

TREES FOR THE CITY

A Guide to Tree Selection, Planting and Maintenance within the City of Morristown



Provided by the Morristown Tree Board

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Why Trees

Are Good for our City

If you've ever climbed a tree as a child or sought refuge under their shady leaves on a hot summer day, the thought of asking why trees are good may seem silly. Of course they're good.

But, then again, some can be troublesome. Falling limbs, roots damaging foundations, all that raking in the fall. Maybe some trees are good and others are just in the way. Unfortunately that line of thinking is all too common. Odds are, if the tree is causing trouble, there is an understandable reason. Are the falling limbs the result of poor care, an unexpected storm or untreated disease? Is there structural damage because the tree was planted too close to the building for its mature size? Maybe someone just doesn't particularly enjoy raking leaves when there is something else they would like to be doing instead (like jumping in the leaf pile).

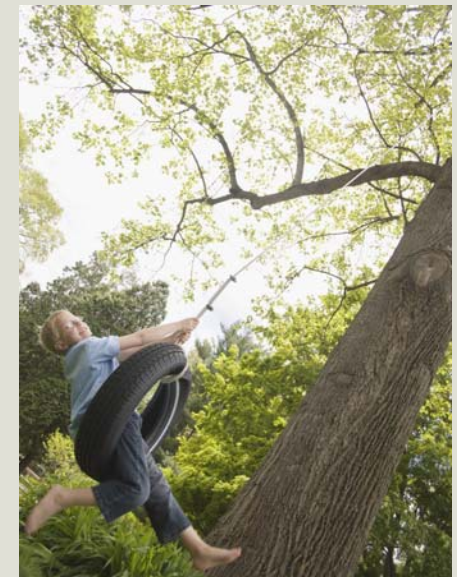
The fact is, all trees are good in their own way and there are many great benefits to investing in quality trees for our landscapes. For example, a well-placed shade tree can help you save on energy costs. Studies show that shade trees can lower roof and wall temperatures, saving 15% or more on electric bills. Just shading your outdoor unit can increase its efficiency by 10%. Trees cool the air through evapotranspiration and reduce radiation and heat reflection from hard urban surfaces.

Trees add character and beauty to our neighborhoods and, if well maintained, often increase a property's value by as much as 7%. They provide homes and food for many different types of wildlife, reduce runoff and prevent soil erosion during heavy rainfall, and help absorb urban noise. Trees can connect us symbolically with our past (yes, there are trees considered historic). And, perhaps most importantly in today's world, trees work to filter pollutants and repair our air by absorbing carbon monoxide while producing oxygen that is so vital to our survival. The fact that they also make a great place for a swing is just a bonus.

If the right tree is planted in the right place, it can bring pleasure to generations of people. It's only when a tree is planted incorrectly, or the wrong species is chosen, do problems begin. That's why this guide has been created. There is an uncountable variety of trees in the world today, but there are a few species proven to work well here in East Tennessee that should be considered first when adding trees to our yards, public parks, school grounds or even the inevitable new parking lot.

Please take the time to explore this guide. It has been created as a helpful tool for anyone interested in tree planting and care and for those who may find the whole process confusing or intimidating. While it's impossible to answer all questions, it is hoped that this guide will provide a good starting point. Additional resources are included so you can continue to learn about these remarkable 'friends'.

It takes many people working together to make Morristown a beautiful, healthy and safe place to live. One way can start with something as simple as planting the right tree in the right place.



Choosing the Right Place

To Plant Your New Tree

When choosing a location for a new tree, there are several important things to consider. First, why have you chosen to plant a new tree? Is it for shade, privacy, aesthetics or to reduce soil erosion? The answer to this question will help in determining where the tree should be planted. If you're planning to plant several new trees, a landscape plan depicting mature sizes is recommended.

Once a location is chosen, the second thing to consider is whether the site will be favorable for the tree. Are soil conditions good (is it acidic or alkaline)? Is there space for the tree to grow to its natural height and spread? That new tree may look small now, but if all goes well, it will grow and grow, year after year. It's very important to plan ahead for future growth to avoid any unpleasant surprises. Remember that the tree's roots grow far beyond the drip line of the leaves. A healthy tree needs lots of room for the roots to grow and spread, so try and picture the tree 5, 10 or 50 years into the future.

Sometimes it's easier to know where to plant a new tree if you know where *not* to plant one first:

- Don't plant a tree where the roots may interfere with underground utility lines. Always call Tennessee One-Call before you dig at 1-800-351-1111.
- Don't plant tall trees under utility lines or too close to buildings. Small trees 30 feet in mature height or less should be planted at least 10 feet from buildings and 20 to 25 feet from power lines. Medium trees 30 to 60 feet in mature height should be planted at least 15 feet from buildings and 30 to 35 feet from power lines. Large trees reaching 60 feet or more in mature height should be planted at least 25 feet from buildings and 40 to 45 feet from power lines. No tree trunk should be within 10 feet of a utility pole.
- Don't plant a tree where the root area will be compacted by vehicles or heavy foot traffic.
- Don't plant a tree that may eventually cover a chimney or block windows or scenic views.
- Don't plant trees that will encroach on your neighbor's property or shade a desired sunny spot, like a garden.

Selecting the Right Tree

When selecting a tree to purchase, be sure to buy the highest quality tree you can afford. Look for good form with a straight, single trunk. No double trunks or multiple branches unless you are specifically looking for a shrub-like planting (similar to a crape myrtle). Multiple trunks may be poorly attached to each other. Inspect for dead bark or signs of disease or insects. Check for severe pruning cuts and/or wounds. If the tree has no leaves, scratch underneath the bark on a small twig and make sure it is green and moist. In other words, by a live one.

If you are buying a balled in burlap tree, the ball should be 12 inches wide for every inch of trunk diameter (measure the trunk diameter 4 inches above the root ball). If buying a container grown tree, try lifting the tree out of the pot and check for circling roots. These roots may eventually choke a tree to death.

Tree Purchasing Checklist

What will be the tree's mature height?

What will be the mature tree's shape (width)?

How fast does it grow?

Is it cold hardy for our area (zone 7)?

What are its soil requirements?

Does it require sun or shade?

Does it require a wet or dry site?

What kind of flowers or fruits will it have?

What will be the autumn or spring colors?

Is the tree species unusually susceptible to certain insects, disease or storm damage?

The Tree Guide

Pages 4-9

This guide features trees in three different size ranges: small trees (typically less than 30 feet in mature height), medium trees (typically 30 to 60 feet in mature height) and large trees (typically more than 60 feet in mature height). The crown (or width) of the trees will vary.

Choosing a tree often starts as a matter of individual taste, but there are many additional factors to consider as this guide will attempt to explain. This is just a small sampling of the many trees available.

Small Trees

Less than 30 feet high



American Smoke Tree
Cotinus obovatus

This tree gets its name from what appear to be “puffs” of smoke but are actually the fading flowers.

The Smoke tree is naturally multi-stemmed, much like the crape myrtle, but it can be trained into a single trunk. The blue-green leaves will turn yellow, orange and reddish purple in the fall. Unusually, this tree can handle poor or rocky soil, but need good drainage regardless of location and an alkaline soil.

Height: 20 to 30 feet
Width: 20 to 30 feet



Amur Maple
Acer ginnala

The Amur Maple is a small tree or large multi-stemmed shrub with a rounded shape. It is hardy and adaptable and may even be grown as a container plant. The Amur Maple works well in groups to provide a screen or soften the corners or walls of large buildings. Clusters of small, fragrant, yellowish flowers bloom in early spring. Fall color is a striking red color. Grow in full sun to partial shade. Performs well with regular moisture.

Height: 15-20 feet
Width: 15-20 feet



Crape Myrtle
Lagerstroemia

A large shrub that can be trained into tree form, it is usually planted for its flowers which range from white to pink, red or purple depending on the cultivar. In addition to the flowers, the Crape myrtle has very attractive bark which is mottled brown and gray and exfoliating. In many cases they feature brilliant fall color as well. All Crape myrtles bloom on new wood, so prune them in winter or early spring. Removing the side branches up to a height of 4 feet will expose the bark and help develop a tree-like form. Recommended cultivar lines are named after Native American tribes.

Height: 20 to 30 feet
Width: 25 to 35 feet.



Eastern Redbud
Cercis canadensis

The Eastern redbud is the largest and fastest growing redbud. It features a rounded top and heart shaped leaves. Spring flowers are small with colors ranging from rosy pink to purple. This tree is adaptable to full sun or light shade. Water requirements are normal. The ‘Tennessee Pink’ selection has truly pink flowers while the ‘Appalachian Red’ are closer to a true red color. ‘Royal White’ has, of course, white buds. The Eastern redbud looks very good in a naturalized setting. Pruning should be done in the dormant season.

Height: 25 to 35 feet
Width: 25 to 35 feet



Flowering Dogwood
Cornus florida

A small, spreading tree native to forest understories throughout Tennessee, the Flowering dogwood is considered by many to be our most beautiful native tree with beautiful spring flowers, attractive summer and fall foliage and pleasing winter shape. Blooms range in color from white to pink to deep red. The shiny red berries are a favorite of birds and animals. This tree prefers an acidic, well-drained (but moist) soil in partial shade, but will perform in full sun if planted deep in soil that retains moisture. If required, prune immediately after bloom.

Height: 20 to 30 feet
Width: 20 to 30 feet



Small Trees

Less than 30 feet high



Japanese Maple
Acer palmatum

Native to Japan and Korea, this is a wonderful specimen or accent tree with a pretty form and attractive leaf texture, shape and color. Spring growth is glowing red and fall foliage ranges from scarlet to orange or yellow. Greens and reds in the leafless branches provide winter interest. Prefers light shade and moist, highly organic, well drained soil. Water and mulch for hot summers. Avoid pruning in late winter or early summer as cuts will “bleed” sap.

Height: 15 to 20 feet
Width: 15 to 20 feet



Juneberry
Amelanchier arborea

A fine textured tree with drooping clusters of white narrow-petaled flowers in spring followed in early summer by edible berries loved by birds and folks who enjoy the blueberry flavored fruits in pies and jams. Fall color is often bright and attractive. This is a graceful, narrow tree well suited for gardens because of its non-intrusive roots. Prefers moist, well-drained, acid soil. Will tolerate full sun or partial shade, but does well in a variety of sites.

Height: 20 to 25 feet
Width: 10 to 12 feet



Paperbark Maple
Acalypha griseum

This deciduous tree is native to China. Inconspicuous red flowers in spring will turn into winged seeds and the green leaves of summer have a silvery underside. This tree is quite striking in the winter with paper-thin peeling red bark and an attractive shape. Fall foliage is bright red. If needed, prune in summer or early winter to prevent “bleeding” sap. Prefers well-drained, moist soil. Will thrive in full or partial sun.

Height: 20 to 25 feet
Width: 10 to 15 feet



Star Magnolia
Magnolia kobus var stellata

A small, deciduous, ornamental tree with beautiful flowers. Star Magnolia is often more shrub-like with white flowers and strap-like petals. The flowers may freeze with a sudden spring drop in temperature leaving a mushy brown mess. Try to locate in a protected site.

Height: 20 to 30 feet
Width: 20 to 30 feet



Weeping Higan Cherry
Prunus subhirtella pendula

A small tree, native to Japan, with beautiful spring flowers and a graceful weeping shape. This is the most cold, heat and stress tolerant of cherries and also the longest lived. Expect a profuse showing of pale pink flowers. Typically grown from grafts (joining parts of two closely related plants in order to grow as one).

Height: 15 to 25 feet
Width: 15 to 25 feet.

Native Trees

to East Tennessee

Native trees evolved in place over geologic time and are adapted to the unique climatic conditions of our region. Some plants native to North America may be considered ‘exotic’ to East Tennessee. Most exotic plants are harmless, but some pose serious threats to our regions biodiversity.

Choosing trees that are native to our region helps to restore our natural heritage and supports the local ecosystem. Wildlife recognizes and use native trees to support their biological needs. Landscaping with native trees in an urban setting helps restore regional character and places fewer demands on resources. These trees are environmentally friendly and require fewer pesticides and fertilizers because they are naturally adapted to local conditions. However, many native species are quite large and require ample room for growth, so some urban sites may be too restrictive. In this guide, trees considered native to East Tennessee are marked with the state flag.



Trees with Fragrant Flowers

Many tree species offer a range of beautiful flowers in the spring of the year that add fragrance as well as color to your landscape. The following trees are worth considering for their scent (flower colors are noted in parenthesis):

American Snowbell
Styrax americanus (white)

Black locust
Robinia pseudoacacia (white)

Flowering cherry
Prunus (some) (pink)

Flowering crabapple
Malus (some) (pink/red)

Fringe Tree
Chionanthus virginicus (white)

Magnolia
(many) (white/yellow/purple)

Yellow wood
Cladrastis kentukea (white/pink)

Medium Trees

30 to 60 feet high



Eastern Redcedar
Juniperus virginiana

A medium sized native that often thrives in areas where other trees are not growing. It tolerates adverse conditions, poor rocky soils and a wide range of soil ph. The eastern redcedar is a needle leafed evergreen with a dense, pyramid shaped crown. Actually a species of juniper, plant this tree for its evergreen color, hardiness and ornamental shape or as a windbreak or hedge. It is susceptible to bagworms, so watch carefully and pull them off when first seen.

Height: 40 to 50 feet
Width: 8 to 20 feet



Goldenrain tree
Koeleruteria paniculata

A tough tree native to the orient which can withstand drought, heat, wind and a wide range of soil types. It grows short and wide with pretty yellow flowers in early summer and interesting papery pods which hang on in the fall. The goldenrain tree transplants easily and has few disease or insect problems.

Height: 30 to 40 feet
Width: 30 to 40 feet



Green Ash
Fraxinus pensylvanica

A medium sized tree that prefers full sun, but is otherwise adaptable to a wide variety of sites. Fast growing, the Green ash features an irregular, oval crown and can handle wet soil and cold conditions.

Fall color may be yellowish, but is inconsistent. 'Summit' will yield the best fall color while 'Emerald' is a seedless version. Male and female flowers on separate trees. Prefers full sun.

Height: 30 to 60 feet
Width: 20 to 40 feet



Lacebark Elm
Ulmus parvifolia

This attractive tree, native to the orient, features fine foliage and exfoliating mottled bark. It features a rounded crown and is a tough tree for a variety of locations. Adaptable to a range of ph and poor soils and, it is resistant to Dutch-elm disease. Don't confuse this tree with *Ulmus pumila*, Siberian Elm (both are sometimes referred to as Chinese Elm).

Height: 40 to 50 feet
Width: 20 to 40 feet



Littleleaf Linden
Tilia cordata

Native to Europe, this tree is closely related to the American basswood, but is more tolerant, adaptable and ornamental. Lindens have an attractive heart-shaped leaf and wonderfully fragrant small flowers. They are very good lawn and street trees and quite tolerant to urban conditions. Small, fragrant yellowish-white flowers appear in drooping clusters toward late spring ('June Bride' is the heaviest bloomer). Fall color, if any, will be yellow. Young trees will need to be pruned for shaping and work best in deep, rich, moist soil. Prefers full sun.

Height: 30 to 50 feet
Width: 15 to 30 Feet

Medium Trees

30 to 60 feet high



Red Maple
Acer rubrum

Maple trees are famous for their bright fall colors and there are many types to choose from. The Red maple is a fairly fast growing tree features showy flowers in the winter. Fall color tends to be a brilliant scarlet. While it tolerates most soil conditions, it's not a good tree to plant near sidewalks or pavement as the roots are shallow and can lift pavement and invade water and sewer lines.

Height: 40 to 60 feet
Width: 40 to 60 feet



Sassafras
Sassafras albidum

The bark of roots of this tree is sometimes used to make tea. It is an aromatic tree that grows fast to about 25 feet then slows before reaching mature height. The form is pyramidal and fall color is usually excellent with leaves turning shades of yellow, scarlet and purple. If a male and female tree are located close together, the female will produce berries. Can grow if full sun or partial shade, but prefers well-drained, non-alkaline soil. While it can be hard to transplant, it tends to be disease resistant (but watch for Japanese beetles).

Height: 50 to 60 feet
Width: 30 to 40 feet



Sawtooth Oak
Quercus acutissima

Sawtooths are among the most tolerant of oaks. It grows moderately fast, can handle a variety of soil conditions (although it prefers well-drained acidic soil), stands up to heat and humidity and has no serious disease problems. Makes an excellent shade, lawn or street tree. Fall colors will be yellowish to brown. The leaves are similar to a chestnut.

Height: 35 to 45 feet
Width: 35 to 45 feet



Magnolia
Magnolia grandiflora

The 'Bracken's Brown Beauty' Magnolia is a graceful evergreen tree with attractive leaves and flowers. The leaves have a rust-colored underside that flashes when blown by the wind. The flowers are creamy white with a lemon scent and bloom in late spring. This tree is hardy, dense and compact and provides year round beauty. Magnolia's prefer well-drained, neutral to slightly acidic soil. Pruning should occur before the spring growth.

Height: To 30 feet
Width: 10 to 15 feet



Yellow wood
Cladrastis kentuckea

An appealing, spreading shade tree for smaller sites. It has beautiful white, fragrant panicles of flowers that bloom every two to three years. Prefers a well-drained site in full sun, but tolerates a range of soil ph. A tree with very few disease problems.

Height: 30 to 50 feet
Width: 40 to 55 feet



Trees for Winter Beauty

After the fall color show and the leaves are gone, many trees are still quite beautiful with features such as peeling bark, contorted limbs or winter berries. Below is a selection of trees that can be of particular visual interest during our colder months:

American beech
Fagus grandifolia

Crape myrtle
Lagerstroemia indica

Flowering dogwood
Cornus florida

Paperbark maple
Acalypha griseum

Sycamore
Platanus

Winterberry
Ilex verticillata

Saline Tolerance

Some trees are noted for their ability to tolerate saline soils and salt spray drift. This is often a concern along sidewalks and roads where salt is used to remove ice and snow. Such salt accumulation is typically within 30 feet of major roads. Below is list of trees known to be tolerant of such conditions:

Baldcypress
Taxodium distichum

Goldenraintree
Koelreuteria paniculata

Green Ash
Fraxinus pennsylvanica

Pin Oak
Quercus palustris

Southern Magnolia
Magnolia grandiflora

Sweetgum
Liquidambar styraciflua

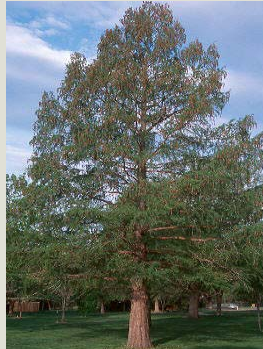
Large Trees More than 60 feet high



American Beech
Cercis canadensis

This deciduous tree features a smooth silvery-gray bark and dark green leaves. Valued for its hardwood, it is a stately tree that once covered much of the Eastern United States. The American Beech is more tolerant of heat than the other beech species. This tree is often recognized for its smooth gray bark and its small leaves which have tooth-like edges. These are grand trees that require plenty of room and therefore are not recommended for smaller spaces.

Height: Up to 90 feet
Width: Up to 60 feet



Baldcypress
Taxodium distichum

A needle-leaved deciduous tree that thrives in urban areas because of its tolerance of compacted soils. It is also adaptable to wet, dry and well-drained soils, but does need a sunny location. This is a picturesque tree with a pyramidal shape and attractive leaf texture. This is a tall tree that needs enough room to look its best.

Height: 50 to 60 feet
Width: 20 to 30 feet



Chestnut Oak
Quercus Prinus

Chestnut oak is a native tree that grow naturally on poor, steep, rocky sites. It will spread as wide as it is tall and are typically planted for their solid, long-life; not their slow growth and lack of fall color.

Height: 60 to 70 feet
Width: 60 to 70 feet



European Hornbeam
Carpinus betulus

Native to Europe, this tree makes an excellent landscape tree, typically growing about 40 feet tall. The crown will take a natural pyramidal shape with some drooping outer branches. Outstanding features of this tree include the attractive bark and its resistance to insects and disease. Although it thrives best in full sun, it will tolerate light shade. 'Fastigiata' is the most common selection.

Height: 40 to 60 feet
Width: 30 to 40 feet



Northern Red Oak
Quercus rubra

This is a good oak for city life because it is pollution tolerant and disease and insect resistant. It just needs a sunny site with a soil ph on the acid side. On more alkaline sites, the leaves may turn yellow from lack of iron. It also transplants easily and, if cared for, will outlive the person who plants it. Roots run deep. Fall color will range from dark red to orange. This is a good tree for big lawns, parks or broad avenues.

Height: 60 to 75 feet
Width: 50 to 60 feet



Large Trees

More than 60 feet high



Pin Oak
Quercus palustris

There are some 600 species of oaks. The Pin oak is popular as a lawn and street tree. It needs acid soil and plenty of water, but will tolerate poorly drained soil. Growth can be fairly rapid at first. The lower branches tend to droop toward the ground. If the lower whorl is pruned away, the branches above will adopt the same pattern. In fall, the leaves will turn yellow, red and then brown (and may hang on during winter). It's very important to know the soil conditions when choosing any oak. A common mistake is to plant acid loving oaks, like the Pin, in alkaline soil.

Height: 50 to 80 feet
Width: 25 to 40 feet



River Birch
Betula nigra

This tree starts out as a fast grower with a trunk that typically forks near the ground (although it can be trained into a single trunk). The River birch can handle hot, humid weather and poor drainage but will need watering during drought conditions. Prune in summer to remove weak, damaged or dead branches. Also known as Red birch. Watch for the bronze birch borer which will cause the tree to die from the top down. The Sweet Birch (*Betula lenta*) is a smaller birch (40-50 feet tall). It is not planted as often now, but is known for its sweet bark once used to make birch beer.

Height: 50 to 90 feet
Width: 40 to 60 feet



Southern Magnolia
Magnolia grandiflora

The queen of southern evergreens, Southern magnolia is a large, low branching tree with pyramidal shape. It has large, leathery, dark green leaves and beautiful fragrant flowers eight to twelve inches in diameter. Grow in full sun or partial shade and transplant in winter or early spring. It sometimes drops its leaves when transplanted, but will generally grow more. There are many cultivars available like 'Little Gem' which is one of the smallest, but blooms at a young age.

Height: 60 to 80 feet
Width: 30 to 50 feet



Sweetgum
Liquidambar styraciflua

An excellent lawn, park or street tree, the sweetgum can withstand compacted or wet soil conditions. It does best on a site with full sun where its roots have plenty of room to grow. The leaves turn a beautiful yellow or maroon red in the fall and the fruits hang dark brown on the tree through the winter. For those who don't want the fruit balls, there is a seedless form (*rotundiloba*).

Height: 60 to 75 feet
Width: 35 to 45 feet



Tulip Poplar
Liriodendron tulipifera

Also known as the yellow poplar, this tree is the official state tree for Tennessee. It is one of the tallest, straightest and oldest of broad-leaved trees. This is not a tree for small spaces, but is magnificent as a mature specimen covered with tulip-like green and orange flowers or yellow fall leaves. Tulip poplar is sometimes weak-wooded and self-pruning of lower branches may occur.

Height: 70 to 90 feet
Width: 35 to 50 feet



Trees to Avoid

It's important to mention trees that are considered by many as potentially undesirable choices. The following trees are not recommended, particularly in an urban setting (with the reason noted in parenthesis):

Boxelder - *Acer negundo*
(weak wood, prolific reproduction)

Bradford Pear - *Pyrus calleryana*
(splitting)

Female Ginkgo - *Ginkgo biloba*
(objectionable odor)

Hackberry - *Celtis occidentalis*
(weak wood, messy berries)

Honeylocust
Gleditsia triacanthos
(thorny trunk and branches)

Mimosa - *Albizia julibrissin*
(disease prone, prolific reproduction)

Red Mulberry - *Morus rubra*
(fruit that stains)

Siberian Elm - *Ulmus pumila*
(frequent falling branches)

Tools for Planting

Here is a list of some useful things to have on hand when preparing to plant your new tree:

Large spade or shovel (or pick ax if the soil is compacted)

Large tarp or cardboard to hold excess soil

Heavy duty wire clippers and scissors

Measuring stick

Pruning shears

Small pruning saw

Gloves

A water hose to reach the tree or buckets for carrying water

A bag each of top soil and mulch

Sticks and string for staking

Planting Correctly

6 Easy Steps

After deciding where to plant your tree and choosing the best possible specimen, it's time to prepare the site and plant the tree. It's best to plant during the dormant season, between November and March. It's during this period of dormancy that the tree can establish roots before new growth begins. These 6 steps will help ensure a successful tree planting:

Step 1: Marking the Spot

Pick the best spot for the tree. Measure the height and diameter of the root ball or the height and diameter of the soil in the container. Keep the new tree in the shade and the root ball well watered before planting.

Step 2: Digging the Hole

Dig to the depth of the root ball. Leave the bottom of the hole firm. Dig the hole 2 to 5 times as wide as the root ball with sloping sides. Break up any compacted soil. The sides of the planting space should not be packed. Retain the soil from the hole on a large tarp. Use this same soil to backfill the hole after planting. It's not necessary to amend the soil unless planting in severely deficient soils and fertilizing at planting time is not recommended.

Step 3: Planting the Tree

Lift the tree into the planting space by the root ball, not the trunk. Balance the tree upright in the center of the planting space. Set the new tree in the hole so that the root ball is at or a little above the surrounding soil level. Check the old soil line on the tree. It is usually a brownish ring on the trunk. Planting your tree too deep will cause the roots to suffocate.

If planting a container grown tree, cut away the container just before the tree is placed in the hole. Check the roots to see if they grow in a circular pattern around the container. Cut any large circling roots or pull them towards the outside. If planting a balled in burlap tree or a tree in a wire basket, cut away any swing or twine and cut as much of the burlap or wire basket away as you can. Be sure that the burlap does not stick out above the soil, or it will draw water away from the roots.

Step 4: Fill the Hole

Use the pile of soil to backfill around the root ball. Remove any large rocks and break up any chunks of soil. Pack the soil firmly around the root ball, but do not tightly compact it. When the hole is 2/3 full, water the soil to settle any pockets of air. Finish backfilling until the soil is level with the top of the root ball.

Step 5: Build a Berm

Use the extra soil to build a raised berm 2 to 4 inches high around the planting area to hold water in the area of the tree's roots.

Step 6: Water and Mulch

Finish the project by watering the tree and putting a 3 inch layer of mulch around the tree. Be sure to keep the mulch several inches away from the tree trunk and don't pile it up (like a volcano). The mulch will help to keep grass out, retain moisture and protect the bark from mowing/trimming equipment. Only stake the tree if absolutely necessary and if so, remove the wires or strings after one year.

Caring for Trees

Keeping Them Healthy (and Safe for You)

The best insurance against insect and disease problems is a consistent watering and maintenance plan. Remember to keep an eye on your tree. It will help you to spot problems early and you will enjoy watching your tree change and grow. Four key activities will ensure a healthy tree:

Watering

Regular watering is very important, especially early on. For a period of at least three years, water your tree every week if rainfall is low. A thorough and deep soaking is best (about an inch), but try not to flood the roots (they need air too). Trees need water regardless of the time of year, so don't forget them during the winter months.

Fertilize

Do this only if necessary and if the tested soil indicates a deficiency. If needed, it is recommended that you not fertilize your tree until spring of the second year following the planting. Applying 1/2 pound of ammonium nitrate granular fertilizer scattered within 3 to 4 feet of the trunk should be sufficient. Be sure to water the tree after fertilizing so it will be carried down to the root area. Fertilizer is *not* tree food and should be applied only when necessary.

Pruning

This should be done with a purpose, not just as an automatic routine. It is important to keep a watch on your trees and to remove and dead or damaged branches or those that are crossing and in contact with other branches. Lower branches should be removed as soon as possible because smaller wounds are less stressful to the tree. No more than 1/4 of the tree should ever be removed at one time. Good pruning doesn't show.

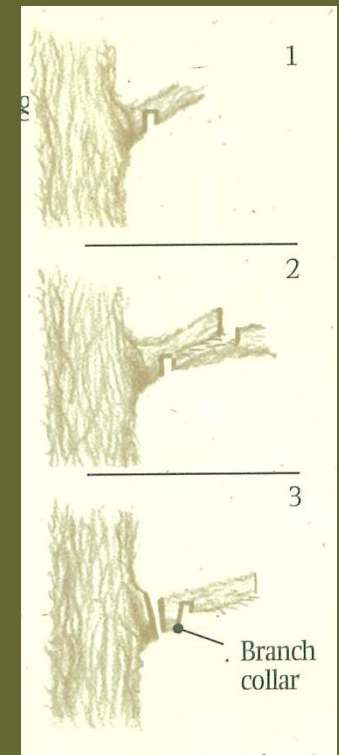
To prune correctly, locate the branch collar, the slightly swollen ridge where the branch attaches to the trunk or a larger branch. It is recommended that you make three cuts to avoid tearing the bark. On larger branches (see side bar). The best time to prune living branches is in late dormant season or very early spring before the leaves begin to open. Always use sharp tools and make clean cuts. Never prune near utility wires. And, of course, never top the tree. For more information on tree topping, see page 12.

Protection

Often a tree is injured unknowingly. Construction, soil compaction, lawn and garden equipment and chemicals or wounds to the trunk can have a serious effect on the health of a tree. For example, parking a truck under a tree can quickly compact the soil so the roots can't grow. Adding asphalt, concrete or just a few more inches of soil around the trunk can all impact the amount of water and oxygen available to the roots. Mulch can be a tree's best friend because it can protect the tree trunk from lawnmowers and trimmers. Fertilizers and pesticides can either help or harm your trees. Just because a little is good, doesn't mean a lot is better. Avoid excessive use of commercial fertilizer-herbicide mixtures near trees because toxic amounts of herbicides may be absorbed by the roots.

Pruning Steps

Pruning branches larger than 2" in diameter is best done by following the three steps illustrated below. This will avoid tearing the bark and limit damage to the trunk.



Additional Resources

National Arbor Day
Foundation
1-888-448-7337
www.arborday.org

Morristown Tree Board
(423) 581-4620
www.mymorristown.com/
plan_tree.php

American Forests
(202) 737-1944
www.americanforests.org

Tennessee Urban Forestry
Council
(615) 352-8985
www.tufc.com

Never Top a Tree

Topping a tree is basically cutting the limbs back too close to the trunk. It seems quick and easy, but is one of the most destructive and unnecessary things you can do to a tree. Yes, your father probably did it, and his before him, but now you can learn why this practice is so harmful.

Topping removes so many leaves that the tree can starve. Good pruning practices rarely remove more than 1/4 or 1/3 of the crown. Removing more can seriously interfere with the ability of a tree's leafy crown to manufacture food. Topping can cause shock from sun scalding because the crown acts like an umbrella that shields much of the tree from the sun. It can also leave large wounds (cutting points) vulnerable to insect and fungi invasion because the stubs have a difficult time forming calluses (the tree's chemically based natural defense system is disrupted). New growth from topping is very rapid, but much weaker and you will likely find more falling branches in your yard. And finally, to be frank, topped trees are ugly. They lose all their grace and character because the natural shape of the tree has been destroyed.

The drawings to the right illustrate the results of topping versus correct pruning of a tree. It is provided as a service from the National Arbor Day Foundation. Although the speed and nature of regrowth will depend on species and local factors, any comparison of irresponsible topping vs. competent pruning will be dramatic. The true costs of tree topping are often hidden. These include: reduced property value, the expense of removal if the tree dies, the loss of other trees and shrubs if they succumb to changed light conditions, the risk of liability from weakened branches and increased future maintenance.

If you have a tree that needs to be trimmed, please review the pruning guide or call a qualified arborist. A professional combines skill and good judgment in order to retain a tree's beauty and usefulness.

