Tenth Annual
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Figs and Citrus for Texas Gardens

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Home Garden Figs

Figs are the perfect home garden fruit crop. They require very little care and produce a fruit that can be eaten fresh or easily preserved as a high quality product. Figs can easily be grown in all soils in Louisiana and in most of Texas, but they perform best on deep, fertile well-drained soils.

"South Carolina Lemon Fig"

Propagation

Figs are easily rooted from hardwood cuttings taken during the dormant season. Straight, upright branches seem to be a bertter source for an upright growing tree than the lateral growing shoots. Cuttings can be taken anytme during the dormant season but the best luck with rooting figs is obtained with cuttings made and and stuck during the early part of the dormant season (mid-December to early January). Cuttings should be 8 to 10 inches long and made from last year's growth with several nodes. The base of the cuttings should

be made just below a node since root development easily occurs in these areas. Stick the cutting 7 to 9 inches deep in a well-prepared row or in a container with soil mix. Only one node is needed above the soil line for leaf development to occur.

Planting and Spacing

Root development and leaf development occurs in the early spring and trees grow rapidly. It is not uncommon to produce a 4 to 5 foot tree from a cutting in one year. Cuttings can be grown for one year in the nursery and transplanted in November to February.

Figs trees can live for long periods of time and become massive trees and homeowers should give thought to providing a site with enough space, and to allow for tree development. A homeowner should allow at least 20 to 25 feet from buildings and other trees for each side of a fig tree. However most home owners are limited to the sites available for fig trees in their yard. Fig trees should be planted in an area that receives as much full sun and as much space for growth as is available in the yard. Figs are one of the few trees that thrive next to buildings. Buildings often provided figs trees with protection for hard winter freezes. Harvesting the fruit of fig trees near buildings is often difficult.

The LSU Figs

The LSU Fig breeding program was established in the 1950's by Dr Ed O'Rourke, who developed several fig varieties and trained a number of graduate students in the program. Unfortunately in the early 1970’s his fig program was discontinued. His fig orchards fell in disrepair and were soon scheduled to be taken out. A research associate by name of Benny Williams made cutting from the remaining trees and moved the fig plantings to the Hammond Research Station in Southeast Louisiana. Unfortunately the figs did not thrive at the Hammond Station and never fruited. Dr Wayne Bourgeois took cuttings from the trees at the Hammond station and brought them to the Citrus Research Station in Port Sulfur, LA. The trees thrived and bore fruit at the Citrus Station.

Promising fig selections identified by Dr O'Rourke at the Station were LSU Purple, LSU Gold, Golden Celeste and Improved Celeste. After cuttings of all the promising selections were rooted, the trees were distributed to interested individuals in 40 different parishes.

Home Garden Citrus

Citrus should be included in all home orchards and landscapes where it can be successfully grown. It is the ideal fruit for the home owner. The fruit is easy to grow and once mature stores well on the tree and can be picked over a period of several months. The major problem for home gardeners is the survival of trees after hard freezes. The production of citrus is not without insect and disease problems, however these pests can be controlled successfully with timely spraying and good cultural practices.

The 'Eustis Limequat' is a Poncirus hybrid

GROWTH OF CITRUS

Growth in citrus tends to be in flushes with periods of shoot inactivity between flushes. In Louisiana there are three flushes of growth a year. The first flush occurs in late February and March. This is usually the time of the greatest shoot extension because more buds elongate. The second flush occurs in August with the last one taking place in October. During the growth flushes the shoots elongate, in between the flushes the leaves expand to full size and root growth occurs.

FLOWERING OF CITRUS

Oranges, grapefruit, mandarin, tangelo and tangerines tend to bloom in March while satsumas and kumquats bloom in late March and April. Lemons and limes tend to blossom continuously, but the heaviest blossoms are borne in the spring. Citrus flowers tend to be borne in small clusters in the axils of leaves on last year's wood and as single flowers in the axils of leaves of a growth flush that is just completed.

POLLINATION

Citrus flowers have both male and female parts in the same flower (complete perfect flowers), and will pollinate themselves and produce fruit (self compatible and self fruitful). Pollination is seldom a problem in citrus. However there are a few special cases where a pollinator is required for good fruit set.

Citrus trees produce an abundance of flowers. Citrus has a natural tendency to drop its fruit and most of the fruit set at bloom will not hold on to maturity. A good crop may be borne if only 3 -7 % of the flowers that are set mature fruit. The Washington Navel and

Satsuma do not have viable pollen. They set fruit without pollination and have no seeds. The few seeds in a satsuma are from viable pollen from another variety.

SITE SELECTION

A well-drained soil, high in organic matter and slightly acid to neutral is desirable for citrus. The site should provide full sunlight. In most cases homeowners are limited to sites in their yard where citrus can be planted. The site with the most sun should be selected for a citrus planting.

Citrus trees require good drainage. Trees planted on heavy clay soils with poor internal drainage should be planted on a mound or row eight to 12 inches higher than ground level.

TIME OF PLANTING

The best time to plant citrus trees is in January or February. A three to four-foot tree with three to four well-developed side branches 18 to 24 inches above the ground is the ideal tree for home plantings.

SPACING

In most cases homeowners are limited on space in their yards for citrus trees. The site that will provide the most space should be selected. Navel oranges, grapefruit and other oranges are the most vigorous type citrus trees. They require a 30-foot diameter circle. (Example: Allow at least 15 feet from any building or large tree on each side of the navel orange, grapefruit or other round oranges). A satsuma is not as vigorous as oranges and grapefruit and requires a 20-foot circle in diameter, while kumquats and lemons need only a 15-foot diameter circle.

ROOTSTOCKS

The best rootstock for citrus for the Louisiana home citrus orchard is trifoliata (*Poncirus trifoliata* Rubidoux). It is the most cold hardy of the citrus rootstocks, resistant to foot rots and is tolerant to wet soils. [Often, in Texas, the rootstock will be *Poncirus trifoliata* or its derivative 'Flying Dragon.'--Ed.] Dwarf trees are ideal for homeowners with limited space. Good crops of oranges and satsuma can be made in as little as a 10-foot in diameter circle. However, the home owner is at the mercy of the nursery as to the rootstocks of the citrus trees he buys.

One of the major rootstocks used in the Louisiana citrus nursery trade at this time is Swingle citrumello. Trees budded on Swingle rootstocks are vigorous and produce good crops of high quality citrus. The main drawback of using Swingle rootstocks is that it is not as cold hardy as trifoliata.

FERTILIZER

Citrus trees require annual fertilization for good growth and high yields. In late January or early February, apply 1 to 1-1/2 pound of 13-13-13, 8-8-8, 8-12-8 or 6-12-6 per year of tree age up to 12 years. A simple fact to remember is that 1 pint of 13-13-13 weighs about 1 pound and a quart weighs 2 pounds. (Example: A one-year-old tree will require 1 pound or 1 pint of 13-13-13 while a 4-year-old tree will require four to 6 pounds or 3 quarts of 13-13-13.)

Broadcast the fertilizer beyond the spread of the limbs where most of the feeder roots occur. A good rule of thumb when fertilizing trees is to put your shoulder and hand near the outer branches and hold the can of fertilizer in the other hand. You can simply walk around the tree and evenly spread the fertilizer in a 12 to 18-inch band around the outer branches of the tree. This technique will ensure that the fertilizer is placed a safe distance from the tree.

PRUNING TREES

Good nursery trees usually have a framework already developed when purchased. Homeowners should try to select a three to a 4-foot tree. Trees should be pruned after planting and before growth starts in the spring The top of the tree should be removed 18 to 24 inches from the ground at a site where three or four evenly spaced wide angle lateral branches with an upward growing pattern have developed. All growth developing below this framework should be removed.

Pruning trees of bearing age is practiced to thin out thick growth to make spraying and harvesting easily. The removal of long vigorous growing shoots sticking up at the top of the tree will help to control the size of the tree. These long shoots should be traced to where they originate on larger branches and cut off flush at the point of attachment. Dead branches and branches crossing over each other should be removed. All water sprouts arising form the center of the tree should be removed. Branches touching the ground should be removed. When pruning, cut all limbs of flush at the point of attachment. All pruning on older trees should be done in January and February. Freeze damaged trees should not be pruned till the extent of cold damage has been determined. Normally the damage is not evident till in July and August, after the second flush of growth. Pruning a freeze damaged trees consists of removing the dead wood to the point where the live wood starts.

VARIETIES OF CITRUS

Citrus varieties vary with cold hardiness. The cold hardiness of the different citrus varieties is listed below from hardy to tender: Kumquats, Satsuma, Sweet Oranges, Navel Oranges, Mandarin, Grapefruit, Tangerines, Tangelo, Lemons and Limes.

SATSUMA VARIETIES

The satsuma is the tradition type of citrus grown by the homeowner in Louisiana. The fruit is easy to peel with few seeds, and separates easily into segments. The fruit turns from green to yellow as it ripens and to orange at full maturity. It is edible when starting to show some yellow color. This allows home owners to harvest and eat the fruit from their trees for a long period of time.

Owari Satsuma, Armstrong Early Satsuma, Brown's Select Satsuma, Kimbrough Satsuma, Louisiana Early and Early St. Ann Satsuma are excellent choices.

SWEET ORANGE VARIETIES

Washington Navels, Louisiana Sweet, Hamlin Sweet, Pineapple Sweet, Plaquemine, Valencia, Ambersweet, Moro Blood Oranges.

FREEZE PROTECTION FOR HOMEOWNERS

The major problem for home citrus production is survival of trees after hard freezes. Temperatures in the mid to low 20's F will kill most citrus trees. The best way to reduce freeze damage is to maintain healthy trees. Weak trees that show diseases and insect damage or nutritional deficiencies are more susceptible to freeze damage than healthy trees. The use of cultural practices that induce and maintain dormancy in the winter will also help trees' survival during freezes. These methods include no late summer or fall fertilization or pruning.

Maintaining bare ground free of mulch and grass under citrus trees is a practice often overlooked by homeowners. Bare ground is under the trees is warmer during freezes than sod covered or mulched ground. Grass and mulches prevent heat from entering the soil during the day so less heat energy is stored in the soil for released during the night. To protect a single tree, home owners can construct a simple frame covered with clear plastic over the tree. Light bulbs placed near the trunk of the trees or an electric heater can raise the temperature in the frame a few degrees and protect the trees during the freeze. The structure needs to be opened by mid morning during bright sunny days to prevent the development of high temperatures that can damage the tree.

Wrapping the trunk of the tree to cover the bud union with insulation or Styrofoam will help prevent cold damage to the trunks. The top of the tree may be killed during a freeze, but a tree can recover if its trunk is intact. Tree wraps work best on young trees. To prevent 'foot rot' the trunk of the tree should be treated with a copper fungicide before wrapping. The wrap should be removed in the spring to prevent the further occurrence of 'foot rot.'

Trees can also be protected from freeze injury by banking the trunk to cover the bud

union of the tree with a mound of soil. A mound of soil 18 to 24 inches high extending 2 to 3 feet from the trunk of the tree is necessary to provide freeze protection. Banking needs to be done well ahead of the killing freeze. The soil must be removed from the tree in the spring to prevent 'foot rot.' Banking and the removable of the soil from citrus trees is a difficult task. It is often very difficult for homeowners to successfully bank trees. As with wrapping, the trunk of the trees should be treated with a copper fungicide before banking.

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