deadwood styles with the right tools. Zone 9-11

**O. oleaster** – alternately classified as **O. europaea oleaster**. Wild olive with smaller leaves.

**O. paniculata** – Australian Olive. Native to eastern Australia. Bushy tree, 50-80 ft (15-24m) tall in the landscape. Wrinkled bark, glossy green foliage, oval fruit the ripens to a blue-black. Zones 9-12