



Citrus – Sour Orange

Citrus aurantium L.

Rutaceae

Species description

Sour orange is a medium-sized, erect, evergreen tree with a more compact crown than the sweet orange. The bark is smooth and dark grey-brown, and the young twigs are angular and green. The branches have sharp thorns. The leaves are compound with aromatic, alternate leaflets that are finely serrated along the edges and have broad-winged petioles. Fragrant white flowers appear singly or in small clusters. The fruit is round, oblate or oval, rough surfaced with a thick, aromatic, and very bitter peel. Fruit color is bright red-orange at maturity with sunken oil glands. The interior flesh has 10-12 segments, and tastes strongly acidic. The center of the fruit becomes hollow at maturity. Sour orange trees grow 20-30 feet high, and live for 50+ yrs. Citrus are hardy to 23°F to 26°F, though this may depend on cultivar. Sour oranges are more cold tolerant than sweet oranges.



Natural and cultural history

The tree originated in the subtropical and tropical regions of southeast Asia, though it has become naturalized in similar habitats across Mexico, Central and South America. Arabs transported sour oranges to Arabia, and later to the Mediterranean region. At the end of the 12th century, sour oranges were cultivated in Spain; they were the only oranges in Spain for 500 years, and the first orange to reach the new world. Spaniards introduced sour oranges to Florida. Sour oranges quickly naturalized in the New World tropics and subtropics. They are currently cultivated as an ornamental in the United States, though the fruit juice, peel, and oil are widely used in different cultures. Sour orange seedlings are often used as a rootstock for sweet oranges.

Planting considerations and propagation techniques

A warm location in full sun with air circulation and drainage provides the best growing conditions for citrus trees. Citrus trees are very spiny so care should be taken in their placement, especially in public spaces. Citrus flowers are self-fertile and require no cross-pollination, though honeybees are effective at pollinating flowers. In general, citrus trees can grow on a wide range of soil types, from sand to loam to heavy clay as long as they are well drained. Citrus trees do best with a soil pH of 6-6.5, though different rootstocks prefer different soil types. Sour oranges grow readily from seed, and many may self-seed beneath existing trees. These are

often used as a rootstock to graft other citrus varieties. Germination is enhanced if the seeds are first soaked in water overnight, and the seed coat removed before planting.

Water needs

Citrus need about 4-6 inches of water per month in the summer; they are generally not drought tolerant and need careful attention to produce well-developed fruit.

Care

Citrus trees should be trained to a suitable shape with an open center. In general, there are three primary pruning objectives: increase total leaf area, improve airflow through the canopy, and increase light to the branches. Proper training keeps trees the correct size for ease of care and harvest. Sour orange trees are largely self-forming and need minimal shaping. Remove water sprouts from young and older trees and any dead or diseased branches. Cut surfaces over 1 in (2.5 cm) in diameter should be sealed with pruning compound.

Citrus are prone to many diseases and pests. We recommend consulting a Cooperative Extension citrus specialist.

(See Yuma Cooperative Extension, <https://extension.arizona.edu/yuma>; and <http://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1492.pdf>).

Harvesting and processing

Citrus should be harvested when it has full color and flavor and can be eaten immediately. The tree is the best place to store citrus. Sour oranges usually reach maturity in January. The fruits are too sour and bitter to be eaten fresh and are used primarily for marmalade. The juice is used as a flavoring on fish and meat during cooking. It also may be used in place of vinegar or in sweetened beverages. The oil, expressed from the peel, has been used for flavoring candy, ice cream, and baked goods. In Mexico, the candied peel is added as a flavoring element to processed sugarcane candy.

References and resources

AZ Citrus. <http://www.azcitrus.com>

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