

Tree Planting - How To Plant A Tree

Think of the tree you just purchased as a lifetime investment. How well your tree and investment grows depends on the type of tree and location you select for planting, the care you provide when the tree is planted, and follow-up care the tree receives after planting.

The ideal time to plant trees and shrubs is during the dormant season -- in the fall after leaf drop or early spring before bud-break. Weather conditions are cool and allow plants to establish roots in the new location before spring rains and summer heat stimulate new top growth. Proper handling during planting is essential to ensure a healthy future for new trees.

Before you begin planting your tree, be sure you have had all underground utilities located prior to digging.

If the tree you are planting is balled and burlapped, or bare rooted, it is important to understand that the tree's root system has been reduced by 90-95% of its original size during transplanting. As a result of the trauma caused by the digging process, trees will commonly exhibit what is known as transplant shock (TS). TS is indicated by slow growth and reduced vigor following transplanting. Proper site preparation before and during planting, coupled with good follow-up care will reduce the amount of time the plant experiences TS and will allow the tree to quickly establish in its new location. Carefully follow eight simple steps and you can significantly reduce the stress placed on the plant at the time of planting.

"It's better to put a \$100 tree in a \$200 hole than to put a \$200 tree in a \$100 hole."

Dig a shallow, broad planting hole. Make the hole wide, as much as three times the diameter of the root ball, but only as deep as the root ball. It is important to make the hole wide because the tree roots on the newly establishing tree must push through surrounding soil to establish. On most planting sites in new developments, the existing soils have been compacted and are unsuitable for healthy root growth. Breaking up the soil in a large area around the tree provides the newly emerging roots room to expand into loose soil to hasten establishment. Identify the trunk flare. The trunk flare is where the roots spread at the base of the tree. This point should be partially visible after the tree has been planted ([see diagram](#)). If the trunk flare is not partially visible, you may have to remove some soil from the top of the root ball. Find it so you can determine how deep the hole needs to be for proper planting.

Place the tree at the proper height. Before placing the tree in the hole, check to see that the hole has been dug to the proper depth, and no more. The majority of the roots on the newly planted tree will develop in the top 12" of soil. If the tree is planted too deep, new roots will have difficulty developing due to a lack of oxygen. It is better to plant the tree a little high, 1-2" above the base of the trunk flare, than to plant it at or below the original growing level. This will allow for some settling ([see diagram](#)). To avoid damage when setting the tree in the hole, always lift the tree by the root ball, and never by the trunk.

Straighten the tree in the hole. Before you begin backfilling have someone view the tree from several directions to confirm the tree is straight. Once you begin backfilling it is difficult to reposition.

Fill the hole, gently but firmly. Fill the hole about 1/3 full and gently but firmly pack the soil around the base of the root ball. Then, if the tree is balled and burlapped, cut and remove the string, wire and burlap from around the trunk and top 2/3 of the root ball ([see diagram](#)). Be careful not to damage the trunk or roots in the process. Fill the remainder of the hole, taking care to firmly pack soil to eliminate air pockets that may cause roots to dry out. To avoid this problem, add the soil a few inches at a time and settle with water. Continue this process until the hole is filled and the tree is firmly planted. Applying fertilizer at the time of planting is not recommended. Stake the tree, if necessary. If the tree is grown and dug properly at the nursery, staking for support is not necessary in most home landscape situations. Studies have shown that trees will establish more quickly and develop stronger trunk and root systems if they are not staked at the time of planting. However, protective staking may be required on sites where lawn mower damage, vandalism or windy conditions are concerns. If staking is necessary for support, two stakes used in conjunction with a wide flexible tie material will hold the tree upright, provide flexibility, and minimize injury to the trunk ([see diagram](#)). Remove support staking and ties after the first year of growth. Leave protective staking in place as long as necessary.

Mulch the base of the tree. Mulch is simply organic matter applied to the area at the base of the tree. It acts as a blanket to hold moisture, protect against harsh soil temperatures, both hot and cold, and reduces competition from grass and weeds. Some good choices are leaf litter, pine straw, shredded bark, peat moss, or wood chips. A two to four inch layer is ideal. More than four inches may cause a problem with gas exchange. When placing mulch, care should be taken so that the actual trunk of the tree is not covered. This may cause decay of the living bark at the base of the tree. A mulch-free area, one to two inches wide at the base of the tree, is sufficient to avoid moist bark conditions and prevent decay.

Follow-up care- Keep the soil moist but not soaked; overwatering will cause leaves to turn yellow or fall off. Water trees at least once a week, barring rain, and more frequently during hot weather giving at least 15 gallons per watering. When the soil is dry below the surface of the mulch, it is time to water. Continue until mid-fall, tapering off for lower temperatures that require less frequent watering. Other follow-up care may include minor pruning of branches damaged during the planting process. Prune sparingly immediately after planting, and wait to begin necessary corrective pruning until after a full season of growth in the new location.

After you've completed these eight simple steps, further routine care and favorable weather conditions will ensure that your new tree will grow and thrive. A valuable asset to any landscape, trees provide a long-lasting source of beauty and enjoyment for people of all ages.

Tree Planting - Donation Policies

Durham's Tree Planting Donation Program gives each water user an opportunity to contribute funds for tree planting on public property through the City's monthly billing process. The money collected through this Program will be added to existing funds, allowing the City to plant more trees throughout the community.

The Tree Planting program is a convenient way to donate money to a worthy cause-making the City of Durham a more attractive place to live in and conduct business. Small amounts donated by individuals can add up to large amounts annually.

The form below offers you the opportunity to sign up for the "Tree Planting Donation Program". Complete this form and mail it to:

City of Durham
Revenue Billing and Collection Division
101 City Hall Plaza
Durham, NC 27701

For more information about donating to this program, you may call the Revenue Billing and Collections Division at 560-4411. For more information regarding tree planting and other questions concerning trees, please contact the Urban Forestry Division at 560-4355.

"Help Us Build Upon the Positive Image of Durham, NC" Participate in the Tree Planting Program

Tree Planting - Recommended Tree Species

All trees are listed by Common Name, with the Scientific Name following.

By Size

Small Maturing

- Crepe myrtle 'Byers Standard Red' Lagerstroemia indica 'Byers Standard Red'
- Crepe myrtle 'Byers Wonderful White' Lagerstroemia indica 'Byers Wonderful White'
- Crepe myrtle 'Hardy Lavender' Lagerstroemia indica 'Hardy Lavender'
- Crepe myrtle 'Tuscarora' Lagerstroemia indica 'Tuscarora'
- Crepe myrtle 'Tuskegee' Lagerstroemia indica 'Tuskegee'
- Crepe myrtle 'William Toovey' Lagerstroemia indica 'William Toovey'
- Southern magnolia 'Little Gem' Magnolia grandiflora 'Little Gem'

Medium Maturing

- Trident maple Acer buergeranum
- Hedge maple Acer campestre
- Paperbark maple Acer griseum
- Hornbeam Carpinus caroliniana
- Redbud 'Oklahoma' Cercis reniformis 'Oklahoma'
- Redbud 'Texas White' Cercis reniformis 'Texas White'
- Redbud 'Forest Pansy' Cercis canadensis 'Forest Pansy'
- Redbud 'Rubye Atkinson' Cercis canadensis 'Rubye Atkinson'
- Chinese fringetree Chionanthus retusus
- Kousa dogwood Cornus kousa
- Carolina silverbell Halesia carolina
- Nellie Stevens holly Ilex 'Nellie R. Stevens'
- Yaupon Ilex vomitoria
- Holly Tree 'East Palatka' Ilex X attenuata 'East Palatka'
- Holly Tree 'Foster's #2' Ilex X attenuata 'Foster's #2' Holly Tree 'Savannah' Ilex X attenuata 'Savannah'
- Goldenraintree Koelreutaria paniculata
- Crepe myrtle 'Muskogee' Lagerstroemia indica 'Muskogee'
- Crepe myrtle 'Natchez' Lagerstroemia indica 'Natchez'
- Carolina cherrylaurel Prunus caroliniana
- Honeylocust 'Shademaster' Gleditsia triacanthos 'Shademaster'
- Honeylocust 'Skyline' Gleditsia triacanthos 'Skyline'
- Eastern redcedar Juniperus virginiana
- S. magnolia 'Bracken's Brown Beauty' Magnolia grandiflora 'Bracken's Brown Beauty'
- Chinese pistache Pistacia chinensis

Large Maturing

- Red maple 'October Glory' Acer rubrum 'October Glory'
- Red maple 'Red Sunset' Acer rubrum 'Red Sunset'

- Japanese cedar *Cryptomeria japonica*
- Northern red oak *Quercus rubra*
- Shumard oak *Quercus shumardii*
- Baldcypress *Taxodium distichum*
- Chinese lacebark elm *Ulmus parvifolia*
- Ginkgo *Ginkgo biloba*
- Sweetgum 'Rotundiloba' *Liquidambar styraciflua* 'Rotundiloba'
- Dawn redwood *Metasequoia glyptostroboides*
- Blackgum *Nyssa sylvatica*
- Willow oak *Quercus phellos*

Recommended Trees for Screening

- Southern magnolia 'Little Gem' *Magnolia grandiflora* 'Little Gem'
- Nellie Stevens holly *Ilex* 'Nellie R. Stevens'
- Yaupon *Ilex vomitoria*
- Holly Tree 'East Palatka' *Ilex X attenuata* 'East Palatka'
- Holly Tree 'Foster's #2' *Ilex X attenuata* 'Foster's #2'
- Holly Tree 'Savannah' *Ilex X attenuata* 'Savannah'
- Carolina cherrylaurel *Prunus caroliniana*
- Eastern redcedar *Juniperus virginiana*
- S. magnolia 'Bracken's Brown Beauty' *Magnolia grandiflora* 'Bracken's Brown Beauty'
- Japanese cedar *Cryptomeria japonica*

Recommended Trees, listed by Fall Color

Red

- Crepe myrtle 'Hardy Lavender' *Lagerstroemia indica* 'Hardy Lavender'
- Paperbark maple *Acer griseum*
- Redbud 'Forest Pansy' *Cercis canadensis* 'Forest Pansy'
- Crepe myrtle 'Muskogee' *Lagerstroemia indica* 'Muskogee'
- Northern red oak *Quercus rubra*
- Shumard oak *Quercus shumardii*
- Sweetgum 'Rotundiloba' *Liquidambar styraciflua* 'Rotundiloba'
- Blackgum *Nyssa sylvatica*
- Kousa dogwood *Cornus kousa*

Yellow

- Hedge maple *Acer campestre*
- Carolina silverbell *Halesia carolina*
- Goldenraintree *Koelerutaria paniculata*
- Honeylocust 'Shademaster' *Gleditsia triacanthos* 'Shademaster'
- Honeylocust 'Skyline' *Gleditsia triacanthos* 'Skyline'
- Chinese lacebark elm *Ulmus parvifolia*
- Ginkgo *Ginkgo biloba*

- Trident maple *Acer buergeranum*
- Redbud 'Oklahoma' *Cercis reniformis* 'Oklahoma'
- Redbud 'Texas White' *Cercis reniformis* 'Texas White'
- Redbud 'Rubye Atkinson' *Cercis canadensis* 'Rubye Atkinson'
- Chinese fringetree *Chionanthus retusus*
- Red maple 'October Glory' *Acer rubrum* 'October Glory'
- Red maple 'Red Sunset' *Acer rubrum* 'Red Sunset'

Orange

- Crepe myrtle 'Byers Standard Red' *Lagerstroemia indica* 'Byers Standard Red'
- Crepe myrtle 'Byers Wonderful White' *Lagerstroemia indica* 'Byers Wonderful White'
- Dawn redwood *Metasequoia glyptostroboides*
- Crepe myrtle 'Tuscarora' *Lagerstroemia indica* 'Tuscarora'
- Crepe myrtle 'Tuscarora Red' *Lagerstroemia indica* 'Tuscarora Red'
- Crepe myrtle 'Tuskegee' *Lagerstroemia indica* 'Tuskegee'
- Crepe myrtle 'William Toovey' *Lagerstroemia indica* 'William Toovey'
- Hornbeam *Carpinus caroliniana*
- Crepe myrtle 'Natchez' *Lagerstroemia indica* 'Natchez'
- Chinese pistache *Pistacia chinensis*

Recommended trees, based on Flower Color

Lavender

- Crepe myrtle 'Hardy Lavender' *Lagerstroemia indica* 'Hardy Lavender'
- Crepe myrtle 'Muskogee' *Lagerstroemia indica* 'Muskogee'

Pink

- Crepe myrtle 'Tuscarora' *Lagerstroemia indica* 'Tuscarora'
- Crepe myrtle 'Tuskegee' *Lagerstroemia indica* 'Tuskegee'
- Redbud 'Rubye Atkinson' *Cercis canadensis* 'Rubye Atkinson'
- Crepe myrtle 'William Toovey' *Lagerstroemia indica* 'William Toovey'

Purple

- Redbud 'Forest Pansy' *Cercis canadensis* 'Forest Pansy'

Red

- Crepe myrtle 'Byers Standard Red' *Lagerstroemia indica* 'Byers Standard Red'
- Crepe myrtle 'Tuscarora Red' *Lagerstroemia indica* 'Tuscarora Red'
- Redbud 'Oklahoma' *Cercis reniformis* 'Oklahoma'

White

- Kousa dogwood *Cornus kousa*
- Southern magnolia 'Little Gem' *Magnolia grandiflora* 'Little Gem'
- Carolina cherry laurel *Prunus caroliniana*

- S. magnolia 'Bracken's Brown Beauty' Magnolia grandiflora 'Bracken's Brown Beauty'
- Crepe myrtle 'Byers Wonderful White' Lagerstroemia indica 'Byers Wonderful White'
- Crepe myrtle 'Natchez' Lagerstroemia indica 'Natchez'
- Carolina silverbell Halesia carolina
- Redbud 'Texas White' Cercis reniformis 'Texas White'
- Chinese fringetree Chionanthus retusus

Yellow

- Goldenraintree Koelreutaria paniculata

Recommended Trees, listed by Month of Flower

March

- Carolina cherrylaurel Prunus caroliniana

April

- Redbud 'Rubye Atkinson' Cercis canadensis 'Rubye Atkinson'
- Redbud 'Forest Pansy' Cercis canadensis 'Forest Pansy'
- Redbud 'Oklahoma' Cercis reniformis 'Oklahoma'
- Carolina silverbell Halesia carolina
- Redbud 'Texas White' Cercis reniformis 'Texas White'

May

- Kousa dogwood Cornus kousa Southern magnolia 'Little Gem' Magnolia grandiflora 'Little Gem'
- S. magnolia 'Bracken's Brown Beauty' Magnolia grandiflora 'Bracken's Brown Beauty'
- Chinese fringetree Chionanthus retusus

June

- Goldenraintree Koelreutaria paniculata

July

- Crepe myrtle 'Hardy Lavender' Lagerstroemia indica 'Hardy Lavender'
- Crepe myrtle 'Muskogee' Lagerstroemia indica 'Muskogee'
- Crepe myrtle 'Tuscarora' Lagerstroemia indica 'Tuscarora'
- Crepe myrtle 'Tuskegee' Lagerstroemia indica 'Tuskegee'
- Crepe myrtle 'William Toovey' Lagerstroemia indica 'William Toovey'
- Crepe myrtle 'Byers Standard Red' Lagerstroemia indica 'Byers Standard Red'
- Crepe myrtle 'Tuscarora Red' Lagerstroemia indica 'Tuscarora Red'
- Crepe myrtle 'Byers Wonderful White' Lagerstroemia indica 'Byers Wonderful White'
- Crepe myrtle 'Natchez' Lagerstroemia indica 'Natchez'

August

- Crepe myrtle 'Hardy Lavender' Lagerstroemia indica 'Hardy Lavender'

- Crepe myrtle 'Muskogee' Lagerstroemia indica 'Muskogee'
- Crepe myrtle 'Tuscarora' Lagerstroemia indica 'Tuscarora'
- Crepe myrtle 'Tuskegee' Lagerstroemia indica 'Tuskegee'
- Crepe myrtle 'William Toovey' Lagerstroemia indica 'William Toovey'
- Crepe myrtle 'Byers Standard Red' Lagerstroemia indica 'Byers Standard Red'
- Crepe myrtle 'Tuscarora Red' Lagerstroemia indica 'Tuscarora Red'
- Crepe myrtle 'Byers Wonderful White' Lagerstroemia indica 'Byers Wonderful White'
- Crepe myrtle 'Natchez' Lagerstroemia indica 'Natchez'