UF UNIVERSITY of FLORIDA
IFAS Extension

HS-867

Citrus Culture in the Home Landscape[1]

Robert E. Rouse, Mongi Zekri[2]

Introduction

One of the satisfactions that nearly all homeowners in Florida can have is to pick citrus fruits from their own trees. The varieties that may be grown vary with the size of the home grounds and with the climatic conditions of each location. Citrus is a subtropical fruit tree and is limited to areas that do not regularly experience freezing temperatures. Like most plants in the landscape, regular maintenance of irrigation, fertilization, weed control, and pest management procedures must be followed to obtain good growth and fruit production. Many types of citrus can be grown by the home gardener in Florida. Careful consideration should be given to site selection, choice of variety, nutrition, and cold protection. **Table 1 identifies** some of the most popular varieties and their maturity season, assisting the home gardener in selecting varieties for prolonged fruit availability during the year.

Types & Varieties

Citrus fruits are classified into different groups by the citrus industry according to their characteristics and use. Sweet oranges and grapefruits are distinctive types that are accepted as a regular part of the diet and consumed as juice or eaten in some form practically every day by many people. Specialty fruits (tangerines and tangerine hybrids) are excellent for holiday or dessert uses. Acid fruits (lemons, limes, and others with high citric acid content) are used as thirst-quenching drinks, garnishes on the dinner table, and ingredients for refreshing pies and delicious cakes. For landscaping, fruit trees have additional ornamental value to enhance the beauty of the surroundings, and a specimen tree of some exotic type adds interest as a conversation piece. If the home site is large enough, several varieties of each type may be selected.

Sweet Orange

Sweet orange is the first choice, and if only a single citrus tree is to be grown, it may well be an early variety such as 'Hamlin' or one of the navel oranges. Navel orange selections are either standard orange fleshed or red fleshed. If there is room for more than one sweet orange tree, a midseason variety such as 'Pineapple' or 'Midsweet' or the late season 'Valencia' should also be considered. Selection of a tree from each of these three maturity seasons (early, midseason, and late) will supply fresh fruit continuously from early November to July.

Grapefruit

Grapefruit is often the second choice in citrus fruits to compliment orange trees. The Duncan variety is one of the best for home use, its quality compensating for its seediness. Many people prefer a red-fleshed variety like 'Redblush' or 'Flame' because of the combination of flesh color and seedlessness. Grapefruit trees are very heavy yielding and maintain good fruit quality for harvest over an extended period each year. Usually a single grapefruit tree suffices, whereas several sweet orange trees may be wanted.

1. This document is HS-867, one of a series of the Horticultural Sciences Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original publication date March 2002. Revised April 2007. Reviewed June 2012. Visit the EDIS website at http://edis.ifas.ufl.edu.

2. Robert E. Rouse, associate professor, Department of Horticultural Sciences, SWFREC-Immokalee, FL; Mongi Zekri, Multi-County Citrus Extension agent, Hendry County Extension Service-Labelle, Florida Cooperative Extension Services, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611

Mandarin

Mandarin hybrids should have much interest as early-maturing tangerine substitutes. 'Fallglo' and 'Sunburst' are now favored. 'Dancy' tangerines may reach fair eating quality before Thanksgiving, but are usually better later. The 'Ponkan' is an excellent quality, easily peeled tangerine for the home landscape. The homeowner may well decide to substitute a tangor or tangelo for a tangerine when choice must be limited. 'Temple' tangor is superb in quality as well as appearance, as is 'Minneola' tangelo. Many people would choose one of these in preference to grapefruit if a choice were necessary and space were limited. Some of the varieties may be difficult to locate at local nurseries or garden centers. This is certainly true of the newer varieties and some of the older ones that may have fallen out of favor with commercial producers. Satsumas mandarins (often a substitute for sweet oranges) are especially suitable for cold locations (north of Orlando), maturing during late November and maintaining fruit quality on the tree for only about four to six weeks.

Acid Fruits

Acid fruits include lemons and limes, but the true lemon (Eureka & Lisbon types) is not recommended for home use because of its susceptibility to scab. The 'Tahiti' Persian lime and 'West Indian' (Key or Mexican) lime make a satisfactory acid fruit for the home since fruit can be picked any time of the year. The 'Meyer' lemon is a reasonable substitute for true lemons in home gardens. The 'Eustis' or 'Lakeland' limequat and the calamondin are all good acid fruit for landscape use, but have more limited appeal for most people.

Dual-Purpose Fruits

Dual-purpose fruits are those which combine unusual ornamental value with useful fruit. The kumquats, calamondin, and Meyer lemon are notable examples. Conversational fruits might cover such items as Ponderosa lemon, Ruby blood orange, or purnmelo. These fruits often excite the horticultural interests of guests.

Selecting a Tree

Selecting a variety should involve both personal and practical considerations. People should consider varieties they prefer to eat. Rootstocks are important since they vary in soil adaptation and can influence fruit quality. However, rootstocks are not usually a choice at retail nurseries and garden centers since they are grafted to industry standard rootstocks. Other factors to consider include differences among varieties for freeze sensitivity, demand for cross-pollinaton, and pest-protection needs.

Freeze sensitivity. Frequency of freezing temperatures should be important in historically cold areas. If freezes are expected every few years, more cold-tender citrus types should be avoided and only the most hardy should be chosen. In these situations, late season variety fruit would be frozen before maturing.

Cross-pollination. Some varieties (mandarins) produce very little fruit unless a compatible tree is planted nearby to provide cross-pollination. Varieties benefiting from cross-pollination and common examples of pollenizing varieties are listed in Table 1.

Pest protection. Some varieties are susceptible to certain insects and diseases requiring frequent spraying. Table I lists the pests most frequently posing significant problems for each variety. In many cases, when there are only a few citrus trees in the landscape, they may not require any pest control, while a grove containing many trees might develop significant pest problems.

Site Selection

Any wellsite that is suitable for building a home and having a garden is likely to be satisfactory for citrus trees. Citrus trees tolerate light shade but will be more productive if grown in full sunlight. They should not be planted so close together that they cut off light to the lower branches of neighboring trees. For home plantings, the spacing recommended should be a minimum of 15 feet between trees. Consider proximity to buildings, as citrus will grow rapidly into large trees when receiving proper care. Septic tanks and drain fields should be avoided, due to possible clogging of drains.

Planting

Vigorous nursery trees should be planted, preferably those that have been container grown. Container trees can be planted any time of year and they will be more likely to live and thrive. For the person planting only a few trees, this assurance and relief from care is usually worth the difference in cost. These trees may be set out at any time of the year. They should be set at the same soil line as they grew in the nursery row or container and be provided with a basin to hold water around each tree. This basin should hold five to ten gallons of water and should be filled to soak the root area of the young tree as described below. Some of the soil should be removed from the root mass when the

tree is planted. This will expose many of the outer roots and allow them to grow quickly into the sand/soil new planting area provided. This soil removal is also important since the difference in soil between the potting mix and the planting site can make a drastic soil interface difference. This can result in difficulty in watering and subsequent root growth.

Watering

Water is the first requirement of the young tree, and it will be used up rapidly by trees with a good head of foliage, which container-grown trees should have. If a garden hose reaches the trees easily, let it run in each basin for ten or fifteen minutes twice each week, long enough to fill the basin, for the first month. Thereafter, watering can be less frequent, but whenever new growth is observed to wilt in mid-afternoon, fill the basins again. If a hose cannot be used, supply about eight to ten gallons at each watering. Need for irrigation will be less as the trees increase their root systems each year, but some occasions for watering may be expected through the life of the tree.

Nutrition

Fertilization should start when swelling buds indicate that growth is beginning or three weeks after planting. During the first year, apply fertilizer about every six weeks from February through October. An 8-8-8 analysis with other macro and micronutrients is a good general fertilizer for citrus trees and may be used at rates from a half cupful for the first application to one-and-one-half pints in September, increasing the quantity steadily all season. For the second, third, and fourth years, the fertilizer schedule given in Table 2 can be followed. Fertilizer should cover the basin area during the first year. In succeeding years, a good rule of thumb is to spread the fertilizer as many feet beyond the dripline of the canopy as the age of the tree in years (up to ten). Fertilizer near or in contact with the truck should be avoided. For the home landscape, it is convenient to remember that one pint of mixed fertilizer weighs about one pound. (Caution: Do not use a one-pound coffee can or similar container, since such a can may actually hold nearly three pounds of mixed fertilizer.) Citrus trees in the home landscape are less likely to suffer from deficiency of mineral elements than in commercial groves because of the greater amount of organic matter in the soils. As a precaution against the possible development of micronutrient deficiencies, a routine application of nutritional foliar spray of manganese and zinc on an annual basis will not harm trees, and while it may be helpful, is not necessary for reasonable health and production in most cases. An annual nutritional spray may be beneficial on alkaline (high pH) soils. An iron deficiency should be corrected by using soil applied iron chelates. These are readily available at fertilizer stores. Many citrus trees are grown in the home landscape successfully without any attention to soil reaction. If the garden is on sandy soil and sulfur is not used in a regular program of pest control, the gardener is justified in not worrying about this matter. If the trees do not have healthy foliage, however, and the cause is not obviously an insect infestation, it would be good to take a soil sample to the County Extension Office to check the pH. The optimum pH range would be 5.5-6.5. If the soil pH is less than 5.0, the situation should be corrected by the addition of dolomitic limestone. If the soil is naturally basic, it will be difficult to change the reaction on any permanent basis.

Weed Management

Often, citrus trees are planted in the midst of an expansive green lawn. Complete weed control is not essential, but weeds and sod grass should be removed from the area under the tree canopy. Above all, make sure all weeds are removed from the area adjacent to the trunk of the tree. Such weeds could promote injury due to a soil-borne fungus known as foot rot, which can seriously debilitate or even kill the tree. Mulches are not recommended around citrus trees, but if trees are located in a cultivated plant bed where mulch is used, it should be kept at least a foot away from tree trunks.

Pest Management

Most citrus can be successfully grown without chemical pesticides to control insects and diseases in most landscape situations. Fruit produced may have external blemishes, but this will usually have no effect on internal fruit quality. The tree appearance may suffer somewhat, but rarely will the tree be seriously damaged. If pest problems warrant, oil can be used to suppress populations of insect, mites, and scales, and copper fungicides can be used to control most fungal diseases. Many citrus pests are under natural biological control, assisting in keeping most insect pests at low levels. For more information, the Florida Citrus Pest Management Guide is available online at: http://edis.ifas.ufl.edu/scripts/MENU_CH5.

Pest control should be undertaken only as the need becomes evident. Citrus trees in the landscape may thrive for years with little trouble from pests. When pests require action, the property owner often finds it more satisfactory to contract spraying with a licensed commercial pest control expert who has the adequate protective equipment and stays informed on changing government regulations

regarding use of agricultural chemicals. Carefully follow the labeled directions when using pest control products on your own, and be sure that professional applicators are licensed and committed to use of safe, recommended materials and practices.

Pruning

During early tree development, it is important to remove suckers from the base of the tree. These shoots are likely to be the rootstock variety, will not produce desirable fruit, and without removal they will interfere with tree development. Mature citrus trees do not require pruning of the canopy for production or tree health except when substantial injury occurs following disease or freeze damage. Unnecessary pruning often will reduce fruit production. Pruning of the canopy should be reserved to prevent trees from crowding other plants, buildings, or areas reserved for open space. When pruning, remove the minimal amount of canopy needed to achieve your goal, since reduction of cropping will be greater with more severe canopy removal. Trees will sometimes produce very vigorous vertical shoots known as water sprouts or suckers. These shoots are slow to bear fruit and interfere with more productive limbs, so their removal is desirable. For all pruning make cuts flush with the trunk or surface, since any stubs may be attacked by rotting organisms which could damage the tree.

Additional Informantion

Your local County Extension Office should be contacted for further information or consultation on varieties, cultural practices, and pest management.

Table 1. Citrus varieties for the home landscape

FRUIT	SEASON	SEED/ FRUIT	CULTIVAR CONSIDERATIONS
ORANGES:			
1. Navels	Early (Oct-Jan)	0-6	Shy Bearers, susceptible to Postbloom Fruit Drop (PFD)
2. Hamlin	Early (Oct-Jan)	0-6	Fruit drop late in season
3. Parson Brown	Early Mid (Oct-Jan)	10-20	Not as productive as Hamlin
4. Pineapple	Midseason (Dec-Feb)	15-25	Alternate bearing, fruit drop & black rot
5. Midsweet	Midseason (Jan-Mar)	6-24	Less susceptible to preharvest drop than pineapple
6. Valencia	Late (March-June)	0-6	Postbloom. Fruit Drop (PFD) Susceptible
GRAPEFRUIT:			
7. Marsh (White flesh)	Midseason (Nov-May)	0-6	Scab, Greasy Spot & Melanose fungus disease susceptible
8.Duncan (White flesh)	Midseason (Dec-May)	30-70	Scab, Greasy Spot & Melanose fungus disease susceptible
9. Redblush or Ruby Red (Red flesh)	Midseason (Nov-May)	0-6	Scab, Greasy Spot & Melanose fungus disease susceptible
10. Thompson or Pink Marsh (Pink flesh)	Midseason (Dec-May)	0-6	Scab, Greasy Spot & Melanose fungus disease susceptible
11. Star Ruby (Red flesh)	Midseason (Dec-May)	0-6	Scab, Greasy Spot & Melanose fungus disease susceptible
12. Rio Red (Red flesh)	Midseason (Nov-May)	0-6	Scab, Greasy Spot & Melanose fungus disease susceptible
13. Flame (Red flesh)	Midseason (Nov-May)	0-6	Scab, Greasy Spot & Melanose fungus disease susceptible
SPECIALITY:			
14. Satsuma	Very early (Sept-Nov)	0-6	Self fruitful. Scab & Alternaria Susceptible
15. Robinson	Very early (Oct-Dec)	1-20	Requires pollenizer, fruit dryout on vigorous rootstocks, limb dieback, limb breakage, fruit splitting/thin skin
16. Fallglo	Very early (Oct-Nov)	20-40	Scab resistance, susceptible to aphids, limb dieback, pollenizer for Sunburst
17. Sunburst Tangerine	Early (Nov-Dec)	1-20	Requires pollenizer, limb breadage, foliage susceptible to rust mites and Texas citrus mites
18. Orlando Tangelo	Midseason (Nov-Jan)	0-35	Requires pollenizer like Temple or Sunburst, Alternaria & Greasy Spot susceptible, leaf cupping characteristic
19. Minneola Tangelo (Honeybell)	Midseason (Dec-Feb)	7-12	(Duncan grapefruit x Dancy Tangerine) cross, requires pollenizer like Temple, Sunburst, tall vigorous tree, shy bearer, very susceptible to Alternaria & Scab fungus diseases
20. Temple Tangor	Late Mid (Jan-Mar)	15-20	Both fruit and foliage very susceptible to scab fungus disease, very good pollenizer, susceptible to aphids, self fruitful
21. Ponkan	Midseason (Dec-Jan)	3-7	Alternate bearing
22. Dancy	Midseason (Dec-Jan)	6-20	Alternate bearing, both leaf & fruit susceptible to alternaria, self-fruitful
23. Murcott	Late Mid (Jan-Mar)	10-20	Susceptible to scab fungus and alternaria fungal diseases, fruit subject to sunburn, limb breakage, alternate bearing, self fruitful
ACID:			

24. Persian Lime	(June-Sept)	0-1	Susceptible to Postbloom Fruit Drop (PFD)
25. Key Lime	Everbearing	3-8	Susceptible to Scab, Anthracnose, Aphids, cold sensitive
26. Lemon	July-Dec	1-6	Susceptible to Scab, Greasy Spot, Melanose
27. Calamondin	Nov-Apr	3-5	Cold hardy
28. Kumquat	Nov-Apr	0-5	Cold hardy
29. Limequat	Nov-Mar	2-5	Susceptible to Scab

Table 2. Schedule of fertilizer applications

Year Since Planting	Number of fertilizer Applications per Year	Pounds Nitrogen per Tree per Year	Pounds of Fertilizer per Tree per Application		
			6-6-6	8-8-8	10-10-10
First	6	0.15 - 0.30	0.4 - 0.8	0.3 - 0.6	0.3 - 0.5
Second	5	0.30 - 0.60	1.0 - 2.0	0.8 - 1.5	0.6 - 1.2
Third	4	0.45 - 0.90	1.9 - 3.8	1.4 - 2.8	1.1 - 2.3
Fourth	3	0.80 - 1.0	4.4 - 5.6	3.3 - 4.2	2.7 - 3.3
Fifth & Higher	3	1.1 - 1.4	6.1 - 7.8	4.6 - 5.8	3.7 - 4.7