

Growing Fruit Crops in Containers¹

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People frequently want to grow some types of fruit trees in containers, because of poor soil, improper climate, or lack of sufficient space. Fortunately, a wide variety of fruit crops can be grown in containers with some degree of success. However, such plants will rarely be as attractive or grow and fruit as well as those grown under optimal conditions in the ground.

One of the principal reasons for growing fruit plants in containers is portability. Thus, tropical and subtropical fruits can be grown in containers in areas where freezes might occur. The size and mobility of the containers allows the plants to be moved indoors during periods of damaging temperatures. This does not mean, however, that temperate zone fruits can be produced in subtropical areas, because these fruit trees require a certain amount of cold weather each winter in order to grow properly and produce fruit.

Many fruits which can be successfully grown in containers are listed in Table 1. It is by no means complete, as most fruit trees could be grown in containers if the size of the container were not a problem. Most will produce some fruit if given proper care.

Containers may be plastic, metal, clay, ceramic, wood, or any others normally available at nurseries and garden supply stores. Used whiskey barrels cut in half are excellent, or wooden boxes may be built to order. The container should have adequate holes at the bottom for drainage of excess water.

Potting

The drainage holes of the container may be covered with pieces of screen mesh to prevent the soil from washing out. A (1–2 in) layer of gravel should be placed in the bottom of the container to facilitate drainage.

Most commercial potting soils should be suitable for growing fruit trees. However, a mixture of 1 part sand, 1 part peat, and 1 part bark or perlite will also serve quite well. The potting medium should be loose enough to permit adequate but not excessive drainage.

Examine the root system of the plant. If it is pot-bound or has experienced severe root crowding in its previous container, judiciously prune some of the larger roots and loosen others to facilitate root proliferation in the new container.

The container should be partially filled with soil (large containers should be filled at the site where they are expected to remain). Place the plant in the partially-filled container of soil to its correct planting depth which is the depth at which the plant was previously grown. The final soil surface should be 1–4 in. below the rim of the container, in direct proportion to container size, to allow for watering.

Complete filling the container and firm the soil around the plant. Water thoroughly but do not fertilize until new growth commences. An attractive mulch of bark, gravel, or other material can be added to improve the appearance of the container.

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Light

Most fruit crops grow best in full sunlight, but some will do well in partial shade. However, plants grow in direct proportion to the amount of light received, if other conditions are optimum, so container-grown fruit trees should be placed where they will receive maximum sunlight.

It is important that rapid changes in light exposures be avoided, i. e., plants growing in partial shade should not be suddenly exposed to complete direct sunlight. Any plants that are to be grown indoors part of the year should be acclimated by gradually reducing the light to which they are exposed for 2–3 weeks before moving them inside and vice versa for plants being moved outdoors. Such acclimation is not necessary for plants that are to be moved indoors for a few days during freezes.

Temperature

Tropical and subtropical fruit trees cannot tolerate freezing temperatures for very long. Some will be killed back to the soil by mild freezes while only small twigs will be killed on others. Some root damage can occur because the root system is not as well insulated from cold in a container as it would be in the ground. Cold hardiness depends on the plant, the care it receives and many other factors. Protection from severe cold is essential for all tropical and subtropical fruits growing in containers. Plants may be covered temporarily with blankets, paper, or other material as protection against hard freezes, but such materials should be removed each morning to allow the plants to take full advantage of incoming solar radiation. Plants moved indoors during cold spells should be placed away from drafts caused by doors and heating ducts.

Water

Most container-grown plants that do not thrive are usually in poor condition due to faulty watering practices, usually overwatering. Plants growing in containers should be watered only as needed. The frequency of watering depends upon such variables as type and size of plant, type and size of container, temperature, humidity, potting medium, and others. For most plants, the upper surface of the soil should be allowed to become dry to the touch before watering. Then water thoroughly by slowly filling the container. Good drainage of excess water from the containers is essential.

The soil in plastic, metal, and ceramic containers generally stays wet longer than it does in wood or clay container, which allow water to evaporate through the sides. Cool weather generally slows plant growth and thus reduces

the plant's need for moisture, so watering should be less frequent during cool weather.

Fertilizer

Good nutrition is essential for the success of container-grown fruit trees, but excess fertilizer can result in overgrowth, poor fruiting, and possible dieback due to salt accumulation. Water-soluble fertilizers are widely available and should be used according to label directions. If mature foliage is a deep green color in most plants, adequate fertilizer is being used.

Many fertilizers can be used successfully, provided they are complete and balanced. The fertilizer should contain nitrogen, phosphorus, and potassium in balanced proportions and should include lesser amounts or traces of magnesium, iron, manganese, zinc and copper. The ingredients and quantities of each nutrient contained are listed on the fertilizer label.

Salt accumulation may sometimes be a problem and is often indicated by a white crust on the soil or container and may be due to excess fertilization and/or water containing considerable soluble salts. Should this occur, the container should be thoroughly leached by slowly running water through the container for several minutes. This will carry excess salts down through the soil and out the drainage holes.

Pruning

With few exceptions, fruit trees will develop and maintain their natural shape with little or no training or pruning. They will occasionally become “leggy” when grown indoors or in poor light for too long. Leggy branches should be partially cut back to force branching and bushiness.

Frequently, the top will grow rather large and begin to exceed the capability of the root system. Consequently, some leaf shed and twig dieback will often occur. Such plants should be pruned back heavily to rejuvenate them. When plants are heavily pruned, less fertilizer and water will be necessary to compensate for the reduced plant size.

Fruitfulness

Most fruit crops will produce fruit in containers, given time, good care, and adequate size and age. However, naturally large fruit trees will require larger containers to bear much fruit, as the amount of fruit produced is proportional to the plant's size, so large yields should not be expected. Many fruit plants need to be quite large in order

to fruit at all, so their size can quickly become limiting in containers.

Many fruit crops require the presence of pollinizer cultivars and pollinating insects, but such considerations are discussed in other documents dealing with specific fruits.

It must be emphasized that even under the best of conditions, fruit production in containers will not equal the quantity produced on trees in the ground, as fruit trees grown in containers are usually growing under sub-optimal conditions.

Table 1. Fruit crops that can be grown in containers.

Tropical Fruits	Citrus Fruits	Temperate Fruits
Avocado (<i>Persea americana</i>) http://edis.ifas.ufl.edu/topic_avocado	Calamondin (<i>Fortunella japonica</i>)	Blackberry (<i>Rubus</i> spp.) http://edis.ifas.ufl.edu/topic_blackberry
Banana (<i>Musa</i> spp.) http://edis.ifas.ufl.edu/topic_banana	Key Lime (<i>Citrus x aurantiifolia</i>) http://edis.ifas.ufl.edu/ch092	Blueberry (<i>Vaccinium</i> spp.) https://edis.ifas.ufl.edu/mg359
Barbados Cherry (<i>Malpighia emarginata</i>) http://edis.ifas.ufl.edu/topic_barbados_cherry	Kumquat (<i>Fortunella</i> spp.) http://edis.ifas.ufl.edu/fr368	Fig (<i>Ficus carica</i>) https://edis.ifas.ufl.edu/topic_fig
Capulin (<i>Prunus salicifolia</i>)	Lemon (<i>Citrus x limon</i>) http://edis.ifas.ufl.edu/topic_lemon	Strawberry (<i>Fragaria x ananassa</i>) https://edis.ifas.ufl.edu/HS403
Carissa (<i>Carissa macrocarpa</i>) http://edis.ifas.ufl.edu/topic_natal_plum	Limequat (<i>Citrofortunella x floridana</i>)	
Carambola (<i>Averrhoa carambola</i>) http://edis.ifas.ufl.edu/topic_carambola	Tahiti Lime (<i>Citrus x latifolia</i>) http://edis.ifas.ufl.edu/topic_limes	
Cocoplum (<i>Chrysobalanus icaco</i>)		
Ceylon Gooseberry (<i>Dovyalis hebecarpa</i>)		
Coffee (<i>Coffea</i> spp.) http://edis.ifas.ufl.edu/topic_coffee		
Grumichama (<i>Eugenia brasiliensis</i>)		
Guava (<i>Psidium guajava</i>) http://edis.ifas.ufl.edu/topic_guava		
Jaboticaba (<i>Plinia cauliflora</i>) http://edis.ifas.ufl.edu/topic_jaboticaba		
Kei Apple (<i>Dovyalis caffra</i>)		
Limeberry (<i>Triphasia trifolia</i>)		
Miracle Fruit (<i>Synsepalum dulcificum</i>)		
Naranjilla (<i>Solanum quitoense</i>)		
Papaya (<i>Carica papaya</i>) http://edis.ifas.ufl.edu/topic_papaya		
Passion Fruit (<i>Passiflora edulis</i>) http://edis.ifas.ufl.edu/topic_passion_fruit		
Pineapple (<i>Ananas comosus</i>) http://edis.ifas.ufl.edu/topic_pineapple		
Pitomba (<i>Eugenia luschnathiana</i>)		