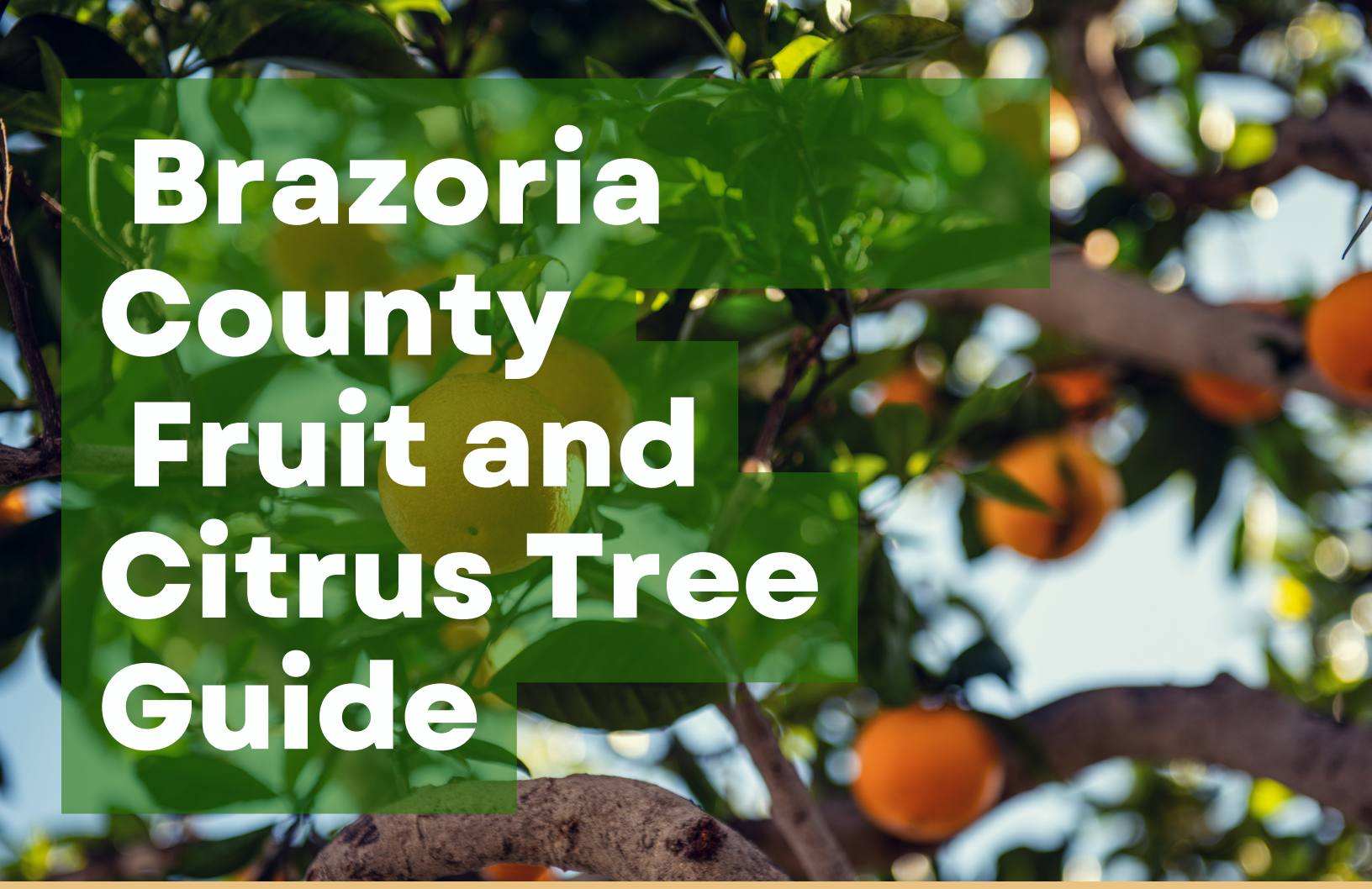

Brazoria County Fruit and Citrus Tree Guide

TEXAS MASTER GARDENER
TEXAS A&M AGRILIFE EXTENSION
Brazoria County

TEXAS A&M AGRILIFE EXTENSION

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FOREWORD

The Brazoria County Master Gardener Association is a volunteer support program of Texas A&M AgriLife Extension Service and is a 501c3 charitable organization under IRS statutes. Funds derived from programs and fee-based workshops support the Brazoria Environmental Education Station (BEES) education and demonstration garden located in Angleton, Texas, and Brazoria County AgriLife Extension horticulture programs.

BEES garden is open to the public on select annual programming events. Demonstration bed themes include herbs, native and adapted plants, Texas Superstars, fruit orchard, roses, tropical ornamentals and more.

Brazoria County Master Gardeners strive to provide the public with sound research-based information to support public effort at gardening success. The contents of this brochure utilizes multiple resources from leading agricultural universities, Texas and other state and national organizations.

Thanks to you for your continued support!

TEXAS MASTER GARDENER
TEXAS A&M AGRILIFE EXTENSION
Brazoria County

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APPLE

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The old adage "you get what you pay for" is an important consideration when buying apple trees. Bargain plants may not be healthy or may be a variety not adapted to your area. Buy only trees of recommended varieties from a reliable source.
Remember the following points when purchasing apple trees.

- A healthy 1-year-old whip, approximately 2 to 3 feet tall with a 1/2-inch diameter trunk and a good root system, is preferred.
- A small tree with a good root system is more desirable than a large tree with a poor root system.

Anna — Light greenish-red, sweet, slightly tart and crisp apple. Adaptable in the Houston area. Fruit stores well.
Harvest in late June. Cross-pollination includes 'Ein Shemer' and 'Golden Dorsett'. 200-400 chill hours average.

Fuji — Yellowish green with a blush of orange, interior color a creamy yellow-orange. A very attractive modern apple, crisp, sweet-flavored, and keeps well. Developed in the 1930s by researchers in Japan, a cross of Red Delicious and Ralls Janet brought to American market in 1962. Self-fruitful, also a recommended pollinizer for other mid-season apple varieties. Ripens from late August through October. 200-400 chill hours average.

Golden Dorsett — Originated from the Bahamas. Golden with red blush. The firm, crisp flesh is very sweet and tart at the same time. Fruit are slightly smaller than ‘Anna’ and resembles ‘Golden Delicious’. This characteristic makes it a superb choice when making pies, desserts and sauces. Well known for holding its flavor during any baking or cooking process. Ripens from mid-June to mid-July. Cross-pollination includes ‘Anna’ or ‘Ein Shemer’. 100-350 chill hours average.

Apricot

The apricot, *Prunus armeniaca*, is closely related to plum botanically and culturally, and is thought to have originated in Armenia. Apricots are small trees with a spreading canopy. It is not uncommon to find trees that are 25 to 30 feet in height and width. The fruit is similar to a small peach, ranging from yellow to orange and often tinged red on the side most exposed to the sun. Its skin is smooth but can be covered with very short hairs. Apricots are self-fruitful; they do not require a pollinator.

Gold Kist- These plum-sized, orange, freestone fruits, originally from California in the 1960's, are the first apricots to ripen each season. The firm orange flesh is delicious eaten fresh or dried. What a great way to extend your harvest!
Only 300 chill hours needed to reliably bloom and set large quantities of fruit.
Especially well-suited for warm climates. Blooms early; not for growers with variable spring weather.

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AVOCADO

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The avocado tree is a large evergreen that has thick, deep green-colored leaves. Avocados need special care for their first year. It's best to plant them in a raised bed to prevent their roots from staying too wet. For the first several years cover with a shade cloth in summer to decrease sunburn on the trunk. Avocado roots are shallow so mulch heavily.

Cold hardy avocados produce blooms beginning in mid-February. Late frosts will cause bloom drop. Covering avocados will prevent frost from reaching the blooms. The flowering habit of avocados is unique in that the flowers are perfect, having both male and female organs, but the parts do not function together. Flowers of **type A** varieties open in the morning as receptive females, then close in the afternoon until the following afternoon when they reopen for pollen shed. Flowers of **type B** avocados open in the afternoon as receptive females, close overnight and reopen the following morning to shed pollen. In important avocado-producing areas, orchards are interplanted with varieties of both types to assure good pollination. However, under South Texas conditions, there is sufficient overlap between the phases of a flower type that pollination and fruit set are rarely a problem

Brazos Belle—Originated in Pearsall, Texas. Very vigorous growing tree that produces large, shiny, black skinned fruit. Hardy to mid to upper teens. Ripens August-September.

Don Juan ™ —Produces good sized fruit with a speckled green skin. The flesh is of exceptional quality. After years of maturity, it may reach 23 feet tall. It is cold hardy to mid-10° F.

Fantastic- One of the most cold-hardy avocado trees! Originating from Texas, the Fantastic Avocado tree is a more cold-tolerant variety that bears fruit with creamy smooth. The skin is dark and bumpy, with thin skin that remains green when ripened, unlike the black/purple Hass.

Joey ™ — Found by Joey Ricers in Uvalde, TX. Small egg-shaped fruit, with a dark purple skin and flavorful nutty flesh. Ripens from August to October. Extremely cold hardy, to 15-18° F.

Lila — Originated in Uvalde, Texas. Tight growing, vigorous tree. Medium pear shaped fruit, rich flavor, green skinned. Ripens August - September. Hardy to mid-teens.

Mexicola Grande — The fruit is 15% - 25% larger than Mexicola and somewhat rounder in shape. Turns a deep purple-black at maturity. The flesh has a rich creamy texture. Its flavor is rich, nutty and smooth. A consistent large bearer. Medium size and weighs an average of 4-6 ounces. Ripens from August to October. Hardy to mid-20° F.

Pancho — Medium to large green with red blush, 6-8 oz fruit. Rich nutty flavor. Ready to give fruit the first year, ripens from mid July- September. Another extremely cold hardy variety from Texas, to 15-18° F.

U-la-la - Super Hass Avocados are a dwarf variety, which make them great container plants. The fruit is very similar to the Hass Avocado, except this variety is larger and has a longer shelf life. A single fruit can weigh over a pound and the tree grows to reach just 8 feet indoors, or 15 to 20 feet when planted.

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BERRIES—BLACKBERRY

Blackberries are an excellent fruit plant for Texas home landscapes. They are relatively easy to grow in small areas, they tolerate hot Texas summers well, and they bear good fruit in spring, summer, and fall. Although blackberries have some challenging diseases and insect pests, they produce well for growers.
Blackberries have two types of canes: primocanes, which grow during the current season which are 1-year-old, flower-bearing canes that die after the berry crop matures. Cultivated blackberries are classified into two fruiting types:
• Floricane-bearing, which flower and set fruit only on floricanes
• Primocane-bearing, which flower and set fruit on primocanes late in the growing season, and then bear on floricanes also the following spring

Caddo- Caddo is the latest in a series of erect-growing, high quality, productive floricane-fruiting black berry cultivars. Size has been larger than both Osage and Ouachita, holding size through the harvest season. Hardiness is anticipated in zones 5–9.

Natchez — Released in 2007 by University of Arkansas. A Texas Superstar plant. Erect, thornless canes.
8-9 grams/berry. High fruit quality, consistently high yields, large fruit size and excellent post harvest fruit-handling. Superior fruit for making pies. Ripening begins in early to mid-June for 6 weeks. 500 chill hours.

Osage- Osage was developed with the intention of advancing flavor to a higher level in Blackberries. Osage ripens 5 days after Natchez around June 10, three days earlier than Ouachita. The berries are medium size and very firm with excellent flavor, good yielding and has an excellent storage potential.

Prime Ark Freedom — Brand new release from University of Arkansas, the first thornless, primocane-fruiting blackberry. Fruits very early in the season; where the climate is suitable, fruits again in the fall. Exceptional fruit size, good flavor, excellent disease resistance, great heat and humidity tolerance. Self-fertile and ideal for growing organically at home due to very little need for a spray. Kids love it fresh, right from the canes. ~200 chill hours.

BERRIES—BLUEBERRY

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The Brazoria County Master Gardeners have been growing “blues” at the B.E.E.S. (Brazoria County Environmental Education Station) Demonstration Garden for several years. Blueberries are one of the few fruits native to North America. Only highbush and rabbiteye blueberries are recommended for this area. Southern highbush blueberries are the earliest blueberries to ripen in North America. Berry yields of 2-5 pounds per plant can occur by the third or fourth year, provided pollination is good. Yields increase up to 7-8 years of age.

Blueberries should be spaced at least 20 feet from any building. Space plants 8-10 feet between each other. Soil pH needs to be 4.0 to 5.5; very acidic. Soil can be acidified by thoroughly mixing a small amount of granulated sulfur into the soil before planting and/or mixing soil and planting with sphagnum peat moss. Fertilizers produced for azalea's can be used to maintain soil acidity. Blueberries need companion species to ensure pollination; two plants are recommended. 150-300 chill hours average.

Climax - Climax blueberries are a medium-sized, dark blue berry which ripen in late spring and early summer. These rabbiteye berries are perfect for eating fresh, cooking, baking, drying, or freezing. They can be used in juices, jams, and jellies. The plant has an upright form and tolerates the heat and humidity of the southeast. It grows 3-15 feet tall and 3-10 feet wide and should be planted in full sun with sandy to loamy soil. It needs a pollinator such as Tifblue or Austin. Climax blueberries require 400-450 chill hours.

Emerald — Southern highbush. Released in 1999 from University of Florida. High yield crops with large berries. Spreading growth habit. Yield/plant is 5-10 pounds when mature. Early bloomer. Cultivar 'Misty' is a good companion plant for cross-pollination. 250 chill hours average.

Jewel — Southern highbush. Upright bush 6-ft to 8-ft tall with green foliage in fall. Large tangy berries. Dependable in mild winter climates. Berries ripen late April to early May. Plant with other mid-season fruiting blueberries for best performance. 200 chill hours.

Premiere - Premier's fruit has excellent flavor, light blue color, and a dry scar. Highly productive. Fruit ripens late May to early June. These rabbiteye berries are perfect for eating fresh, or freezing. The fruit has a good firmness, flavor and shelf life. The plant has an upright form and grows 6-8 feet tall and 6-8 feet wide. It should be planted in full sun with sandy to loamy soil. Premier needs a pollinator such as Austin or Alapaha. Premier blueberries require 550 chill hours.

Tifblue- Rabbiteye blueberry. A deciduous shrub that is known to produce large and flavorful berries. Native to Texas and can be found in many parts of the state. Grows to be about 6' and produces fruit up to one inch in diameter. The berries are a deep blue color and have a sweet flavor. Requires cross-pollination in order to bear fruit. Pair with "Pink Lemonade", "Brightwell" or "Powder Blue". Chill hours 550-600.

BANANA

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Banana is a tropical plant which grows best under warm conditions. Frost will kill the leaves; temperatures in the high 20s can kill the plant to the ground. In the lower Rio Grande Valley and other protected areas, the plant will regrow from below ground buds. In colder areas where banana is used mostly as an ornamental, new plants are obtained and planted each spring.
The leaves are tattered badly by strong winds, rendering the plant less attractive. Strong winds, in conjunction with saturated soil and the weight of a stem of fruit, can result in significant blow down unless guying or other protection is provided.

Ice Cream - Also known as The Blue Java, the Ice Cream Banana tree is a hardy, cold-tolerant banana tree known for its sweet fruit, which has a vanilla-like custard texture and taste. Popular as an ornamental plant, this tree has silvery-green leaves with bluish-green fruit – a beautiful indoor or patio plant.

CITRUS

CLICK HERE

Citrus are productive fruit trees for the homeowner, especially in Brazoria County. The fruit begins to mature in October. On average, one can pick and eat fruits into February each year. Citrus stores well on the tree, and is easy picking through February. Any residual fruit that you have not given away can be made into glazes and delicious marmalades. One concern for home gardeners is the survival of trees after “hard freezes”. Our working definition of a hard freeze is freezing temperatures lasting at least 3 continuous days. Brazoria County has had hard freezes in 1989, 2010, February of 2021 as well as December of 2022. During 2021, temperatures of 17* F to 42*F for 72 continuous hours were reported. The gardeners in this area use trifoliate orange (C. trifoliata) as the rootstock of choice. (see more on rootstock in the reference section). Trifoliate orange is much more cold tolerant than citrus coming from the Rio Grande Valley where they use ‘Sour Orange’ for rootstock. Miniature or dwarf citrus is achieved by grafting onto rootstock called ‘Flying Dragon’, a cousin to C. trifoliata.
All citrus require full sun. Some citrus tree seeds can grow true to parent, producing the same fruit you currently enjoy; you will, however, wait 6-7 years to eat your first fruit. It is recommended to get a grafted tree and start enjoying fruit the next year after planting.

Rootstock options:

Trifoliata (Standard) - Tree will grow to around 6-9 feet high, and 6 feet wide. Best option if you have plenty of space, and want a full sized tree.

Flying Dragon (Dwarf) - Tree will grow to around5 feet high, and5 feet wide. Best option for growing in a container/pot, small garden, or for those who like a uniform, manicured citrus tree look.

The fruit produced on both rootstocks is exactly the same, as the grafted scion is from the same mother plant. These different rootstocks mainly control the tree size, but also both have pest, disease and cold resistance, and are the best for helping you grow citrus trees in our area.

CITRUS—GRAPEFRUIT

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Grapefruit was originally named the “forbidden fruit” of Barbados. They were developed from a cross of the pummelo (Citrus maxima) with a sweet orange (Citrus sinensis). These evergreen trees may achieve 10-12 feet tall in about 10 years with our coastal temperatures and soil conditions. Space 12 feet apart from other trees and the house. Excess fruit (not given to your neighbors) makes for top notch glazes. Texas red grapefruit was designated the official state fruit of Texas in 1993.

Bloomsweet — Also known as ‘Kinkoji’ in Japan, produces bountiful crops of large yellow and delicious fruit without the bitterness typical of grapefruit. Excellent quality. Believed to be hardy to less than 15-F. Easy to peel and segment. White flesh. Ripens throughout December.

Oro Blanco—UCR—Patented by U.C. Riverside; also called ‘Sweetie’. Cross of pummelo and white grapefruit. One of the sweetest of all grapefruits with white flesh. Plants at 12 years of age are 12-14 feet tall. Off the tree eating is a pleasant experience.

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CITRUS—LEMON

Improved Meyer — Not a true lemon. Scientists believe the varietal is a cross between a lemon and an orange. Frank Meyer, a plant explorer for the USDA, found them growing near Peking, China and introduced them to the U.S. in 1908. Called “improved” because of it’s resistance to citrus tristeza virus. Absolutely tasty in a homemade lemon pie. Matures in October, producing a tart taste as the fruit turns a rich golden color. The flavor mellows to an orange-like sweetness come January. May set fruit throughout the year. The standard form grows to approximately 8-ft to 10-ft; grafted onto Carrizo root stock.

New Zealand Lemonade — Discovered in New Zealand in the 1980s, hybrid of lemon and mandarin orange that tastes like lemonade. Large, yellow-fleshed fruit that is virtually seedless. Can grow to 8-10 ft tall.

Ponderosa Lemon — ‘Ponderosa' is not a true lemon, although its fruit are much like citrons (Citrus medica) and lemons. It was found as a chance seedling during the 1880's. Trees are rather small and somewhat thorny; its fruit are large with a yellow, thick and bumpy-textured peel. 'Ponderosa' is more sensitive to cold than true lemons. The impressive-sized fruits may be left on the tree for many months after they've ripened without a drop in the fruits' quality. Good zest lemon.

Ujukitsu — A 1950’s sweet lemon developed by grower Tyosaburo Tanaka from Japan. A hybrid between orange and lemon; often called “Lemonade on the Tree”. One can pull it off the tree, juice it, and it tastes like the best lemonade ever made. When mature, a single yellow-skinned jewel averages a half pound in weight. A pitcher of fresh “lemonade” is no problem.

Variegated Pink — A lemon cultivar with unique pink flesh, a green-striped rind when ripening, and variegated foliage; a unique ornamental when not in fruit. Discovered as a sport on a Eureka lemon tree in Burbank, CA in 1931. When fully ripe, the stripes fade, and the rind turns yellow with distinct pink oil glands. Low-seeded and very acidic.

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CITRUS—LIME

There are 2 majors our limes in world trade: Mexican and Persian (Tahiti). The best known and most widely cultivated is the Mexican or also called a ‘Key Lime’ (Citrus aurantifolia). The Mexican key lime, originating in Mexico, is smaller than your average grocery store lime. Much like the key limes found in the Florida keys, Mexican key limes have less juice. However, Mexican key lime juice can be more bitter than traditional limes or Florida limes. There is now a thornless variety available. Fruit can vary from the size of a large walnut to the size of lemons. Lime trees are extremely cold sensitive and cannot be expected to survive the freezing temperatures that occur through most of Texas unless special efforts are provided for freeze protection. Such protection is necessary even in the Lower Rio Grande Valley during major freeze events.

Key (Thornless) — Compact enough even for urban balconies and limited-space gardens. Begins bearing small, juicy, thick-skinned fruit at an early age! Even if there were no fruit at all, this evergreen would be attractive enough to grow as an ornamental. Mature fruit is small, green to yellow green ripening in July to December.

Mexican — Is more sensitive to cold than the lemon, and can be grown only in protected locations. Most homeowners prefer to pot in a large container which can be brought inside during freeze warnings. Blooms/fruits multiple times during the year which provides almost year round fresh fruit.

Persian (Tahiti) — The large, green, seedless limes found in your supermarket are the Persian lime (C. latifolia). The fruit is larger than the ‘Key Lime’, more resistant to disease and pests, and has a thicker rind. Commercially, they are picked slightly immature while they are still green in color (they turn yellow when fully ripe, and might be confused with lemons). The nearly thornless trees grow vigorously to a medium to large size with a spreading form and have white blossoms. Persian lime trees are more cold-hardy than Mexican lime trees.

CITRUS — CALAMONDIN, MANDARIN, SATSUMA, TANGELO, TANGERINE

CLICK HERE

Mandarin is a group name for a class of oranges with a thin, loose peel, dubbed "zip skin" oranges. "Tangerine" could be applied as an alternate name to the whole group, but is usually confined to the types with red/orange skin in the citrus trade. Some mandarins and satsumas may bear heavier one year and lighter the next. To reduce alternate bearing, thin fruits during heavy bearing years by removing some of the fruits while they are still small. Satsuma and tangerines tend to "plug" when pulled from the tree; the peel tears loose from the fruit and remains attached to the stem. Use a pair of clippers when harvesting any of the satsumas, mandarins or tangerines.

Honey Mandarin—Hybrid of a King Mandarin and a Mediterranean Mandarin. One of the tastiest petite citrus fruits. Small, sweet and virtually seedless. Tree produces fragrant, tiny white flower blossoms. Thrives in warm weather.

Page Mandarin—Hybrid of Minneola tangelo and Clementine mandarin. Small tree, does better in warmer climates. Small fruit, reddish-orange rind, easy to peel. Rich sweet flavor.

Shiranui Mandarin — Cross between Ponkan tangerine and Kiyomi tangor. Rind can be yellow, yellow-orange or orange with a bumpy texture. Flesh is orange with an acidic sweet taste, seedless. Crown is compact or dense. Likes partial to full sun and well-drained soil. Can grow to 4-8 ft. Ripens late fall to winter. Hardy to 25°F.

CITRUS — CALAMONDIN, MANDARIN, SATSUMA, TANGELO, TANGERINE continued

.**Brown Select** - This tree produced a medium sized, fruit that has a slightly bumpy rind. This seedless fruit has an extremely sweet flavor. They are very easy to peel and the fruits easily break off into segments. Brown Select Satsumas have a cold tolerance that extends to the mid-20s. They can be grown outdoors in USDA zones 9 - 11, or as a container-grown tree in other regions of the U.S. When temperatures of 26 degrees or colder are forecasted, this tree must be brought indoors. Brown Select Satsumas work great as a patio plant. .

Miho Satsuma — Large fruit with very good sweet flavor and few seeds. Limbs are more upright than most Satsumas. Extremely cold hardy. Ripens late September or early October.

Owari Satsuma — Medium sized, bright orange fruit, often with slightly bumpy rind. Extremely sweet, sprightly flavor and is seedless. Very easy to peel and breaks off into segments. Ripens mid to late October and is often ready to eat when the rind is still green. Fruit holds well on the tree until late December/early January. The primary satsuma cultivar commercially grown worldwide. Typically grows to 8 feet. Cold hardy to 12 to 15-F.

Silverhill Satsuma - Easy peel, seedless and juicy. This Satsuma variety is one of the most common for the home gardener, and orchards alike. It is an easy care, hardy tree that will tolerate varying climate conditions better than some other mandarin varieties. A great variety for cooler climates.

Xie Shan Satsuma — Early ripening variety with rich flavor of the late ripening varieties. Seedless, easy to peel with a super sweet flavor. Grows more upright than most Satsuma varieties, fits into tighter spots in small gardens.

CITRUS — CALAMONDIN, MANDARIN, SATSUMA, TANGELO, TANGERINE continued

Mineola Tangelo — Cross between a Duncan grapefruit and a Dancy tangerine. Sweet, mildly tart, juicy winter fruit with few seeds. Fruit is slightly bell-shaped with bright reddish-orange skin that is easy to peel. Blossoms are self-incompatible and must be cross-pollinated by a suitable pollinator. Tends to be cold hardy.

Dancy Tangerine—Originally grown from the seed of tangerine varietal 'Moragne' around 1867. Easily peeled, tasty red/orange fruit. Alternate bearing, nearly thornless, upright growth habitat. Fruit matures around December-January.

CITRUS—PUMMELO

Pummelo is the largest of all citrus and parent of grapefruits. Native of Asia. Pummelos are similar to grapefruit; however, are much larger and sweeter.

Nam Roi — Recently imported from Vietnam. White flesh, very juicy. A 7-inch fruit can fill an 8 oz glass. Most adaptable citrus to both tropical and subtropical climates such as we have in Brazoria County.

CITRUS—Sweet Orange

CLICK HERE

Sweet orange cultivars can be categorized into four distinct groups: round oranges, navel oranges, blood oranges and acid-less oranges (small group). Red pigmentation varies with climate and can be intense when blood oranges are grown in regions with large diurnal fluctuations in temperature.

Cara Cara — Discovered at the Hacienda de Cara Cara in Venezuela in 1976; did not enter the U.S. market until the late 1980s. Red fleshed. This medium sized fruit is sweet and low acid. Flavor is more complex than most. Produces annually.

Cara Cara Pink Navel - Cara Cara navel oranges are a medium size with yellow to orange skin and sweet pink or light red flesh. This tree needs winter protection when the temperatures go below 32 degrees. Can be grown in a container for your porch or patio and brought inside or protected during freezing weather. Plant in full sun in well drained soil. Hardy in zones 9-11.

Hamlin Orange — One of our most cold-hardy (18° F) of the sweet oranges. Records indicate this orange has been grown since 1885. Early-ripening orange matures 12 to 14-ft and 8 to 12-ft wide. Fruit is thin-skinned, has a few seeds with a delicious tangy sweet flavor. Excellent juiced or for fresh eating. Fruit ripens October to November and is a self-pollinator. One Brazoria Co. Master gardener has grown Hamlin for 25 years.

Moro Blood — The Texas mid-coast has a good temperature variance, producing a rich “redness” for the flesh of this variety. Small-medium with a thin orange rind becoming bright red blushed at maturity. Flesh is juicy with few seeds and can range from light orange/red early to red later in the season. Flavor is rich and distinctive at peak maturity with a very distinctive aroma. Ripens early to mid-January. Holds well on the tree until March.

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N33 Navel – Also known as ‘Bond N33’; Texas selection of a mutation off of ‘Marrs’ orange. Similar to ‘Washington’ navel. The fruit of the N-33 Navel Orange tree is a lovely orange color, delicious, easily peeled, seedless fruit. It is produced on a medium sized tree. Matures about Thanksgiving to early December.

Republic of Texas – First citrus reported in Texas at Angleton (1847). Produces a nice size orange, very sweet, juicy, highly flavorful and slightly seedy. Grows to 15-ft x 15-ft. Survived the 2010 severe freeze when temperatures were below freezing for 42 continuous hours down to 19° F.

Sanguinelli Blood – Nearly acid free sweet orange with pink flesh. Small to medium size tree at maturity with round form, seedy. Because of lack of acidity, the fruit can be eaten as early as late fall or early winter. Cold tolerant to 22° F.

Taracco Blood – Native to Italy. Flesh color is deep red. Largest fruit size of the blood oranges. Orange rind and flesh develop a red blush when ready. Grows best in warm climates like coastal Texas. This plant is suitable for growing indoors in containers. Self fertile.

Valencia – Imported into California by 1876. Considered a sweet orange and are juicier than most other varieties. Largest planted citrus in the world, often called “the orange juice of the world”. The fruit is almost seedless with only a couple of seeds. Most common orange juice in any supermarket.

Valenica Rhode Red - If you're looking for an orange full of fresh, flavorful juice, then look no further than a Rhode Red Valencia Orange. Grown specifically for their juicy content, these oranges will satisfy your craving for a succulent, juicy fruit. The Rhode Red is less acidic and produces more juice than a regular Valencia Orange.

Growing Citrus in Containers

CLICK HERE

The easiest and surest way to avoid potential freeze injury to citrus plants is by planting trees in containers that can be rolled into a protected area at the onset of adverse weather. Citrus are very special plants. Not only are they beautiful evergreen plants with lush, green foliage, but they have heavenly fragrant blooms in the spring and delicious fruit in the fall.

Though the satsuma is technically a small tree, its size can be dwarfed even more when it is containerized. Most people lose their citrus trees in the first or second year of the tree's life. It pays to protect these small trees during 25 degrees F. or lower freezes. This can be easily done during extremely cold weather by covering completely with a two-layer combination of a blanket and then plastic. Remember to uncover the next day after the temperature has been above freezing for three hours. Once established, citrus trees can tolerate lower temperatures and recover more quickly from freezes. To "winterize" your tree, never fertilize after July as this promotes late, tender growth that is susceptible to freeze damage. When deciding where to put your tree for the winter, choose a microclimate which receives as much sun as possible and is sheltered from northern winds.

Invest in a well-drained potting mix (soil) to fill the container. Use a slow-release fertilizer such as Osmocote. Be sure to follow label directions. This slow-release fertilizer application should be done yearly in the spring (March). Plant one satsuma or citrus tree in the middle of the container. Annual flowers can be used in the container as an indicator for when to water the container. Citrus should be grown in a location which receives as much direct sun as possible. Watering is gauged by plant size and temperature. Larger citrus with more perimeter color plants require more frequent watering during hot, dry conditions.

When choosing a container for citrus, the larger, the better. Use a large container such as a whiskey barrel or 20-gallon container. If the container does not drain well, insure adequate drainage by drilling or
cutting holes in the bottom. If using a wooden container, attach heavy-duty coasters to help mobility. Container citrus should be pruned to maintain a balanced shape, and to keep fast-growing limbs from
outgrowing the top of the tree.

COFFEE-ARABICA

CLICK HERE

Coffee arabica, also known as the Arabian coffee; believed to be the first species of cultivated coffee and is the global dominant cultivar. Evergreen shrub with glossy, dark-green leaves on willowy stems. Best grown in containers or outdoors in protected area from cold temps. Best with filtered sunlight and maintain a moist, well-drained acidic soil (pH range from 5.5 – 6.4), very similar to blueberry or azalea production. Fragrant spring blossoms, producing coffee beans.

Crabapple

CLICK HERE

The buds are a glowing pink, opening in April to May to sweet, fragrant soft-pink flowers that fade to pure white. The fruit are little green to greenish-yellow crabapples that mature in early fall. They are so tart as to be inedible (to humans), but are sometimes made into jellies.

Profusion - The Profusion crabapple tree is a front yard stunner with its springtime crimson flower buds that bloom into bright purple-pink flowers. The leaves themselves are a coppery red color. This tree is extremely hardy. Great apple pollinator.

Spring Snow - 'Spring Snow' Crabapple is unusual in that it is typically fruitless. Its use should be limited in areas where scab, fireblight or rust is a problem. The dense, oval crown grows to about 25 to 30 feet tall and 15 to 20 feet wide. Early pruning to remove lower branches and purchasing tree-form specimens at the nursery can usually ensure that pruning requirement can be kept to a minimum. Great apple pollinator.

FIG

CLICK HERE

Figs are deciduous fruit trees. They can grow taller than 15 feet and wider than 12 feet. When planting, space them 10-20 feet from other trees. They may produce figs in 1-4 years after planting. Figs grow best in full sun, with a western or southern sun exposure. Containerized figs have the same requirements, but must be watered more often. Fig rust may cause trees to defoliate. Figs are heat tolerant but can have cold sensitive branches. If branches are frozen, fig trees will re-sprout from the plant base next spring.

Black Mission—A large fig with purple-black skin and light strawberry pulp. First heavy crop in early summer and average main crop in late fall. Very vigorous growing but not very cold hardy. Has some problems with leaf mosaic but does not affect the fruit. One of the better figs for mild winters. Its large size and rich taste make it a premium fig. Good either fresh or dried.

Brown Turkey — Also called 'Texas Everbearing'. Considered to be a ' standard ' in many a yard. Expect at least two harvests each year. Rich and savory fruit, perfect for snacking fresh off the tree. This fig is easy to propagate; stick the end of a young suckering stem into some rooting hormone, then place it in lightweight potting mix. The Brown Turkey Fig has the longest ripening season of recommended varieties; the breba crop ripens in May; the main crop ripens in late June and continues to ripen into August. Moderately closed eye.

Celeste — Medium-sized, sweet fruit with amber pink flesh. Heavy bearer that ripens in early July. Excellent for eating fresh, canning and preserving. Heat tolerant and self-pollinating. Prefers full sun and well-drained soil.

Hardy Chicago—Small to medium size fruit. Light brown skin and strawberry pink pulp. Very cold hardy.

Little Ruby - These cute, bite-sized figs are red-fleshed and super-sweet. Kids go wild for them, so dry plenty of them for nutritious snacks. Also delicious fresh, and quite a conversation piece as an appetizer. Excellent for growing indoors, in the greenhouse or on a patio.

LSU Purple — Flavor is excellent and mild with a high sugar content. Has a closed eye and resists spoilage. Light amber to light strawberry red flesh. Very vigorous upright grower and hardier than most fig trees. The fruit are about two to two and a half inches long. Very reliable and excellent in the ground or container grown. Great for the Gulf Coast and surrounding areas.

Olympian — Discovered in Washington State and introduced in 2014. Produces two crops of green and purple striped fruit with sweet, violet flesh that is excellent for fresh eating, canning or drying. Produces huge fruit (as large as a tangerine) and is extremely cold hardy.

Texas Everbearing- With this variety there are a lot of conflicting opinions. Some say it is the same variety as "Brown Turkey" and some say that it is similar but not the same variety. There are three differences: 1) the flesh is more amber in color, 2) the leaves have three lobes, and 3) the shape of the tree is more upright instead of broad-spreading. It has the same cold hardiness and the fruit are nearly the same in taste. It bears well and with good growing conditions, it will bear two crops a year. The early crop ripens in late May to late June and the second crop in late September to early November

GOJI BERRY

Goji Berry — Contains highest concentrations of melatonin, third-highest antioxidant capacity of any common dried fruit. Also has a specific antioxidant pigment zeaxanthin. When eaten, zeaxanthin is shuttled into our retinas and is reported to protect against macular degeneration. Thorny and sparsely arching stems. Plant in fertile, well-drained soil. Full sun is best, tolerates some shade. Water well the first year of growth, quite drought-tolerant after established. Flower and fruit throughout the summer until first frost. If left unpruned, they can grow as tall as 10-13-ft with a spread of about 4 ft.

LOQUAT

Japanese Plum Loquat — Unusual among fruit trees, flowers in autumn or early winter, and fruits ripen in late winter or early spring. Fruits are at their sweetest when soft and orange. The flavor is a mix of peach, citrus and mild mango. The loquat tree is hardy in USDA zones 8 and above, and will flower only where winter temperatures do not fall below 30° F. In such areas, the tree flowers in autumn and the fruit ripens in late winter. White/near white blooms on tree which matures at 20-30 feet; fruit grows in clusters of 4—30. Cold hardy to 10° F.

OLIVE

The olive is an exotic fruit crop in Texas. Olives are native to the Mediterranean Basin, which usually has mild, rainy winters and hot, dry summers. In contrast, Texas sometimes has severe winter freezes that can kill olives to the ground. The best olive production and quality occur where conditions are similar to those in the Mediterranean: mild winters and long, warm, dry summers. The tree's growth begins in the spring after average temperatures rise to 70°F and continues until temperatures drop below that point in the fall. Unlike many other temperate fruits, olives are evergreen trees that do not experience a winter dormancy period.

Arbequina — The Arbequina Olive is recognized for its aromatic ripeness, low bitterness, pungency and stability. Self pollinating, low polyphenol content, small fruit and cold hardy. Oil is very sweet with a delicate almond overtone; the fruit can be brined also.

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PEACH AND NECTARINE

Peaches are the leading deciduous fruit crop in Texas. They take 3 to 4 years to reach full production. Although they are a long-term commitment, one peach tree can potentially produce 50 to 100 pounds of fruit each year**.** Ideally, prune peaches just as the buds swell enough for you to start to see pink. Peach trees fruit on one year old wood so they
an be pruned rather hard. Remove about 40% of the tree each year to encourage new growth for annual fruit production. Remove diseased fruit to decrease incidence of infection. Do not plant in poorly drained area; peaches hate “wet feet”. Peaches can live up to 20 years. Nectarine have smooth skin, cultivate same as peaches.

Eva’s Pride - The Eva's Pride Peach is a delicious, fine flavored peach with very low chill hours needed. Ripens in June, Medium to large freestone Peach.

May Pride Peach — Add this delicious tangy, sweet yellow semi-clingstone prize to your collection. Showy pink blossoms and large, red fuzzy fruit. Very early ripening for our coastal area. Self-pollinating. 175-200 chill hours.

Mid Pride- Best yellow freestone for warmer climates like Houston. Exceptional flavor. Self-fruitful, heavy bearer and disease resistant. Grows to 15' tall. Likes full sun and moist, well-drained soil. Harvest mid-July. 250 chill hours.

TexKing Peach — Texas A&M introduction. Large fruit with firm flesh. Clingstone. Produces good sized crop. Ripens in May. Self-pollinating. 450 chill hours.

Tropic Snow Peach — Excellent tasting, white-fleshed freestone. Pale yellow skin with red blush. Large fruit ripens in May. Self-fruitful. 150-200 chill hours.

Panamint Nectarine - Attractive bright red-skin with yellow freestone flesh. Aromatic, intensely flavored, nice acid-sugar balance. Dependable, long-time favorite in warm winter climates. 250 Chill hours. Self-fruitful.

Sun Red Nectarine — Small to medium size fruit with a firm bright red skin and sweet yellow flesh. Semi-freestone that does well in warm winter areas. 200-300 chill hours. Early harvest.

Snow Queen Nectarine— Early, sweet and juicy freestone nectarine that is self-fruitful. Attractive pink spring flowers produce firm, red-tinged fruit with sweet white flesh. 200-300 chill hours.

PEAR

CLICK HERE

Pear trees can get taller than 25 feet. Most pears are deciduous and are cold-hardy. Pear production is best where two different varieties are in close proximity for cross-pollination (i.e. on the same half-acre). The skin ranges in color from green, yellow, red, brown, pink or a combination of these colors. Pear flesh is white, juicy and grainy in texture. Of all the deciduous fruit tree species, pears are the most tolerant of wet soil conditions. However, they perform best on deep, well-drained sites. Generally take more than 3 years to achieve full production. Asian pears have a distinct pear-like taste; however, they have a crisp texture, much like an apple. Many Asian pear varieties also appear shaped like an apple, giving them the nickname "apple-pears".

Acres Home — Outstanding pear for this area. Acres Homes is a “found” pear; first seen growing in a backyard in Houston’s Acres Home subdivision. Very large fruit with a traditional pear shape and a red blush on the sun-exposed side. Bears at three years. Pollinize with Southern Bartlett, Southern Queen, Meadows or Tennessee. Very cold tolerant. 300-350 chill hours.

Keiffer - Kieffer Pear grows large yellow fruit. Very cold hardy. Can grow up to 30 feet tall. Heavy bearer.

Southern Bartlett — Exceptionally juicy. Gets somewhat taller than ‘Acres Home’. Moderately fire blight resistant. Can use ‘Acres Home’ as a pollinator. 400 chill hours.

PERSIMMON*

CLICK HERE

A premier fruit that can be grown in the greater Houston area. Coloring is light yellow/orange to dark red/orange. The fruit can vary in size from .5 to 4 inches in diameter. Shape may be round, pumpkin-like or acorn shaped. This fruit is botanically defined as a berry. Though there are native persimmons, the Japanese varieties are favorites due to favored qualities for eating. Persimmons need full sun and no standing water. Persimmons are deciduous. Birds may be pests of the fruit.

Chocolate — Small to medium sized oblong fruit with bright red skin. Sweet, spicy and firm brown flesh with a few seeds when grown with a pollinizer, orange flesh and seedless without a pollinizer. Astringent until ripe. Bears in 2 to 5 years. Matures to 12 to 16-ft.

Fuyu — 'Fuyu' is the most popular persimmon cultivar in the U.S. Firm, medium-sized fruit. Skin is a deep orange color when ripe. Non-astringent; it can be eaten when unripe. Tomato shaped. About 2-4 seeds per fruit. Heavy and consistent bearer, reaching heights of 20 feet tall and 15 feet wide. Fruit ripens from September-October. Self-pollinating; however, can be used as specimen for cross-pollination for other varieties.

*Not offered in the 2024 sale

PLUM

CLICK HERE

Like peaches, plums are a stone fruiting species. Agronomic reports from 2010 indicate “best plum crop in 10 years”. 1989 was also a year of large fruit production.

Methley - Self-fertile. Japanese Plum, fruit is sweet and juicy. Red to purple color.

Santa Rosa - Juicy, tangy and flavorful plum. Reddish purple skin, amber flesh with tinges of red. 300 Chill Hours. Self-Fruitful.

Scarlet Beauty - Japanese-style Gulf Series plum. Red purple skin and soft, sweet red flesh. Ripens May – June. Self-fertile, but will produce more with another variety planted nearby. 150 chill hours

POMEGRANATE

CLICK HERE

The pomegranate originated in the region extending from modern-day Iran through Afghanistan and Pakistan to northern India, and has been cultivated since ancient times throughout the Mediterranean. It was introduced into Spanish America in the late 16th century and into California by Spanish settlers in 1769. Today it is widely cultivated throughout the Middle East, tropical Africa, and South and Central Asia. It is more common in commercial markets through the 20th and 21st centuries. A hard, colorful rind protects the fruit, and inside are many seeds bearing a honey-sweet and edible gel, called arils. The arils are the part of the fruit that are eaten. Pomegranates grow well in areas with hot, dry summers. Some varieties can tolerate temperatures as low as 10°F; others are damaged at 18°F. They are grown as far north as Zone 7b of the U.S. Department of Agriculture Hardiness Zone Map. Many fruiting types should survive most winters throughout the central, southern, and southeastern parts of Texas.

Azadi - Super juicy, with excellent full-bodied, sweet, fruity flavor!. A very sweet tasting and unique looking pomegranate, Azadi fruits are peach-colored, with a creamy yellow skin with pink blushes and arils that are a gorgeous translucent peach color! The fruit is medium sized and the seeds are very soft with just a touch of astringency to round out the sweetness. The Azadi is from Turkmenistan and the name means 'Freedom' in Persian. Early to ripen, pest resistant, light pink to clear full flavor arils. Super juicy, with excellent full bodied sweet fruit flavor.
USDA ZONES: Zone 7, Zone 8, Zone 9, Zone 10

REFERENCE SECTION

WORKING DEFINITIONS

Sun—Continuous, direct exposure to six hours/day
Full Sun—Greater than six hours/day
Chill Hours—Annual number of hours between 45˚ F and 33˚ F.
Chill Hours in Brazoria County— Chill hours (CH) – chilling requirement calculated from cumulative cool weather events (between 32 to 45-degrees) that initiate bloom for fruit-bearing trees. Annual chill hours for Brazoria County can range from 200 to 400 hours. Current chill hours accumulated: 11/01/21 – 2/28/2022 = 438 CH
To calculate current cumulative chill hours – http://getchill.net. Include the following station ID for Angleton: KLBX
Seedless—0 to 6 seeds per fruit
Clingstone Peach—Fruit flesh does not separate easily, contains more pectin; a better canning peach.
Freestone Peach—Flesh separates very easily from the seed with a circular cut.
Deciduous—Typically used to describe trees or shrubs that lose their leaves seasonally.
Macronutrients—Minerals needed for growth and other plant function. Include: nitrogen, phosphorus, potassium, calcium, magnesium and sulfur.
Micronutrients—Minerals required in smaller qualities. Some of these maybe bound in specific pH soils. Chlorine, iron, boron, manganese, zinc, copper, molybdenum and nickel.
Rootstock- a genetically distinct form of a plant joined to a scion by budding or grafting to overcome soil limitations or impart/restrict plant vigor. ROOTSTOCK: A plant onto which another variety is grafted. The importance of rootstock for long term fruit productivity cannot be stressed enough. Most citrus types and varieties do not perform well on their own root system so they are commonly budded onto rootstocks which are better adapted to certain soil conditions. Most citrus trees are of a desirable scion variety T-budded onto a seedling rootstock several inches above the soil line. The rootstock of a budded tree includes all roots and the lower few inches of the trunk, whereas the scion is the trunk and all branches, leaves and fruit. Sour orange, the most common rootstock in Texas, is well-adapted to most soil conditions in which citrus is grown.

REFERENCE SECTION

WORKING DEFINITIONS Cont'.

Trifoliate orange is more cold-hardy than sour orange and produces a smaller tree, but it is not well adapted to saline or highly alkaline soils. Consequently, trifoliate orange is preferred for the upper Gulf Coast and colder areas where soil conditions are suitable, but sour orange is recommended for the lower coast and most of southern Texas.

Grafting - The distinguishing feature of approach grafting is that two independently growing, self-sustaining plants are grafted together. This self-sustaining characteristic of both plants which are to be grafted insures survival of both even if the grafting attempt is, for some reason, not successful. However odds of being successful are greatly enhanced because of the active growing condition of both plants involved and absence of a time limitation required for the healing of the graft union to occur before the dependent scion (top portion) dies from lack of sustenance. Please see this link for more details: https://aggie-horticulture.tamu.edu/earthkind/landscape/plant-propagation/

Russet—Reddish-brown color (sometimes red/gray).
Fig Eye:
Open eye-Open hole at the bottom of a fig. Bugs can crawl into the open hole and spoil the fruit.
Semi-open eye-Pinprick opening at the bottom of the fig. Also known as semi-shut or semi-closed.
Closed eye-Opening closed at the bottom of the fig.
Astringent—Sharp or severe in manner or style.
Diurnal—Of or during the day.

Freeze Protection
By: Nick Felsted
Brazoria County Master Gardener

The Brazoria County Orchard Committee is working on **Project Polar Freeze**, a study to determine the best techniques to protect citrus trees in a major freeze. We hope to wrap it up and publish it in 2024. Since it may take some time to publish the results, I thought I would share the interim results with you.

Summary: Use bark mulch, a heat source and a tarp or plastic cover to protect citrus trees in extreme cold. Use only a heat source and plastic/tarps/cloth in modest freezing conditions.

Temperature Ranges
There are different temperature ranges to consider when it comes to freezing weather. Additionally, the length of time at a given temperature matters. If the temperature barely dips below freezing for an hour, minimal damage will occur. If temperatures get down to 20 degrees continuously for 4 days, much more damage will occur. The latter event would be serious both because of the low temperature and the length of time at that temperature. At this point, the effect of the length of time will not be quantified, but the reader should be aware that it makes a difference. If longer freezing periods are predicted, greater freeze protection should be used.

28-32 F: If the temperature only gets down to 28 degrees, most citrus will usually survive with no protection. That does not mean that the tree won't defoliate, but that the trees will usually survive. With that said, I don’t choose to gamble with my citrus orchard. I prefer to protect my trees with level 1 freeze protection (see below) whenever the temperatures are predicted to fall below 32 F for more than a few hours.

Freeze Protection Continued
By: Nick Felsted
Brazoria County Master Gardener

26-28 F: If the temperature gets down to 25-28 F, that is low enough that some citrus trees will start to die without protection. I use the level 1 citrus protection, see details below.

12-25 F: If the temperature gets down into the low 20s or mid-teens for a day or two, most citrus will die back to ground level. In this case, the graft on grafted citrus trees will die. This requires level 2 freeze protection. Level 2 protection is not guaranteed to save the trees, but most of the people who have used this level of protection have successfully protected their trees.

Level 1 Freeze Protection: Anytime the temperatures are predicted to drop to 26-32 F, I try to use this technique. To do this, add a heat source to the tree and wrap them with a plastic cover or tarp. Some people use cloth, but it blocks the sun. I typically use 1-2 strings of conventional Christmas lights (do not use LED lights) or a heat lamp and a clear plastic drop cloth. For smaller trees I use a clear shower curtain. I tape the sides closed but leave the top so I can close it when it freezes and open it when temperatures stay above freezing. In this way, I can wrap them before the first freeze of the year and open the top when it warms up. I can leave it this way for weeks and each time it freezes I can close the top. One year I left the trees totally wrapped in plastic for several weeks and when the sun came out, it overheated many of my trees causing them to defoliate.

Freeze Protection Continued
By: Nick Felsted
Brazoria County Master Gardener

Level 2 Citrus Protection: Anytime the temperature is predicted to drop below 26 F, consider using mulch to protect the graft. With citrus, it is most important to protect the graft. Usually, the roots will survive a freeze, but if the graft dies, the tree will no longer produce the same fruit.

Level 1 techniques should be used, in the freeze of December 2022, residents who used level 1 and 2 together had the greatest success in preserving their trees. To use Level 2 freeze protection, pile bark mulch around the trunk to a depth of 8-24”. The graft must be protected, or it will die (it is true that not all citrus is grafted, but a large majority of citrus is grafted). The deeper the mulch the better the protection. During ongoing research, respondents who used 6 inches of mulch lost half their trees. Respondents who used 8-24 inches of mulch lost very few trees. One respondent used 5 ft of mulch and saved the roots, graft, most of the trunk and some branches; however, finding 5 feet of mulch may be difficult and expensive. Leave the mulch around the trunk as long as the freezing temperatures last. Once temperatures rise and appear to stay above freezing, then pull the bark mulch back from around the trunk. The mulch can cause disease if left piled around the trunk for a long period of time. During the freeze of February 2021, a large majority of the Brazoria County residents who used these techniques saved the grafts of their citrus trees (see disclaimer). This is the best-known technique for saving citrus in a serious freeze.

Freeze Protection Continued
By: Nick Felsted
Brazoria County Master Gardener

Question: Can someone skip level 1 citrus protection and only use level 2?
Answer: This could work; however, the most successful residents used both level 1 and level 2 protection. Using only level 2 has an additional drawback. In a moderate freeze event, the leaves are much more likely to freeze and die if you skip the level 1 protection. The graft will be protected, but the branches and leaves may or may not survive. This will NOT kill the tree in a moderate event but could cause serious damage. If just doing level 2 freeze protection is all the energy one has, this is a good approach,

Disclaimer - While these recommendations are the best available, their success depends to a large degree on how well they are implemented. Two people who use the same techniques may implement them extremely differently. The effectiveness of the implementation can vary widely and accordingly the result of the same techniques will vary. Also, the size of the tree can have an effect. The youngest trees are the most sensitive and need the most protection. In a serious freeze event, even the largest trees need protection. Lastly, there is variation in this world. Like it or not, sometimes we follow the best instructions carefully and trees still die; sometimes we do nothing, and the trees live.

I am always trying new techniques, so updates to these techniques could occur. Hopefully, these updates will be tweaks of the original guidelines and not major changes.

FERTILIZER AND CULTIVATION RECOMMENDATIONS:

Any organic or inorganic material of natural or synthetic origin that is supplemented to a soil to supply one or more nutrients essential for plant growth and essential for high-yield harvests. Commercial fertilizers typically provide six macronutrients and seven micronutrients necessary to plants. Apply around the drip line.

Macronutrients—(N) nitrogen, (P) phosphorus, (K) potassium, (Ca) calcium, (Mg) magnesium and (S) sulfur.

Micronutrients—(B) boron, (Cl) chlorine, (Cu) copper, (Fe) iron, (Mn) manganese, (Mo) molybdenum and (Zn) zinc.

NPK—In the U.S., these letters listed on fertilizer labels represent an analysis of the composition by weight. These three numbers correspond to nitrogen, phosphorus, and potassium (N-P-K) and always appear in specific order. The second value P is not elemental phosphorus; it is phosphate oxide (P2O5). The third value is not elemental potassium; it is potassium oxide (K2O). For example, a 50 lb. bag of 10-10-10 will contain 10 lbs. nitrogen, 4.4 lbs. phosphorus and 8.3 lbs. of potassium.

Nitrogen—Most needed macronutrient. Plants only absorb nitrogen in two forms: nitrates and ammonium (ammonium sulfate).

Apple—Generally fertilized with nitrogen each year, preferably ammonium sulfate. One month after planting, apply 1 cup over a 2-foot circle. In May and June following planting, add 1 cup around the tree. Spring of second season: 1 cup in a 3 foot circle repeated in April, May and June. Year three: 2 cups, 4 times per year in March, April, May and June. Four year or older trees are considered mature. Growth of 12 to 18 inches per year is ideal for bearing trees. Apply one lb./inch of tree trunk diameter. Example: an 8 inch diameter tree would get 4 lbs. at bud break and the other 4 lbs. in May. If crop is poor or nonexistent, delete the May application.

Avocado—Essentially the same as for other fruit trees in South Texas: ammonium sulfate (21-0-0). One half-cup per month in the first year, 1 cup per month in the second year and 2 cups per month in the third year; monthly from February to September. Thereafter, apply 2 cups per year per inch of trunk diameter, split into equal applications in February, May and September.

Blackberry—Requires about 1.25 pounds of ammonium sulfate per year, per plant. Rule of thumb: 1 cup=8
ounces, 2 cups=16 ounces or 1 lb. Apply fertilizer 12 inches from the plant. Apply all the fertilizer in the winter (Jan./Feb.) or in smaller increments during the growing season: 1 application in March, June, and September

FERTILIZER RECOMMENDATIONS Continued:

Blueberry—Switch your horses because these plants MUST have an acidic soil medium for growth; use soil amendment such as sphagnum peat moss to decrease soil pH. Caution: blueberries are very sensitive to over fertilization! Subsequent years, use 1 ounce of fertilizer for each year from planting , a total of 8 ounces per plant/year. Apply early spring and late spring for best results. Always water well after fertilizing. Organic fertilizers: blood meal and cottonseed meal work well. Avoid using fresh manure. Aluminum sulfate (generically sold as azalea fertilizer) may also be used.

Citrus—"Look at the leaves, they tell you the story"... Herman Auer, Santa Fe citrus grower for 30 + years and a Galveston County Master Gardener. Yellowing leaves can indicate nutrient deficiency or poor drainage. Dark-green, lush leaves with burned tips indicate excessive fertilizing. Yellow leaves with green veins indicate an iron deficiency. Fertilizing too much when the tree has a healthy appearance may cause it to produce inferior fruit. Most citrus are nutrient hungry from the time they bloom until they have firmly set fruit. In the first year, apply a balanced fertilizer with an 8-8-8 ratio; then move to 18-5-10 combination thereafter. Use 1 cup/first year at bloom/fruit set; thereafter, 2 cups (about 1 lb.) for every inch of tree diameter. Make sure to split the total recommended rate, or 1/3, into 3 sessions; one "rule of thumb" when to apply fertilizer: Valentine's/Mother's/Father's day.

Fig—Fertilization is usually necessary only for potted trees or when they are grown in sandy soils. Excess nitrogen encourages rank growth at the expense of fruit production; fruits often ripen improperly. In general, fertilize fig trees if the branches grow less than one foot in the previous year. Apply a total of .5-1 lb. of nitrogen sulfate, divided into 3 or 4 applications beginning in late winter or early spring and ending in June.

Pear—Spread fertilizer in a circle 12 inches from the trunk. Keep the fertilizer away from the trunk. Fertilize young trees monthly using only one-quarter cup of fertilizer through June. Feed mature trees each spring using a half-cup for every year of age until the pear tree is four years old, then apply the fertilizer at the rate of 2 cups thereafter.

Persimmon—Trees do well with minimal fertilizer application. Excess nitrogen can cause fruit drop. If mature leaves are not deep green and shoot growth is less than a foot per year, apply a balanced fertilizer such as 10-10-10 at the rate of 1 pound per inch of trunk diameter. Spread the fertilizer evenly under the canopy in late winter or early spring.

Stone Fruit—First year, 1 cup of a balanced 8-8-8 fertilizer in April, followed by 1 cup of 21-0-0 fertilizer in May and June. Second year, 2 cups of 8-8-8 in March, then 2 cups of 21-0-0 April, May and June. Mature trees take 2 cups (8-8-8)/inch diameter in February followed with 2-6 cups of 21-0-0 in May.

PRUNING:

Not generally done with apple, avocados, citrus, figs, mulberry, olives, pear, pecans, persimmon, pomegranates or plums. Occasional pruning for low branches where the fruit lays on ground and to remove storm damage and/or freeze dieback. Perfectly acceptable to remove branch that smacks you upside the head while mowing.

Blackberries—May develop canes of 6-10 feet each year. Tie canes on trellis or wire to get them off the ground. Remove dead canes. In summer, tip prune first year canes to about 3-3.5 feet tall, then let them grow. This helps them develop lateral canes which have more fruit. In late winter, shorten lateral canes some to increase berry size.

Peach and Nectarine—Trees should be trained to an open center; when pruning for shape, picture an upside down umbrella as a final goal. After planting your new tree, prune to a single trunk of 24–36 inches tall, removing all branches. Within a few weeks after new growth begins, select the strongest three to five shoots arising from the top 6 inches on the main stem. They should be evenly spaced along the trunk. Remove all other shoots along the trunk or limbs. These few branches will grow vigorously for about 4 weeks and then begin to harden and turn brown near where they are attached at the trunk. Have branches spaced as equally as possible around the trunk at a height 18-24 inches from the ground. Post harvest: prune 40% of all branches and any branches that grew toward the center of the canopy

REFERENCE SECTION

DISEASES, PESTS AND CONTROL:

Citrus Greening and Quarantine: Citrus greening is a bacterial disease (Candidatus Liberibacter asiaticus) that lives in the vascular tissue of the plant, accumulating and blocking plant vessels. Symptoms are expressed as yellow leaves with a blotchy, irregular coloring and is often mistaken for nutritional deficiency. Fruit set is low and the expressed fruit will be oddly colored and distorted. Trees infected with the disease die slowly, usually lasting about 3-10 years. The disease is also known as Huanglongbing or Yellow Dragon disease. Click here for more information: https://www.texasagriculture.gov/Regulatory-Programs/Plant-Quality/Pest-and-Disease-Alerts/Citrus-Greening

Gulf Coast Quarantined Area: Citrus greening quarantine prohibits any citrus plants, fruit, equipment or items made with citrus (floral arrangements, wreaths, potpourri or seasonings like kaffir lime leaves) being moved from quarantined areas. Illegal movement of citrus trees or materials from quarantined areas can be subject to fines ranging from $1,000 to $60,000. In our area, quarantine includes all of Brazoria, Fort Bend, Galveston, Harris and Montgomery counties. For more information about the quarantine, contact your county Extension office.

Brazoria County Master Gardeners and affiliated Texas Master Gardener chapters work with producers certified to provide quality disease-free citrus material and encourage you to celebrate citrus culture in your community.

Avocado—No real problems with pests. May have problems with salt burn and sunburn on trunk.

Apples—There are many off the shelf pesticides appropriate for the home orchard to control fruit tree pests. Always follow all label instructions when applying pesticides specific for fruiting trees or any other pesticide

Berries—We jokingly say “When the berries get red in color, secret messages are sent to all birds in the neighborhood to join the berry fest”; use bird netting to defend against bird damage. Anticipate an occasional stink bug infestation on your fruit; mechanical control and least toxic methods are recommended for this pest. An aside: a local Master Gardeners wife’s solution for stink bug control was to use a car vacuum for removal because the bugs were too stinky to smash. Remember to modify the vacuum intake to fit a .75 inch clear plastic hose.

Citrus—Citrus leaf miner (CLM) can be a challenge for the home gardener. Citrus leaves can become twisted with the appearance of “tracks”, damage from the tunneling insect. The best pesticide for control are products containing 17% Spinosad (neurotoxin insecticide); products containing 1% Spinosad are also available for sale. Spinosad is a natural substance made by a combination of soil bacterium spinosyn A and D. Spray your citrus when it has fresh growth in early spring to help prevent some damage. CLM will not kill mature trees; however, photosynthesis in immature trees could be compromised from CLM damage. Citrus also have problems with rust mite damage; damage from the mites can turn your fruit brown (note the fruit can still be eaten). Other pathogens: sooty mold (fungus turning your leaves black, but can be rubbed off), greasy spot (fungal disease) and others.

Fig — While figs are very hardy, they may exhibit fig rust. Signs are a mottled color on leaves, and the leaves may dry up and die, falling off the tree. Early stages of infection: look at the back of the leaf and for a yellow or orange “dust”, or spores. Dormant oil can be used at early leaf set in spring as a preventative. Remove the diseased leaves to reduce further infection. There are not fungicides rated for use against fig rust.

Stone Fruit—Apply fungicides for scab and scale. Apply post bloom, 3-6 weeks.

BED ELEVATION / RAISED LANDSCAPE BEDS:

Providing adequate soil drainage is second only to rootstock selection. Brazoria County generally has flat land endowed with predominant clay soil. Edible fruiting trees perform much better with adequate to superior soil drainage. Creating a raised landscape bed provides for long term productivity.

Raised Planting Bed Materials:
Choice #1: Cinder bricks, holes pointed up and filled with soil, will last indefinitely (unless you run over it with a tractor). Creating a 40-inch “square” with cinder blocks is ideal; the blocks are 16-in long, place 2 lengthwise and 1 sideways, repeat 3 times to form a 40 inch square. A 2x16-inch flat cinder on top makes for nice sitting.

Choice #2: Commercial landscape timbers. There are many options of untreated or treated woods that are pest and weather resistant; cedar, juniper and redwood are ideal. You may consider non-wood timbers, typically made of plastics, metals and wood composites that contain recycled wood fibers.

PLANTING TIDBITS:
Bare Root Planting Tips:
It’s best to plant as soon as possible when you purchase the tree. If you are unable to do this, temporarily heal them into the soil until you can plant, making sure not to let the roots dry out. Healing involves placing the trees in a slight depression in the landscape, covering the roots with soil and then moistening the soil in order to keep the roots alive. Provide a light pruning to the roots to start growth prior to healing them in.

REFERENCE SECTION

PLANTING TIDBITS: continued

Container Tree Planting Tips:

Dig a hole that is wide and deep enough to accommodate the root system and save the soil you pulled out. Make sure the hole is twice as wide and no deeper than the height of the root ball. Tease the roots out at the edge of the root ball for growth, root prune as necessary. Always ensure the graft union is above the ground. Place reserved soil back in the hole. Add 4-in of mulch out to the tree drip line; make sure mulch is 6 inches away from the trunk. Initially water the plant well; water again when the soil is moist to dry. Do not water when the soil is saturated.

ROOTSTOCK: A plant onto which another variety is grafted. The importance of rootstock for long term fruit productivity cannot be stressed enough. Most citrus types and varieties do not perform well on their own root system so they are commonly budded onto rootstocks which are better adapted to certain soil conditions. Most citrus trees are of a desirable scion variety T-budded onto a seedling rootstock several inches above the soil line. The rootstock of a budded tree includes all roots and the lower few inches of the trunk, whereas the scion is the trunk and all branches, leaves and fruit.
Sour orange, the most common rootstock in Texas, is well-adapted to most soil conditions in which citrus is grown. Trifoliate orange is more cold-hardy than sour orange and produces a smaller tree, but it is not well adapted to saline or highly alkaline soils. Consequently, trifoliate orange is preferred for the upper Gulf Coast and colder areas where soil conditions are suitable, but sour orange is recommended for the lower coast and most of southern Texas.

Citrus — Poncirus trifoliate is the best plant to use as rootstock for this area as it is hardy for our cooler weather. Variety Flying Dragon is used as a dwarfing rootstock.

Citrange — Created by Dr. Swingle at ca. 1897. Carrizo citrange are hybrids of the Washington Navel orange and P. trifoliata. The later crosses were made with to produce cold tolerant scion (young plant shoot or twig) varieties.

Freeze Precaution—Keep mulch away from trunk EXCEPT when a hard freeze is eminent. Temporarily pile mulch around the trunk and cover up to 10-in above the graft line. Remember to remove the mulch after a hard freeze. Remember to prune new growth from the rootstock, and cultivate growth well above the graft union.

Site Selection and planting — A well-drained, slightly acidic to neutral soil high in organic matter is desirable. Trees planted on heavy clay soils with poor internal drainage should be planted on a mound or row 8-12 inches higher than ground level. The best time to plant citrus is mid-February after an average frost season; March–June.

Flowering — February-March. Strolling through a citrus garden during bloom season is a feast of captivating aromas that everyone should experience. Lemons and limes will have repeat blooming during the year, increasing chance of multiple crops. Regarding pollination, citrus flowers have both male and female reproductive organs in the same flower; pollination is seldom a problem (except for tangelos). Citrus trees produce an abundance of flowers and have a natural tendency to drop flowers. Blossom drop of 90% is normal.

Spacing — Navel oranges, grapefruit and other oranges are the most vigorous type of citrus trees. Ideally, citrus should be spaced 30 feet apart. Allow at least 15 feet from any building or large tree on each side of the navel orange, grapefruit or other round oranges. Satsumas require a 20-foot circle in diameter, while kumquats, lemons and dwarf varieties need only a 15 foot diameter circle.

PEACH (additional cultivation tidbits):

Thinning—As a rule of thumb, fruit should be thinned within 2 weeks after bud set. The average gardener may grimace at the thought of throwing away hundreds of peaches. Remember the goal is not hundreds of small peaches, rather dozens of plump, large fruit. Thin the fruit 4-6 in apart along the branches. Tip: make a longhorn sign with your hand to estimate 4-6 inch measurement.

Four Steps to Prune a Mature Peach Tree:
(1) Remove all hanger shoots, rootstock suckers, and water sprouts on the lower 3 feet of the tree.
(2) Remove all shoots above 7 feet in height. Do not remove red-colored 18-24 inch fruiting shoots unless they are growing in towards the center of the tree. Pruning should remove limbs growing at a 90 degree angle.
(3) Remove the center scaffold and shoots which grow toward the inside of the tree.
(4) Remove old, gray wood in the 3-7 foot production zone.

Planting—Remove from the container and prune any dead or damaged roots before planting. Make sure the root system is fully extended when planting; do not coil or bunch up the roots. If you should purchase and cannot plant bare root trees immediately, heal them into the soil until you can plant or at least make sure the roots do not dry out. Healing involves covering or burying the roots and then moistening the soil in order to keep the roots alive. Prune roots as necessary of bare root plants before planting.

Irrigation—Watering new fruit trees/mature trees in the spring, then getting them through a hot Texas summer is essential. Don’t forget to water in the fall: November/December. Fruit trees need sustaining watering.

Chill Hours—We recommend not to buy a peach tree unless you know the cultivar. Each cultivar has a known annual chill hour requirement. Reaching optimal chilling hours helps break dormancy, induce bloom and vegetative growth. Texas A&M has established that Brazoria County is in the 450 chill hour or less zone; for Brazoria county, recommend to buy peach trees rated with 450 chill hours or less. The Master Gardener weather station in Angleton keeps records of chill hours.

SOIL TIPS

Estimating the Amount of Soil or Compost
Needed for a Project:

Multiply the length x width of the area = square feet
Multiply square feet by the depth factor = number of cubic yards

Example: L X W = Sq. ft. x depth factor = Cubic Yards

Depth Factors:
1 inch depth = .003125 6 inch depth = .01875
2 inch depth = .00625 8 inch depth = .025
3 inch depth = .009375 12 inch depth = .0375

soil calculator

SOIL TESTING OVERVIEW

· What is a soil test? A process measuring available nutrients, pH and organic matter of soil.

· Why would I need a soil test? To determine the exact amount and kind of fertilizer to use, as well as choice of appropriate cultivar for your orchard – thus eliminating waste, cost, and support environmental sustainability.

· Where do I sample? Any given area of a lawn or garden. Suggest to take multiple soil samples in different areas to compare results and get an average of soil condition.

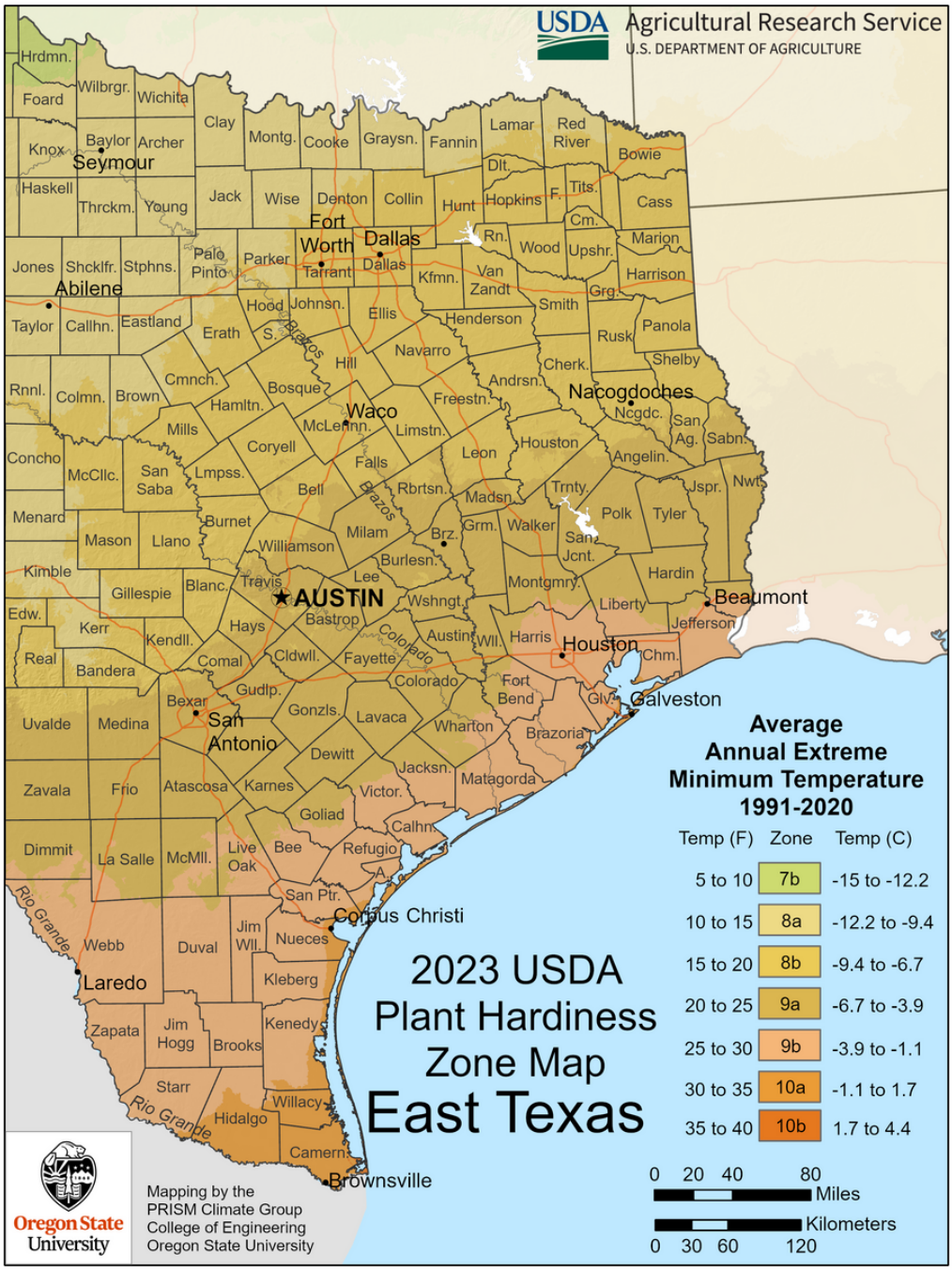
· Collecting a soil sample: Use trowel to scrape away any non-decomposed plant tissue and materials; dig a sample with a trowel about 6 inches deep and place into a clean container. Repeat step 8-10 times in each area. Mix all soil thoroughly for each area, removing any roots or visible plant materials. Air dry if the soil feels wet. Place 2-3 cups into a quart size, sealable plastic bag. Label with a permanent marker.

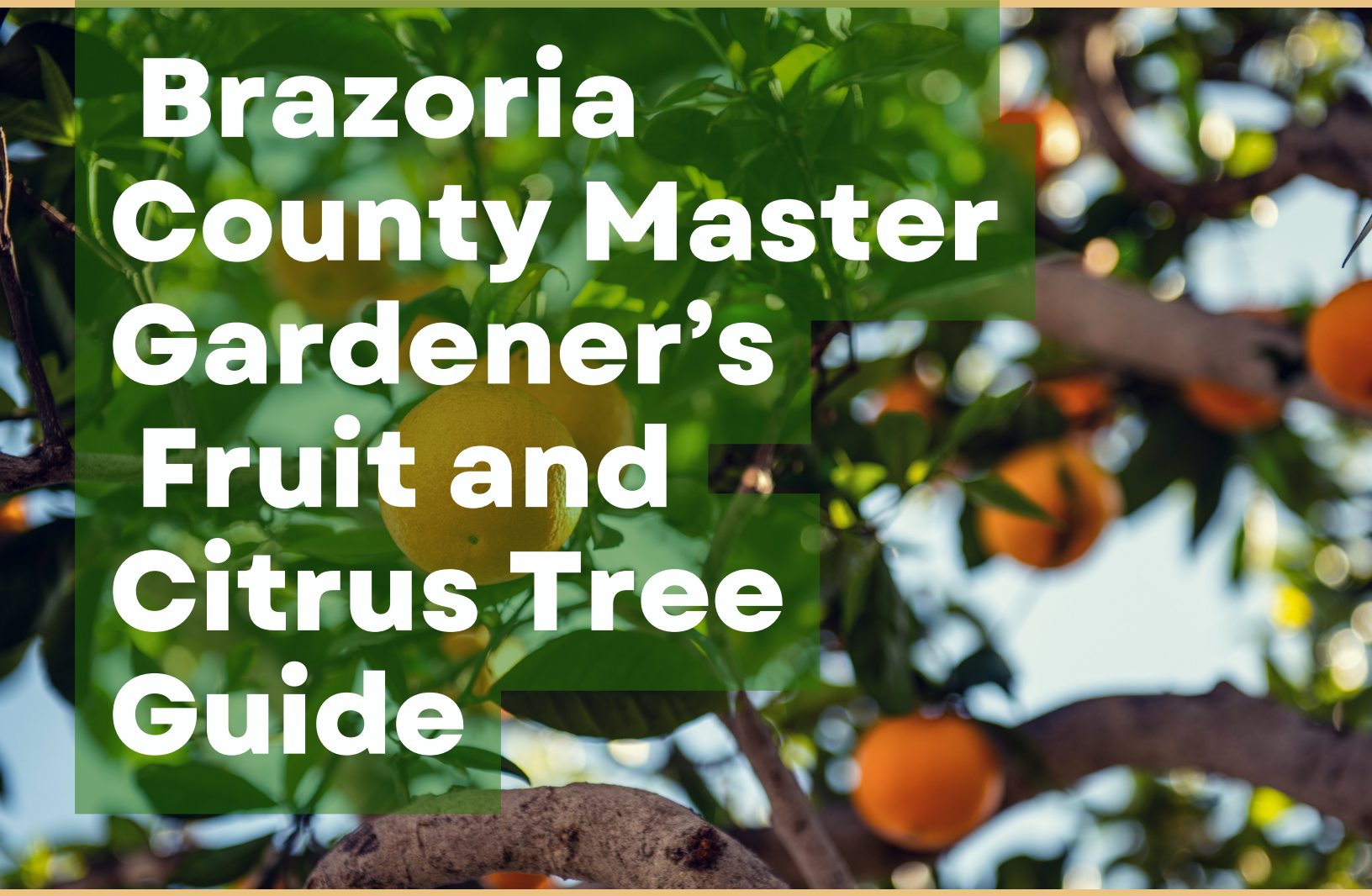
Sending samples for analysis: Obtain Urban Homeowner Soil Sample Information form from the Brazoria AgriLife Extension office, or visit the Texas A&M AgriLife Soil, Water and Forage Testing Laboratory online: **http://soiltesting.tamu.edu/**. Print form and follow specific mailing and payment instructions

TEXAS A&M AGRILIFE EXTENSION

2023 USDA Plant Hardiness Zone Map

The USDA Plant Hardiness Zone Map is the standard by which gardeners and growers can determine which perennial plants are most likely to thrive at a location. The map is based on the average annual extreme minimum winter temperature, displayed as 10-degree F zones and 5-degree F half zones. A broadband internet connection is recommended for the interactive GIS-based map above.
To find the Plant Hardiness Zone at your location quickly, enter your zip code in the Quick Zip Code Search box in the map above, or click anywhere on the map to view the corresponding interactive map.





Brazoria County Master Gardener's Fruit and Citrus Tree Guide

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