



**Growing Fruit
In
Fort Bend County**

TEXAS A&M
AGRILIFE
EXTENSION

FORT BEND COUNTY

Master Gardeners

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Who are the Master Gardeners?

The Master Gardener Program is a volunteer development program offered by Texas A&M AgriLife Extension Service and is designed to increase the availability of horticultural information and improve the quality of life through horticultural projects.

Fort Bend County Master Gardeners are members of the local community who take an active interest in their lawns, trees, shrubs, flowers and gardens. They are enthusiastic, willing to learn and to help others, and able to communicate with diverse groups of people.

What really sets Master Gardeners apart from other home gardeners is their special training in horticulture. In exchange for their training, persons who become Master Gardeners contribute time as volunteers, working through their Extension office to provide horticultural-related information to their communities.

Fort Bend County Master Gardeners are a 501(c)(3) non-profit organization.

**Call or email the Fort Bend County
Master Gardener's Hotline
with all of your gardening questions!**

Call or email with photos and questions about:

- plant problems
- insect concerns
- grass issues or
- other gardening challenges

Email: FortBendmg@ag.tamu.edu

Phone: 281-341-7068 | Website: fbmg.org

Recommendations

Recommended Planting Distances, Time to Fruit,
Pollination Requirements, and Pruning Systems
For Texas Fruit Crops.

	Spacing between plants	Years to first fruit	Pollination requirements	Pruning systems
Apples				
Seedlings	25 ft.	5	Cross ¹	Central leader
Root stock	10-20 ft.	3-4	Cross	
Apricots	18 ft.	4	Self ²	Open center
Blackberries	3 ft.	1	Self	Remove old canes and top new canes
Citrus	20-25 ft.	2-3	Most self	Maintenance
Figs	12 ft.	2	Self	Bush or central leader
Grapes, bunch	4-8 ft.	2-3	Self	Cane or spur
Grapes, muscadines	10-20 ft.	2-3	Self and cross	Spur
Peaches	18 ft.	3	Self	Open center
Pears	25 ft.	5	Cross	Central leader
Pecans	40 ft.	4-7	Cross	Central leader
Plums	18 ft.	3	Cross	Open center

¹Cross: At least two different varieties needed for fruiting

²Self: Self-fruitful

Information sources for this publication:

- Dave Wilson Nursery
- Brazos Citrus Nursery
- <http://aggie-horticulture.tamu.edu/galveston/publications/Ambrosia-Inside.pdf>
- <http://aggie-horticulture.tamu.edu>
- Urban Harvest

Chill Hours

The dormant buds of many plants require a period of cold weather to grow, flower, and develop properly, but requirements vary widely by species. For dormant buds of fruit trees, this is commonly referred to as the chilling requirement. Chill hours are used as a tool for fruit producers to gauge whether their crop has been exposed to cold temperatures for a long enough time period. The calculation is based on high and low temperatures during winter dormancy months.

Fort Bend and Harris Counties average 400-600 chill hours.

The Gulf and Bay areas average <300 chill hours.

Counties north of Harris average 600+ chill hours.

Fertilizing Schedule

We feed our trees to promote growth and maintain a healthy canopy to first frost.

Ideally, small, frequent applications are best for the health of our trees. Studies have shown it is best to feed using the irrigation system for the macro nutrients, while foliar feeding is best for the micro nutrients. A simple schedule to follow for temperate trees is the called the sweetheart schedule:

Temperate:

Valentine's Day Mother's Day Father's Day

When feeding citrus and tropical trees the best schedule is:

Mother's Day Father's Day August

Remember to make nutrients available to as many roots as possible.

This is not accomplished with tree stake fertilizer.

Temperate Fruit Tree Root Stocks

Calleryana for flowering pears and Asian pears. Preferred rootstock for warm winter/hot summer climates and for sandy soils. Also adapted to wet soils. Slightly dwarfed Asian Pear varieties bear heavily at a young age.

Citation will dwarf peaches and nectarines to 8 to 14 feet. Apricots and plums dwarfed to 3/4 of standard. Tolerant of wet soil, induces early dormancy in dry soil. Very winter hardy. Resists root-knot nematodes. Trees bear at a young age. (Zaiger)

Lovell is more tolerant of wet soils. Also more cold hardy. Susceptible to nematodes in sandy soils. For plums, peaches, nectarines, apricots.

M-111 is an excellent all-around root stock for apples. Induces early and heavy bearing. Tolerates wet soil, dry soil and poor soil. Resists woolly apple aphids and collar rot. Trees dwarfed to 85% of standard.

M-7 dwarfs to 65% of standard. Induces early and heavy bearing. Resistant to fireblight and powdery mildew. Moderately resistant to collar rot. Good anchorage. Very winter hardy, widely adapted. Disadvantage: prone to suckering.

Myrobalan 29C has a shallow but vigorous root system. Tolerates wet soils, but good drainage is still required. Immune to root-knot nematodes, with some resistance to oak-root fungus. For apricots, plums.

Nemaguard is a standard root stock for nectarines, peaches, apricots, plums, prunes, almonds. Vigorous. Resists root-knot nematode. Excellent for well drained soils. In heavy or poorly drained soil, plant on mound or hill. May not be winter hardy below 5°F. Unpruned tree height of standard varieties 15-25 ft., size can be controlled further with summer pruning.

Rootstock continued...

Rootstock continued...

OHxF333 will dwarf European and Asian pears to about 2/3 the size of standard, or about 12-15 ft. Widely adapted, disease-resistant.

Temperate Fruit Tree Planting Tips

Keep trees sufficiently watered until planting time.

Remove from container and plant as soon as possible to prevent the occurrence of root circling in the container. Root circling can happen in a short time and will be detrimental to the health of the tree.

Trim away any broken or circling roots before planting.

Plant tree so that first lateral roots are just under the soil line when planting is finished.

Mulch after planting, but keep the mulch pulled several inches away from the trunk.

Remove any blooms or fruit when the tree is planted to ensure a stronger tree in the long run.

Monitor moisture levels and hand water as needed, especially during periods of heat and drought.

Your tree will need 6-8 hours of sun daily.

Avocado Care

For their first few years, avocados need protection from winter cold and from extended hours in direct sun. For this reason, we recommend you keep Avocados as container plants making this process easier.

Protection from the sun: Avocado trees have almost no brown, woody bark as immature trees. The main branches and stems are bright green and help photosynthesize to provide food and energy for your tree, just like the leaves. This green tissue is very susceptible to sunburn. Young trees do not have enough leaves to shade this bark and require special care during the first year or two.

One option is to paint the green trunk and main branches with a whitewash of 50% water and 50% white, latex paint. Do not paint the leaves. Reapply as needed.

Another option is to build a simple structure of metal, wood, or PVC to which a cloth can be attached that will keep the mid-day and afternoon sun off the trunk. This will aid in shade and wind protection.

In two to three years bark will form and the tree can safely be planted.

Avocados must be planted where they have good drainage, which is preferably on a berm or in a raised bed.

Avocados ripen after harvest.

Citrus Root Stock

Trifoliolate Orange root stock is well adapted to heavy, poorly drained soils and is extremely cold hardy and drought tolerant once established. It's a great rootstock for the Houston/Gulf Coast area.

'Flying Dragon' Trifoliolate Orange root stock is the dwarfing form of Trifoliolate orange. It has all the same qualities of Trifoliolate orange except that citrus grafted onto it averages only 6'-8' in height. It is great for a small garden, in a container, or useful in highdensity plantings. Very cold hardy.

Carrizo and West Indies root stocks are more tolerant of soil salinity, but less tolerant of cold temperatures. Trees on Carrizo are nematode resistant, faster growing, and produce higher yields and larger fruit.

Volkameriana is a Rangpur type, but with characteristics similar to Rough Lemon. Of Italian origin and thought to be a variant of a mandarin lime. Also known as 'Volkamer Lemon'. Good vigor and drought tolerance. Produces larger tree with higher production than sour orange rootstock. Salt tolerant.

**Did you know citrus trees are host plants
for the giant swallowtail caterpillar?**

Citrus Planting Tips

Young trees can be susceptible to freeze damage so citrus trees that are purchased in fall or winter should be kept in the pots and protected until all danger of freezing temperatures has passed. Plant in an area that receives at least a half day of full sun. The more sun the tree receives each day, the better the production. If possible, plant trees on the south side of a house or building where they may get protection from winter winds. Plant in existing soil without amendments, and make sure the graft union is several inches above the soil line.

When planted, water every day for a few days and then reduce watering to once a week unless it rains. Continue to monitor soil moisture levels and provide water as needed.

TIP: Satsumas are generally cold hardy to the low 20s. Best when picked just after orange coloring begins to appear on the skin. Do not wait until they are fully orange or the best flavor may be lost.

How Often to Water

Depends on your soil type. Sandy and Clay soils have pros and cons

Sandy Soils have

Clay Soils have

Good drainage but

Poor drainage but

Poor nutrient retention

Good nutrient retention

So, your watering schedule for newly planted trees should be:

Watering cycle

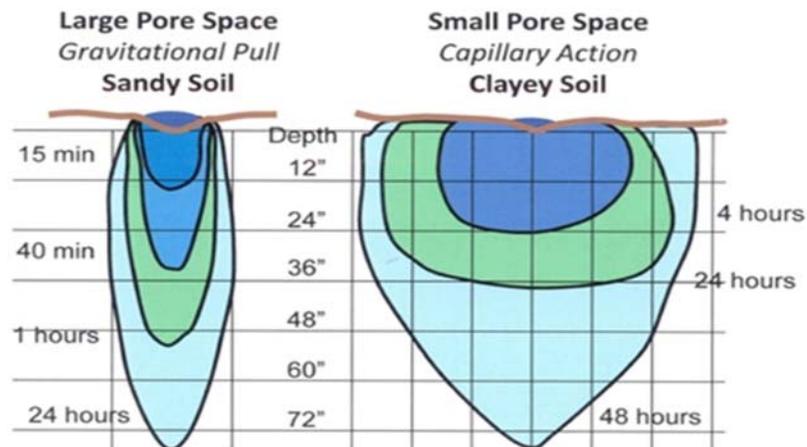
Watering Cycle

Short Interval

Wide Interval

Short duration

Longer duration



Growing Fruit Trees in Containers

If choosing to grow your fruit tree in a container rest assured, it's easy to do provided you follow a few suggestions.

Choose a container

When choosing a container for citrus 15 gallons is the maximum you need. If the container does not drain well, insure adequate drainage by drilling more holes on the sides and bottom.

Choose the soil

Invest in a well-drained potting soil or soil-less mix. Use a slow-release fertilizer such as Osmocote. Be sure to follow label directions. This slow-release fertilizer application should be done as directed on the label beginning in the spring (March). Watering is gauged by plant size and temperature.

Choose the site

Locate your tree so it gets 6-10 hours of direct sun daily preferably with morning sun and afternoon shade.

Root pruning

Every 3 - 4 years, trees will outgrow their containers. This is usually signaled by leaf shed or browning and twig dieback which is not related to drought stress. You have two choices: Move the tree to a larger container, or lift the plant out, prune the roots and put it back in the same container. If using the same container, lay the container on its side and slide out the plant, cut about a quarter of the roots or about 2 - 3 inches off, return to the container and add new soil keeping the tree raised to the same height. Prune at least a third of the foliage off at this time.

CITRUS QUARANTINES

Citrus Greening

Citrus greening disease, or Huanglongbing (HLB), is considered to be the most destructive disease of citrus. It is endemic in large parts of Asia and Africa, and has recently invaded the Americas.

It is caused by a bacterium which is transmitted by insects called psyllids. There is no cure for greening, and the lengthy latent period after infection makes eradication almost impossible. The disease is now in Brazil, Cuba, Belize, southern Mexico and six US states (California, Florida, Louisiana, South Carolina, Georgia, and Texas).

The list of host plants for citrus greening (HLB) disease is quite extensive and includes all species in the genus Citrus—all citrus types and all citrus varieties.

Report Your Tree If You Suspect It To Be Infected!

- Texas A&M AgriLife Extension – Fort Bend...281-342-3034

Website: <http://fortbend.agrilife.org>

- Fort Bend County Master Gardener Hotline – 281-341-7068

Email: FortBendmg@ag.tamu.edu

- Texas Department of Agriculture...1-800-835-5832
- TDA Gulf Coast Regional Office...713-921-8200

For additional information:

www.aggie-horticulture.tamu.edu

www.citrusalert.com

www.saveourcitrus.org

Citrus Canker Disease

What is it?

A serious disease where there is frequent rainfall and warm temperatures during shoot emergence and fruit development. Optimal temperature for development range from 68-86F. Disease causes leaf-spotting and fruit rind-blemishing, defoliation, dieback and fruit drop. The Asiatic form, Canker A, is the most widespread and severe form of the disease.

How does it spread?

Bacterium enters plant tissue via wounds. Water/rain causes canker to ooze, picked up by wind, blown to next tree with a wound. Leafminer gallery is most common point of entry. Affects new growth and up to 90 days after petal fall. Also transmitted by tools, hands, clothing, machinery, and by moving plants and fruit between locations.

What you can do:

Sanitation Practices – Rake up fallen leaves, branches, twigs, and fruit. Double bag and do not compost, send to landfill (NOT green waste collection).

Avoid Wounding – No unnecessary pruning or damage by landscape equipment. Minimize bird, rodent, or insect damage to trees and fruit.

What does this mean for the homeowner growing citrus?

Do not move citrus plants into or out of the quarantine zones.

Inspect your trees regularly and use good sanitation practices.

Online Resources

For more information on varieties, planting and maintenance of your fruit and nut trees, Texas A&M AgriLife Extension Service has a number of publications available including:

Aggie Horticulture:

<http://aggie-horticulture.tamu.edu>

AgriLife Extension Bookstore:

<http://agrilifebookstore.org/>

Fruit & Nut Disease Control Products

<https://www.agrilifebookstore.org/Fruit-and-Nut-Disease-Control-Products-p/e-17.htm>

Tropical Fruits (banana, mango, papaya, etc.):

<https://aggie-horticulture.tamu.edu/fruit-nut/>

Pruning Fruit Trees:

<http://gardeningsolutions.ifas.ufl.edu/care/pruning/pruning-deciduous-fruit-trees.html>

Propagation Resources:

<http://aggie-horticulture.tamu.edu/propagation/propagation.html>

Texas Citrus Website:

<http://kcc-weslaco.tamu.edu/>

Citrus Greening:

<http://www.texascitrusgreening.org/>

<http://saveourcitrus.org/>

For additional information or to receive printed copies of a Texas A&M AgriLife Extension Service publication, please contact the Master Gardener Hotline at 281-341-7068 or FortBendMG@ag.tamu.edu.

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