



Urban Harvest
Gardening for good.

Tangerines, Mandarins, Satsumas, and Tangelos

Category:	Semi-evergreen
Hardiness:	Damage will occur when temperatures drop below the low 20's
Fruit Family:	Citrus
Light:	Full sun to half day sun
Size:	10'H x 10'W; may be pruned to desired HxW
Soil:	Well-drained
Planting:	Plant after danger of frost has passed, mid to late March



The name “tangerine” derives from one variety that was imported to Europe from Tangiers. There are many named varieties of what citrus growers call “mandarins” because of their Asian origins. One of these, the “Satsuma”, is an heirloom Japanese mandarin that is both delicious and especially adapted to Southeast Texas. It has been part of Gulf Coast Citrus history for a century. There are many named varieties of Satsumas.

Mandarins are mostly orange-fleshed, juicy, highly productive, very easy to care for, long-lived, easily peeled and segmented or juiced. Few fruits can match the mandarin. Satsumas are seedless or close to seedless. They are all of outstanding quality and differ little among themselves except for when they ripen. Buy early, mid and late season varieties to have months of ripe fruit harvests from September to April.

Care of Mandarins and related fruits

Planting: Newly purchased citrus have probably not been hardened off to tolerate our winter weather. Keep your citrus in the container until late March, or until all danger of freeze has passed. Trees can be kept outside in a sunny area on mild days and nights, but move them into the shelter of the garage or house if frost is predicted. You may take them back out after the frost. Water every few days while in pots unless it rains. Test the soil in the pot by pushing your finger into the soil. If it is dry an inch down, it is time to water.

Citrus does not require full sun; however, the more sun the more production of fruit. Plant them in an area that receives at least ½ day of full sun. If you are more than 75 miles from the Gulf, plant them on the south side of a house or building or where they will get a lot of protection from winter winds. Plant

them in existing soil without amendments, and make sure the graft scar at the base of the trunk is a couple of inches above the soil line. Water deeply after planting and apply an inch of compost and several inches of rotting leaves, keeping the mulch at least 12" away from the trunk of the tree. Water daily for a few days after planting, then weekly for the first summer if it does not rain.

Pruning: Citrus does not require pruning for production. Light pruning can be done in early spring after all danger of frost, but before the major spring growth spurt begins. Remove weak or damaged limbs and crossing branches that might rub together. Suckers, growth emerging below the graft, should be removed any time they are observed. Occasional thinning will help light penetrate the canopy. You can prune the top to keep them at a convenient height for harvesting and you can prune back anything that gets in the way.

Production: Grafted trees should bear harvestable fruit in the third year from planting. Fruit that forms in the first two years should be removed to direct all energy into the development of a strong root system and canopy growth.

Watering: All fruit trees should get consistent water in the first few years. Watering can come from rain or a hose. During the first year, if the soil under the mulch is dry, provide the tree with about 7 gallons of water per week, preferably once a week. Water slowly. This can be a little more than 3 minutes with a ½" hose and 1 ½ minutes with a 5/8" hose. Remember to account for rainfall when determining how much to water with a hose. Citrus should never have wet feet.

Fertilizing: Do not fertilize the first spring. You can begin fertilizing with a slow release organic fertilizer during the first summer's growth. Apply 2 cups of cottonseed meal or slow release organic fertilizer per inch of trunk diameter in February and May each year.

Harvesting: Mandarins ripen depending on the variety. Some Satsumas are edible as early as late August and other Satsumas as late as December. Citrus that ripen in the fall may still have greenish skins since only cool nights trigger the skin coloring. You may need to test early ripening citrus one at a time until your preferred balance of sweet and tart is reached. All Satsumas need to be picked with pruning shears soon after they are ripe, and then refrigerated in a sack. Like this, they may last a couple of months. But on the tree they will quickly lose flavor and become mushy. Sometimes, the first fruit a young Mandarin has will be puffy or tasteless. If so wait a few years and the problem will probably go away.

Pests: If you notice the leaves on new growth starting to curl, it is most likely citrus leaf miner. This insect affects the new leaves of most citrus. You can spray Neem Oil or Spinosad on the new growth when it is the size of a mouse ear. Spray both sides of leaves, and repeat treatment every week to ten days. This may stop the leaf miner, and it may not. The tree will still grow and produce even though the leaf miner attacks the leaves. Once the plant gets tall, you likely won't see the damage. Many growers ignore this problem since it is largely cosmetic.

Winter Protection: Mandarins and related fruit trees are among the hardiest of the sweet citrus. Healthy specimens will survive the high teens if on cold hardy rootstocks and if they have had a chance to harden off; December or later. Fruit however will be ruined if temperatures drop much below 28° F

for several hours. Remove the fruit and refrigerate it if temperatures are predicted below 28° F for longer than the pre-dawn dip.

Pile mulch or leaves against the base to protect the graft if predictions exceed the safe temperature range. If the tree is small enough, tent the tree with a blanket or frost cloth. Do not “wrap” the tree. Protect trees less than two feet tall with a large plastic bin or cardboard box covered with a tarp. Prior to tenting or covering, place a bucket of water beside the trunk. Water gives off heat when it freezes. If you trap this heat inside the covering, it can keep the temperature inside the cover a few degrees higher. Suggested minimum temperatures are based on mature trees. Young trees are less hardy and require protection at higher temperatures.

Varieties for the 2016 Sale

Mandarin: *Nules Clementine, Clementine (Algerian Tangerine), Honey, Kishu Seedless, Pong Koa*

Satsuma: *Little Sweetie, Miho, Owari, Seto, Silverhill*

Tangelo: *Minneola, Wekiwa*

Varieties for Southeast Texas

Nules Clementine: ‘Nules’ is a Spanish variety that is considered to be the sweetest of the Clementines. Its small size makes it a favorite with children and it is perfect for snacking, especially when hiking or biking. The fruit is nearly seedless. The tree is very productive. This variety is very well suited to container culture and makes a wonderful patio specimen.

Clementine (Algerian Tangerine): The Clementine is an early season mandarin producing sweet, juicy, fine flavored fruit that will hold on the tree for months. Easily peeled, highly ornamental fruits are held to the outside of the tree. Seedless and almost thornless. Fairly good freeze tolerance.

Honey Mandarin: The Texas Honey is not the Florida Murcott also called a honey mandarin. The fruit has a deep orange exterior, is thin skinned and has a glossy texture. It is very juicy, peels and segments easily and has many seeds. Fully ripe by late November, can be eaten tart in late October, and will stay on the tree into January. It will grow 15 feet high and has a relatively small diameter of maybe 8 ft.

Kishu Seedless Mandarin: The tree is the ancient heirloom Japanese and Chinese *kishû mikan*. It grows well, and is small at maturity with a round form. It does well in pots. The fruit is up to two inches in diameter, but sets reliable delicious crops of seedless fruit. People who grow it here love it. It has a thin orange rind that is easily peeled and flesh that is bright orange, mild-flavored, sweet, and juicy. It is ripe in October the fruit holds well on the tree into winter.

Ponkan Mandarin: An upright and vigorous grower which attains a medium size of 15’ at maturity. Can be pruned at any height. Fruits are oblate in shape and have an easy peel “zip” skin. Orange flesh is tender, juicy with a mild pleasant flavor. Aromatic

Pong Koa Mandarin: A large fruit for a mandarin. The fruit is very uniform in shape, size and color and has a fairly thin peel. The fruit quality is outstanding - crisp, sweet, and flavorful. It has a clear medium orange flesh, juicy, sweet and very full flavored. Very cold hardy.

BC1 Satsuma: An October-ripening, delicious Satsuma developed by Nederland's Satsuma guru Bonnie Childers. It is one of the finest flavored mid-season ripening Satsumas.

Big Early Satsuma: Is another Childers introduction similar to BC1. The fruit is unusually large and edible on the tart side even in September.

Brown Select Satsuma: Is a medium-size tree, that is slightly more cold-hardy than Owari and ripens 1-2 weeks before Owari in mid-to late November. It is very sweet and seedless.

Little Sweetie: A naturally small tree, with small, easy to peel, very sweet fruit. Similar to a Clementine.

Miho Satsuma: Large fruit with very good flavor and few seeds. High quality dwarf Satsuma. Limbs are more upright than most Satsumas. Early maturing, harvest around Thanksgiving.

Frost Owari Satsuma: This is the original Satsuma and it is still hard to beat. Very good flavor, great production. Hardy to 18° F. Seeds are rarely present. As maturity passes, the neck, if present, increases in size and the rind roughens and loosens. The tree is moderately vigorous but is slow-growing; medium-small, spreading and drooping; very productive. Will be tart in October, and ripe between late November to early December. It has a sweet flavor, low acidity, and a very delicate fruit.

Seto Satsuma: Ripens in mid-season so it is ready on or before Thanksgiving. Very good flavor. The peel is notably smoother and thinner than other Satsumas and the fruit is quite flat.

Silverhill Satsuma: An early ripening Satsuma; October to November. Medium size, slightly oblate fruit that is easy to peel and section. Abundant juice and high sugar content. Vigorous, upright tree that is very productive. This variety is especially cold hardy. It has been observed to withstand 15° F with only minor defoliation.

Minneola Tangelo: This is a sweet, mildly tart, juicy, winter fruit with few if any seeds. It has a bright, reddish-orange skin color and is easy-to-peel. The fruit is slightly bell shaped with a protruding nose at the stem-end neck. It can be expected to ripen in March and will be tart until then, so will have fruit damage if grown in areas that regularly get hard freezes. The tree grows vigorously to a large size. Minneola blossoms are self-incompatible and must be cross-pollinated by a suitable pollinator to assure good fruit set. Most mandarin-types blooming at the same time are suitable pollinators, with the exception of Satsumas and Minneola's siblings, Orlando and Seminole. Unfortunately, when cross-pollinated, Minneola's fruits tend to be seedy.

Orlando Tangelo: The tree is moderately vigorous and slightly more cold resistant than Minneola. The fruit is almost round or slightly flattened with flesh that is orange, juicy, and sweet; and a rind that is orange, thin, slightly textured, and not easily peeled. It ripens November to January. As with Minneola,

Orlando's blossoms are self-incompatible, and must be pollinated by a suitable pollinator to ensure satisfactory fruit set. Satsumas, Minneola, and Seminole do not do this. As with Minneola, cross-pollinated fruits are seedy.

Wekiwa Tangelolo: The tree is a comparatively small, is not very vigorous, but is very productive. It is a cross of a tangelo and a grapefruit. A tangelo is a cross of mandarin with a grapefruit or pummelo. So Wekiwa is a technically a "tangelolo." As such it is an oddity. It tastes more like a sweet grapefruit than a mandarin, but the fruit looks a lot like a tangelo. The fruit is medium-small like a tangelo, pale yellow skinned like a grapefruit and not easily peeled, with a few seeds. The flesh is tender, juicy, sweet and mildly acid, but becomes unpleasant when overripe. Under the best conditions, the conditions rind gets a pink blush with amber-pink flesh. Can be ripe from November on. It is probably hardy at least to 24°, maybe colder.