



It's Time to Plant Bulbs

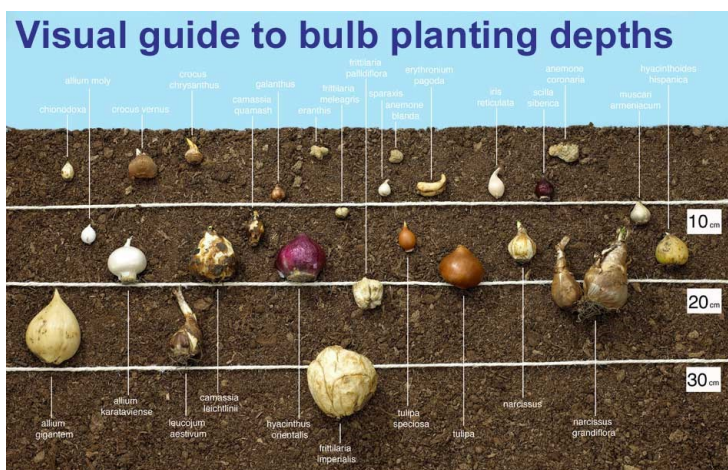
'Tis the season to plant bulbs! This should be the hot topic for Mississippi gardeners at this time of year. Selecting bulbs in the garden center is much like choosing onions or garlic in the grocery store. Bulbs should be firm and free of blemishes, holes, slashes, etc. Many types of bulbs are readily available in garden centers including tulips, daffodils, hyacinths, crocus and iris. Remember, large bulbs produce large flowers.



Bulbs are most attractive when planted in large groups where the intensity of color can be maximized. Planting the bulbs at the same depth will help insure uniform growth and flowering. Take note that planting depth may be different for different bulb types. For example, tulips are generally planted at about 5 inches or 2.5 times the bulb width. Crocus is planted at 2 to 3 inches deep.

Bulbs don't have to be fed when planted in fertile soil, but incorporation of 3 pounds of 5-10-10 per 100 square feet is a good rule of thumb. When foliage appears in the spring an additional pound or two of 5-10-10 is appropriate.

In the fall, you can plant bulbs in containers. This gives mobility to your bulb garden and gives you the flexibility to move them to wherever the action is. Purchase enough bulbs so that once your landscape space is planted you will have a dozen or so of each type to plant in patio containers. Plant at the same depth as in the landscape and consider using controlled release fertilizers.



INSIDE THIS ISSUE:

How Cold Temperatures Affect Citrus	2
Garden Calendar	3
Minimizing Drought Stress on Trees	4
Planting Time for Fruit Trees	5
Winter Mulching	6
Private Applicator Certification Training	7

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How Cold Temperatures Affect Citrus

Considering the most recent freeze potential throughout the state and particularly down south where we grow citrus, it is important to understand how cold temperatures may affect your citrus trees. The temperature at which tissue of a given plant will freeze and the degree of the damage sustained are functions of several factors in addition to the species and variety involved.

Among the citrus types most easily killed or damaged by freezing weather are lemons and limes. Temperatures in the high 20s will kill or severely damage these plants. Sweet oranges and grapefruits are somewhat more cold-hardy and usually require temperatures in the mid-20s before incurring major damage to large branches. Mandarins (satsumas) are quite cold hardy, usually withstanding temperatures as low as the upper teens or low 20s without significant wood damage. In fact, satsumas and kumquats have the greatest degree of cold hardiness. In general, it is recommended citrus trees be protected when the temperatures are expected to go below 27 degrees for an extended period. In addition, citrus trees can better withstand cold weather when they are dormant.

The freezing temperature reached, the duration of the minimal temperature, how well the plant became hardened or conditioned to cold weather before freezing temperatures occur, age of plant (a young trees are not as hardy as mature trees), and tree health are all factors in the potential for freeze damage. Wind or air movement is another important factor. On a windy night with clear or cloudy skies, leaf temperature will be about the same as air temperature. On a cold, clear night with little or no wind movement, however, leaf temperature can easily drop several degrees (3 to 4 degrees) below the air temperature because of supercooling caused by frost.

While the temperature ranges given above seem low, those given are only for leaf or wood damage. Citrus fruits easily freeze at 26 to 28 degrees when these temperatures occur for several hours. Ripe fruit can withstand lower temperatures more than green or immature fruit because sugar lowers the freezing point of the juice in the fruit, reducing the chances of freeze. If you have no way of protecting your citrus from freezing temperatures, it may be best to pick as much of the fruit as possible before extended freezing temperatures occur. I recommend checking the weather daily for changes in temperature leading up to a potential freeze to help make your decisions.

So, what can you do to protect your citrus trees? If you have citrus growing in pots, move them inside your garage, greenhouse, or Florida room; for in-ground trees, cover, if possible, with a light blanket, sheet or plastic but remove them when temperatures get above freezing; use old Christmas lights to produce heat in the tree but, the new LED type bulbs are NOT recommended; use other heat sources, if feasible and safe, such as a blower heater; water (overhead irrigation or similar) can be sprayed over the tree to add an endothermic layer of ice to the tree. However, IF water is sprayed over the tree for protection, it must be started right before freezing and continued until temperatures are above freezing. Keep in mind ice will add more weight to limbs.

There is no benefit to pruning a freeze damaged plant until spring growth commences, and the full extent of injury is determined. Pruning might be counterproductive by stimulating faster bud activity before the danger of additional frost/freeze events has passed. If your citrus dies back below the graft union, any new limbs produced will be the old parent plant or rootstock and not like what you currently have. This fruit is usually bitter and not very good.

<i>Fruit</i>	<i>Temperature (degrees F)</i>
Grapefruit	23-24
Orange	23-24
Kumquat	16-17
Lemon	26-27
Lime	28
"Satsuma" mandarin orange, fully dormant	18
All other mandarin oranges	22-23

Minimum freeze temperatures for various citrus.



Typical freeze damage to citrus fruit (orange).

Garden Calendar: November

Plant

- Plant shrubs and trees after soil cools.
- Plant summer blooming perennials: Iris, Daylily, and Daisies. Plant winter and spring annuals: Pansy, Pinks, Flowering Cabbage, and Kale.
- Root Rose cuttings.



Water

- Water all newly planted trees and plants regularly.



Prune

- Remove dead limbs and prune evergreen shrubs.
- Cut off tops of brown perennials, leave roots in the soil.



Do Not Prune

- Do not prune spring flowering shrubs such as Azaleas, Hydrangeas, Mock Orange, Spirea, and Flowering Quince because flower buds are already forming.
- Delay pruning of most trees and shrubs until February since any new growth stimulated by pruning may be killed by a sudden freeze.

Miscellaneous

- Put leaves and spent annuals into compost bin.
- Add mulch to your garden and all ornamental beds for winter protection.
- Repair and sharpen garden tools, store with light coat of oil to prevent rusting.
- Build bird feeders and houses.



In Bloom

- Impatiens, Cannas, Roses, Witch Hazel, Gerbera Daisies, Sweet Olive, Camellias, Sasanquas, Japanese Plum, and Poinsettias.



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Minimizing Drought Stress on Trees

Large trees can transpire (lose water) at a rate of over 100 gallons per day. An inch of rainfall equates to over 27,000 gallons (113 tons) of water per acre. Thus, the task for the homeowner is not supplementing rainfall, but helping the tree survive until it rains again. Soil should be moist to a depth of 12 inches below the surface. Slow, deep watering is preferred over fast, shallow watering. Water for a long time to saturate the soil to a great depth and encourage deep root growth for better adaptation to the site. Newly planted, 2- to 2.5-inch diameter trees need at least 1 inch of rain per week, but they do not have enough water-absorbing roots when freshly planted. Here are some ways to get water to your tree.

Whether you have an established or new tree, a good approach is to place a soaker hose around the trunk base for a half-day of watering once a week. You want to water when there is dew formation (just before daylight) to minimize evaporation. Watering before daylight does not alter the natural cycle of wetting and drying, and it is more economical.

One way of measuring water irrigation using a sprinkler system is to place a can next to the tree and stop watering when 2 inches of water accumulate in the can. In contrast to slow watering systems (such as soaker hoses, drip emitters, and watering bags), sprinkler systems are designed for turf rather than trees. These systems are not ideal for trees and can lead to excessive watering and root rot. The goal is to apply moisture to the soil without exceeding the infiltration rate.

Mulching helps keep moisture around tree roots and encourages microbial and insect life underneath as organic matter decomposes. Apply 2 to 4 inches of mulch at the drip line (the imaginary ring constituting the edge of the tree crown). There are several types of mulch. This can be bark mulches or pine straw, or others. Keep in mind, when using pine straw, you need 6 to 8 inches as opposed to 2 to 4 inches. Pine straw is effective, pleasing to the eye, and does not attract wood-boring insects or float away during heavy rain like bark or wood chips. The downside to pine straw is that it breaks down faster than woody material. Do not pile mulch against the trunk itself; stop the mulch 5 or 6 inches from the trunk. Stone or chopped up tires can also be used; however, these are expensive and don't add nutrients to the soil as they decompose. It can also be difficult to weed in artificial mulch. If yard leaves are used, they should not be piled against the trunk, and the pile should not be over 4 inches deep after settling.

Other helpful tips include planting trees that are best suited to a specific site. In other words, do not plant a water-loving tree in a dry location. Consider using plants adapted to dry climates in landscaping. Do not fertilize trees that are water-stressed. Artificial fertilizers are made of salt and can make conditions worse. Nitrogen encourages growth, which only serves to increase demand for water. Never transplant a tree during a drought; it likely will not survive because it can't establish its root system.

Trees are readily adaptable to water stress, but long-term drought conditions can lead to decreased overall tree health and increased likelihood of tree death. Signs of prolonged drought stress include leaf scorch, dieback, and root problems. Homeowners can lessen effects of drought by planting the right tree in the right place and using slow, systematic irrigation and mulch.



Drought stress on maple.



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Planting Time for Fruit Trees

November or anytime during the fall season is a great time to evaluate your existing trees or plant new varieties in your landscape.

It is important, however, to select only those fruit trees that are adapted for the Coast. Chilling hours are very important, since we receive a limited number of them. Chilling hours refer to the number of hours spent below 40 degrees, but above freezing. Fruit trees need chilling hours to successfully produce fruit. The Coast sometimes receives only 350-400 chilling hours per season; therefore, select only those varieties that have the lowest chilling hours requirements to help ensure a lot of tasty fruit next year.



Sometimes people want to plant fruit trees simply because they want to try their hand at it. Fruit trees require a lot of maintenance and patience. The Gulf South is a tough place sometimes to produce high quality fruit. Other times homeowners lose their trees to insects or diseases and wish to replace them.

Unless you have an "orchard," many people have limited space for their fruit trees. Sometimes people will ask, "Can I replant my tree in the same place?" If you do have another suitable open space, it is best not to replant in the same area. Depending on what killed your tree, pests in the soil may have increased over the years and reached levels that caused the tree's death. The soil where you removed your dead or dying tree could be contaminated with insects or diseases that could attack and weaken your new, young tree over time. A weakened, declining tree is even more susceptible to winter injury, insects, diseases and drought.

Sometimes people think if they wait a year or two they can then put another fruit tree in the once contaminated area. In fact, it really depends on what soil disease or insect problem was present in the first place. For example, a common root disease on peaches has been found in the soil 35 years after the tree was removed! Pesticides available to homeowners are of limited value to fruit growers when trying to decontaminate problem areas. Fruit trees, however, do require a rigorous spray schedule each year to combat insects and diseases from ruining your crop. The spray program starts during late winter and continues throughout the season.



Hopefully, you have the room available and are able to plant in a new location. Try to plant the new tree at least ten feet away from the old site. Tree roots of the previous soil are still in the surrounding soil. The farther away you plant your young tree the better. Remember that fruit trees need full sun and well-drained soil when planting them. Incorporate rich organic matter into the planting hole, and dig a hole that is at least three times larger than the root ball of the new tree. Never plant a tree any deeper than it was originally grown at the nursery.

I encourage you to consult Extension publications for specific information on the fruit trees of your choice. Proper fruit tree selection, planting, fertilizing, and pruning combined with a pest management spray program is essential to a bountiful harvest of your favorite fruit.

Winter Mulching

Mulching landscape beds is certainly important during the active growing season. It helps to maintain soil moisture, moderate soil temperatures, and acts as a weed barrier layer.

Mulching is also a significant activity to help ensure winter survival of tender landscape plants. After plants have gone dormant and the ambient temperatures have bottomed out and not before, the mulch is applied over and around the plant.



Unlike in the warm months when we use only 2 to 3 inches of mulch, during the winter months we want to use six inches of mulch, or more. We want to keep the soil as cold as possible and the thick layer of mulch will act like a barrier between the soil and fluctuating ambient temperatures. The root systems of landscape plants are sensitive to ambient temperature changes and the mulch will prevent damage from premature spring growth.

Materials used for mulch during the winter months are different than those of summer. Straw, leaves and evergreen boughs make good layers as these are bulky without having excess weight that could cause damage to your plants while being covered. They are easily removed in the spring and then put into your compost pile.

Be sure to remove any stems or leaves that have fallen off during autumn before mulching as these could be a over-wintering home for diseases and insects.

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Private Applicator Certification Training

A Private Applicator Certification Training is scheduled for November 17, 2022, at the Perry County Extension Service office starting at 12:00 noon. **Call 601-946-3668 for additional information. There is a \$20.00 fee for the training payable by check or money.**

Mississippi State University Extension conducts training courses for individuals wishing to obtain private applicator certification. A private applicator is a certified applicator who uses or supervises the use of restricted-use pesticides to produce an agricultural commodity on his or her own land, leased land, or rented land or on the lands of his or her employer. Private applicators must be at least 18 years old. County Extension agents provide training for private pesticide applicators and assure the completion of the application process for their certification.

Private applicator certification expires after 5 years. To renew their certification, private applicators must attend a PAT session and pass the written examination during the year prior to their expiration date.

Online Private Applicator Certification Program

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In response to limited face-to-face training during the COVID-19 situation, the Mississippi Department of Agriculture–Bureau of Plant Industry has approved an online private applicator certification program developed by the MSU Extension Service. Persons needing to obtain or renew their private applicator certification can complete the online training (two video training modules and a competency exam) by using the following link: <http://extension.msstate.edu/content/online-private-applicator-certification-program>. The fee for training and testing is \$20, payable online by credit card, debit card, or eCheck.

MISSISSIPPI STATE UNIVERSITY...
EXTENSION

Private Applicator

TRAINING AND TESTING ONLINE

Watch the training modules, pass the exam, and receive your private applicator certification from MDAC Bureau of Plant Industry.

\$20 COST

Visit <http://msuext.ms/agmes>
or contact your local MSU Extension office for info on how to register.