

A photograph of several children participating in a tree-planting activity. They are using yellow and orange plastic shovels to dig a hole in the grass. A small tree sapling is visible in the background. The image is partially covered by a green diagonal overlay on the right side.

Neighborhood Tree Planting Guidebook

WHAT'S INSIDE:

- Proper Tree Care
- Funding Sources
- Choosing and Planting Trees
- Organizing Community Members

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This guide is designed to be a resource for community, neighborhood, and individual tree planting throughout the Lexington area. The information in the following sections will:

- Assist homeowners in planning and organizing a neighborhood tree planting effort
- Provide a framework for determining the needs of an individual neighborhood
- Provide resources for determining focus areas for planting and selecting appropriate tree species for the site
- Instruct homeowners in properly planting, maintaining, and caring for trees
- Discuss obstacles, environmental concerns, and strategies for community engagement throughout the process

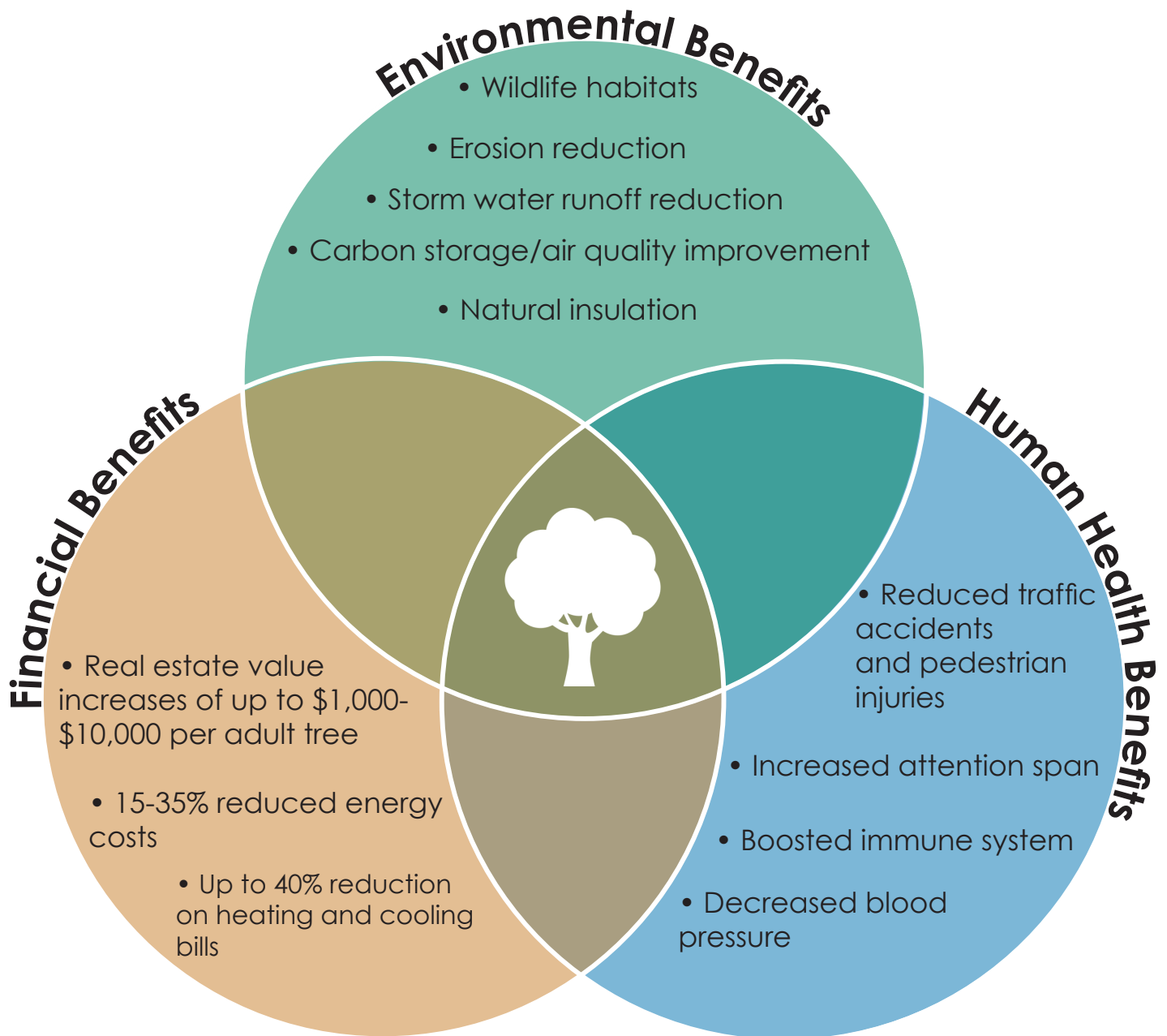
AWKNOWLEDGEMENTS

This project was funded through Lexington Fayette Urban County Government Stormwater Incentives Grant Program. Bluegrass Greensource wishes to thank LFUCG, Urban Tree Initiative, Louisville Grows, and all sources for diagrams and information for their assistance with this guide.



THE BENEFITS OF TREES

In addition to providing resources for how to plant trees, it is important to look at how homeowners would benefit by a tree planting project in their neighborhoods:



National Tree Benefit Calculator

www.treebenefits.com

This tool takes into account the area code of a neighborhood, property type (residential, business, or park), the species of tree being planted, and the tree's diameter. The calculator determines how much urban storm water runoff will be intercepted, the increase in property value, the increase in energy efficiency for nearby buildings, the air quality benefits, and the reduction of carbon emissions. Using these variables, it calculates the annual dollar value of that tree.

PLANNING A TREE PLANTING PROJECT

A close-up photograph of a hand holding a silver pen, writing on a checklist on graph paper. The checklist has several items, each preceded by a square box. Some of the visible text includes 'Drive', 'Drive', 'Mo', and a partially visible 'M'. The background is blurred, showing more of the graph paper and the hand.

A community tree planting is not difficult, but there are a few things to keep in mind to ensure that it goes smoothly and that the well-being of the trees is promoted.

GATHERING COMMUNITY MEMBERS

When considering a tree planting, the first step is to gather members of the neighborhood who share an interest in the project. One of the best times to do this is at a neighborhood association meeting. However, it is important to spread the word in a variety of other ways including:



Social media



Neighborhood
association
newsletters



Email campaign



Door-to-door

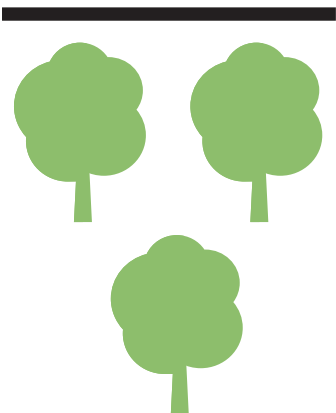
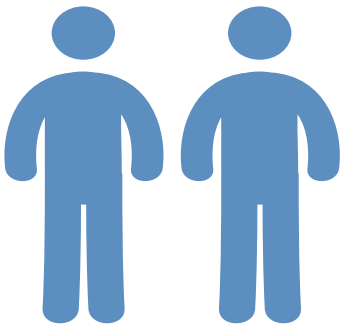


NextDoor.com

By using a variety of means to reach out to neighbors, you ensure more people will be in attendance and people with relevant skills (e.g. avid gardeners) are consulted. You may even find that one of your neighbors is also trained and certified in yard and garden maintenance!

Volunteers

Volunteers are key to the success of an event like this. It is crucial to recruit, retain, and follow up with volunteers. Engage neighbors based on how they best communicated. The volunteer opportunity can be promoted through e-mail, newsletter, church flyer, door-to-door, or a neighborhood listserv like NextDoor.com. List the event on volunteer websites such as VolunteerMatch.org, and be sure to recruit enough volunteers to get the job done. **A good rule of thumb is two volunteers for every three trees to be planted.**



5 TIPS FOR MANAGING VOLUNTEERS



Communicate frequently with volunteers before the event and provide information about what to wear, the location/time of the event, and where to park.



Event leaders and volunteer managers should arrive at least half an hour early to set up.



Provide water and snacks for volunteers.



Invite master gardeners to provide guidance and planting demonstrations.



Provide check in sheets for volunteers to track how many people were involved and have contact information to send thank you letters.

FUNDING AND BUDGETING

A tree planting can yield many great benefits, but there is an initial investment of time, effort, and money required by the community. There are a variety of costs associated with trees, transportation, and equipment. A complete budget will consider not only the cost of the trees, but also the relevant tools and supplies.

Neighborhood Tree Planting Supplies List

- Shovels
- Garden trowels (to break up dirt)
- Gloves
- Mulch
- Water
- Transport (for trees and equipment)
- Refreshments

Neighborhood and homeowner associations may have a budget for beautification projects, but some do not. If you do not have a budget already, here are some other ways you can find funding for your tree planting project:

Community Organizations

In some cases, it may be possible to find a community member or organization who would be willing to donate funding, supplies, or even trees themselves. Community organizations with a 501 (c) (3) designation may be eligible for a wider range of grant foundation and government programs, and is possible that those organizations may apply on behalf of others and manage the funding portion of the project.

Resident Buy-In

Resident buy-in allows neighbors to take ownership for a section of the project. This promotes a sustained interest in caring for the trees, encourages teamwork and collaboration, and can make the tree planting an affordable endeavor. There should be a special acknowledgement to all the families who donated to make the tree planting possible. This can be done vocally or written at the bottom of neighborhood advertisements, for example.



The Bluegrass Community Foundation can often serve as a fiscal agent if an organization would like to apply for a grant, but does not have the nonprofit status.

There are also opportunities for the public to apply for grants through Urban Forest Initiatives, local companies, and local government. Some examples are listed below:

LFUCG Cost-Share Program*

<https://www.lexingtonky.gov/urban-forestry>

LFUCG Grant Matching*

<https://www.lexingtonky.gov/departments/grant-and-special-programs>

Louisville Gas and Electric and Kentucky Utilities Tree Planting Grants

<https://lge-ku.com/environment/plants-and-wildlife/tree-planting-grants>

*LFUCG has a history of matching funding for neighborhood development projects.

CHOOSING TREES TO PLANT

A major concern when planting a new tree is how well it will fit in the planting area in the future. Depending on the tree species, it could take 20 or more years for the tree to fully develop, so it is important to ensure that when fully grown, the tree will still fit and thrive in the planting site.

Why?

Why is a tree necessary in this area? Canopy spread, shape, and tree type can impact the aesthetic and environmental effects a tree has on an area.

Where?

Where are trees being planted? Consider nearby roads, electric lines, local pollution sources, and the local weather conditions.

What?

What tree species would survive well here and provide the area with the desired impacts?

Take the following into consideration when choosing a tree:

Height: Are there power lines or anything that will impede the trees growth?

Is the tree deciduous or evergreen? Deciduous trees, like oaks and maples lose their leaves each fall/winter, and evergreens, like pines, keep them all year long.

Canopy spread: Are you looking for a wide shade tree, or a narrow, tall tree? If absorbing heat is a priority, the tree needs to have a broad crown to provide adequate shade.

Soil, sun, and moisture. Ensure the tree will have the proper requirements to grow.



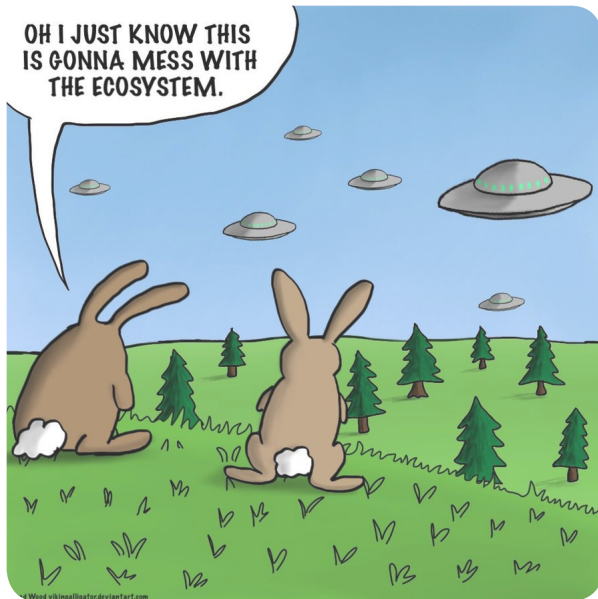
Form or shape: A columnar tree will grow in less space. Round and V-Shaped species provide the most shade. For example, if a tree is a weeping style, then it should not be planted near electric lines or streets due to its drooping bell shape.

Fruit: If the tree will be close to a sidewalk or walkway, avoid trees with messy fruit. Fruit trees should not be placed near a road, due to the pollution they may absorb.

Growth rate: How long will it take for your tree to reach its full height? Fast growing species typically live shorter than slow growing species.



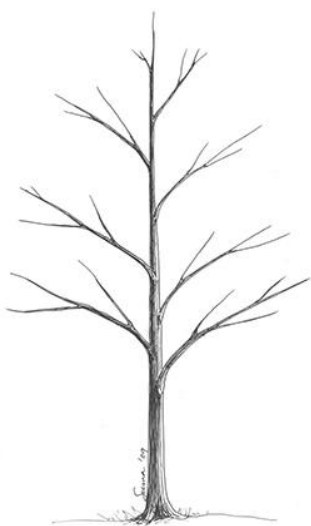
Before any planting is done, call BUD. Before You Dig (BUD), call 811.com, will clearly identify underground utilities so you can avoid costly and dangerous accidents. There is no cost for this service.



It is important to avoid invasive species. Invasive trees such as Mimosa and Trees of Heaven can have devastating impacts on other plant species throughout the region. Some species are not native, but are not destructive like invasive species; these are labeled as *ornamentals*.

Planting a Street Tree? Trees planted between the sidewalk and the street provide aesthetic, environmental, and socioeconomic benefits that help improve our quality of life, but must adhere to restrictions set out by local government. In Lexington, removal or planting of a street tree requires a permit from the city's Urban Forester. A list of approved street trees can be found in Lexington's Street Tree Brochure.

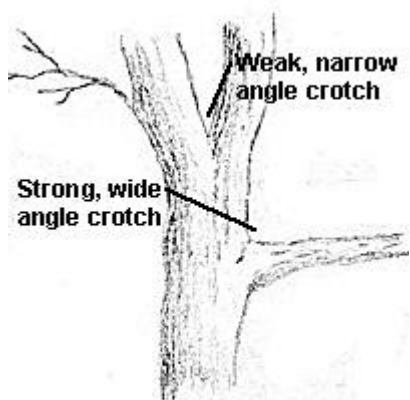
Purchasing Trees



Tree with a strong central leader and evenly spaced branches.

After deciding what tree varieties are to be planted, head to the local nursery! There are various factors to consider when choosing a healthy tree, beginning with the general condition of the tree. Discoloration, small holes, or damaged bark are indicators of pests or that the tree was poorly cared for during transportation.

Pay close attention to the tree's leader. The leader is the central upright stem of the tree that should be as straight as possible. Having a strong, well-developed leader will ensure that the tree grows straight. Moving down from the leader, move down the trunk to examine the spacing of branches around the tree. As a tree grows, having evenly spaced branches will promote balance throughout its life.



When examining the branches, take into consideration the angle the branch makes with the trunk. If the angle between the branch and trunk is roughly less than 45 degrees, then the branch has a narrow branch crotch, which is weak. Look for branch crotches that measure between 45 and 60 degrees. Having a stronger branch crotch will ensure that the branch does not snap off easily.

What Kinds of Trees to Plant

The chart below shows the approximate sizes and categories of various tree species that are well-adapted to the Bluegrass Region:

Tree	Native/Non-native	Height (ft)	Spread (ft)
Sunny Area Trees			
American Smoketree	Native	20-30	15-20
Basswood Linden	Native	60-80	30-40
Chinkapin Oak	Native	40-60	30
Shade Tolerant Trees			
American Hornbeam	Native	30	25
Kentucky Coffee Tree	Native	50-70	30-40
White Dogwood	Native	20-30	15-20
Street-Side Trees			
Hawthorn	Native	20-30	20-30
Trident Maple	Non-native	20-25	20-25
Paperback Maple	Native	20-25	15-20
Fruit Producing Trees			
Black Cherry Tree	Native	18-20	15-20
Papaw	Native	15-20	15-20
Persimmon	Native	60	25-30
Short Trees			
Common Witchhazel	Native	20-30	15-20
Papaw	Native	15-20	15-20
White Fringetree	Native	12-20	12-20
Tall Trees			
London Planetree	Non-native	70-90	35-50
Northern Red Oak	Native	50-80	30-40
Tulip Poplar	Native	70-90	35-50
Wide Trees			
Bur Oak	Native	70-80	80
Yellowwood	Native	30-50	40-55
Winged Elm	Native	60-90	50-70
Drought Resistant Trees			
Easter Redbud	Native	20-30	25-35
Ginkgo	Non-native	50-80	30-40
Kentucky Coffee Tree	Native	50-70	30-40
Attractive Trees			
Eastern Redbud	Native	20-30	25-35
Serviceberry	Native	20-25	15-20
White Fringetree	Native	12-20	12-20

PLANTING AND MAINTAINING TREES



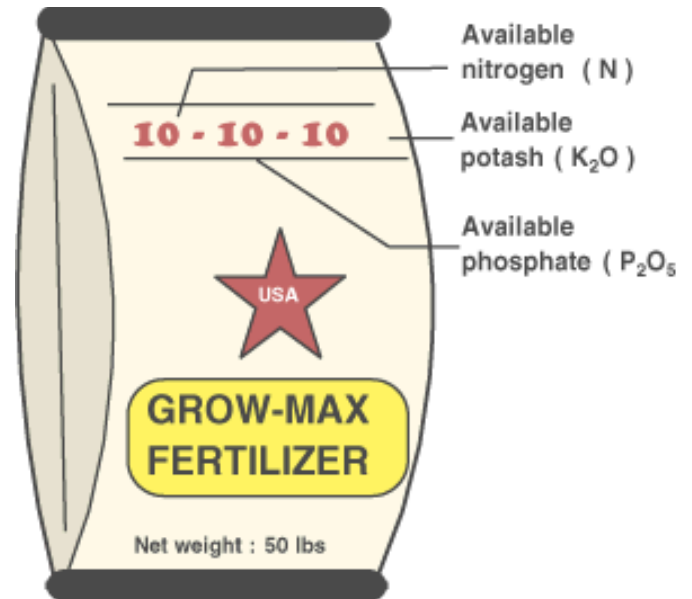
Planting a tree is a simple and fairly quick process but how it is planted has long-lasting effects on the growth and well-being of the tree. Even if the tree is selected and put in the right planting site, improper planting can mean the tree will struggle to survive or reach its full potential: taking care to ensure the tree is planted well is a crucial step in determining whether or not all of this hard work will pay off. Further, making sure that the tree is cared for consistently after the planting will promote its well-being and the aggregate ecosystem services that urban trees provide.

BEFORE PLANTING

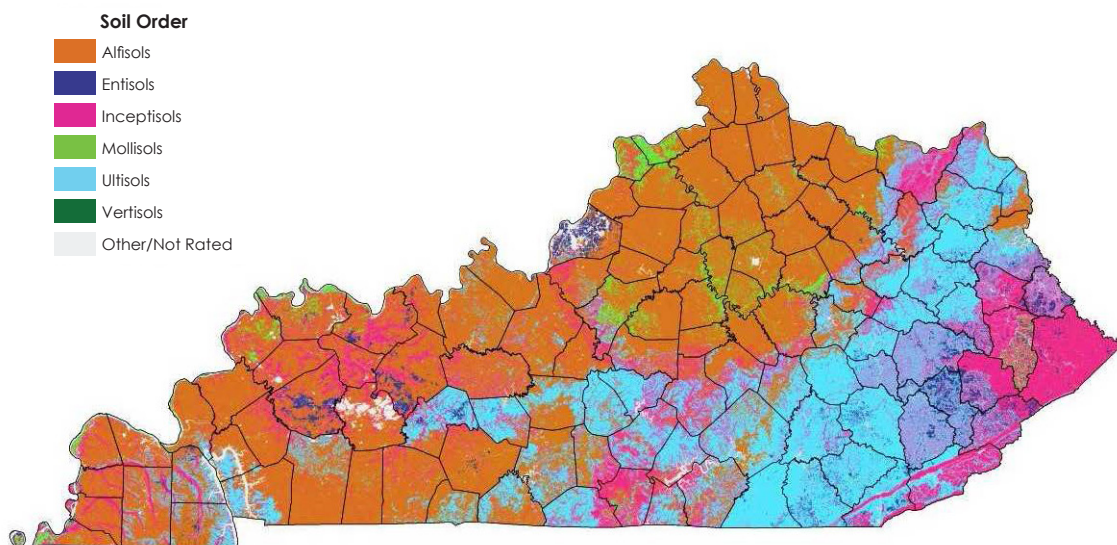
Soil Nutrients

Trees draw nutrients from the soil around them. Just like any other living being, trees require an appropriately balanced diet in order maintain their well-being. Unlike animals, trees are restricted in their movement, so the conditions of the soil in which they are planted is of utmost importance to their health.

If possible, conduct a soil test in order to determine the major nutrients and pH level of the soil. As mentioned above, test kits may be purchased at local home and garden stores, and affordable soil testing services are provided by the University of Kentucky's Soil Testing Lab. **It is best to refrain from adding fertilizer until the soil has been tested and any deficiencies are identified.** Over use of fertilizer can lead to excess fertilizer being washed into storm drains, ultimately leading to rivers, streams, and lakes.



If the planting site does require fertilizer, it is important to pay attention to the three major nutrients that are typically listed on the front of the bag: nitrogen (N), phosphorous (P), and potassium (K). The bag will likely have three numbers corresponding to the ratio of each of the aforementioned nutrients, N-P-K. If a bag reads 10-10-10, that means it contains 10% nitrogen, 10% phosphorous, and 10% potassium. **Keep in mind that Kentucky soils naturally have a high amount of phosphorous, so a balanced formula (10-10-10) may not be the best option. Instead, formulations with ratios such as 10-0-0 might be more suitable.**



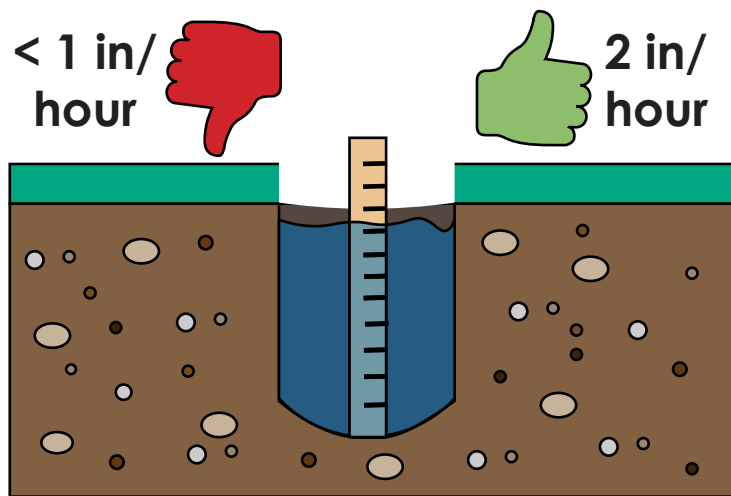
Soil map of Kentucky. The Bluegrass region is made up primarily of Alfisols, which are typically high in soil nutrients and very fertile. Check your soil before adding fertilizer!

Drainage

Soil permeability is an important aspect of tree planting. If the soil is not draining well enough, water can saturate the soil for long periods of time, and such saturation can kill the roots of many tree species. In order to determine how well a particular area of soil drains, you can perform a percolation test. You can do this by:

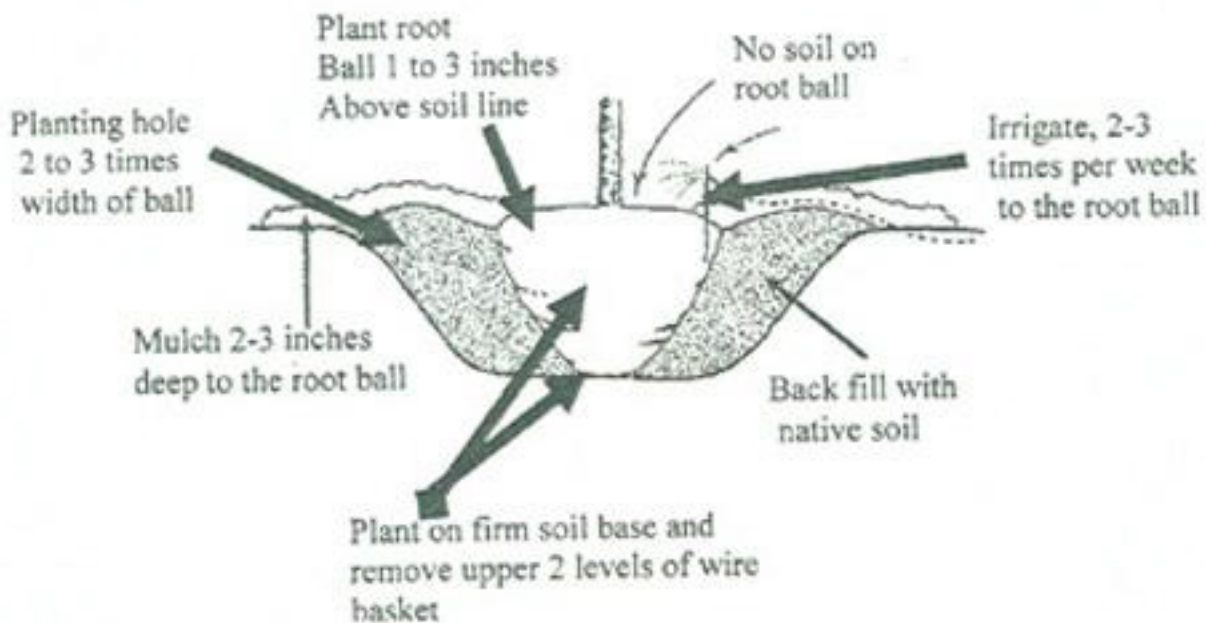
Percolation Test

- 1.) Dig a hole 3-4 inches in diameter and at least 12 inches deep
- 2.) Fill the hole with up to 12 inches of water and refill as needed for one hour to maintain the water level
- 3.) Allow the hole to drain and measure the rate at which the water drains from the hole. Ideally, water should drain at a rate of 2 inches per hour



A drainage rate of anything less than 1 inch per hour is indicative of poor drainage. In these cases, plant a tree species that is capable of thriving in saturated soil, select a planting site with better drainage, or find a way to improve drainage at the site.

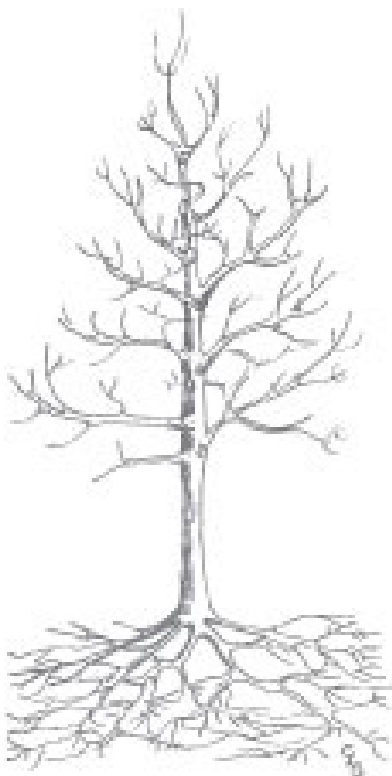
Digging the Hole



The planting hole must be considerably wider than the roots or root ball, about three times as wide is best. The sides should slope gradually, making the hole saucer-shaped or bowl-shaped. Do not dig any deeper than the depth of the root ball. The root flare of the tree should be visible and level with the surrounding ground after planting. Remember to backfill the hole with the soil that you dug out of it. Returning native soil back to the hole will promote growth.

Preparing the Roots

The table below explains how to prepare the roots for bare root trees, balled and burlapped trees, and container grown trees.



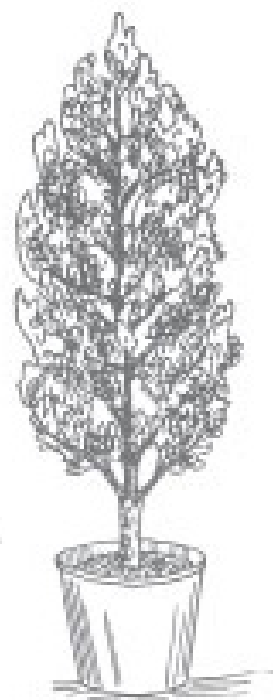
Bare Root Trees

- 1.)** Allow the roots to soak for 1-2 hours (not more than 24).
- 2.)** Dig a hole large enough for the tree's roots to fit.
- 3.)** Spread the roots out in the hole. This will promote outward growth.
- 4.)** Make sure the graft union (where the trunk meets the roots) is 2-3 inches above ground.
- 5.)** Ensure tree is straight. If the tree will not sit straight, it may be necessary to use a tree stake.
- 6.)** Gently refill the hole with soil, and water the tree.



Balled and Burlapped Trees

- 1.)** Begin by handling the tree by the root ball, not the trunk of the tree.
- 2.)** Lower the root ball into the hole.
- 3.)** Carefully remove the wire basked and burlap around the root ball.
- 4.)** Remove any remaining twine from the root ball to prevent girdling (as a tree grows, any excess twine could tighten around limbs and could potentially cut off the affected limbs).
- 5.)** Backfill the hole with soil removed during digging.
- 6.)** Thoroughly water and firmly pack the area.
- 7.)** Stake if necessary.



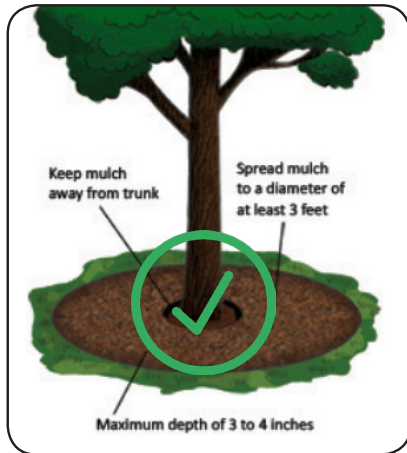
Container Grown Trees

- 1.)** Begin by handling the tree by the container, not the trunk.
- 2.)** Remove container and loosen any entangled roots. If necessary, make 4-5 cuts into the root mass. This will prevent the roots from becoming entangled (or circling).
- 3.)** Lower the tree into hole and backfill the soil.
- 4.)** Thoroughly water and firmly pack the area.
- 5.)** Stake if necessary (see section 3.7).

CARING FOR YOUR TREES

Mulching

Mulching is an important step in ensuring the future growth and health of a tree. Mulch helps retain rainwater at the planting site, and it also acts as a thermal insulator for the soil, ensuring that the temperature does not grow too warm or too cold. This helps the roots of the trees make a comfortable home in the planting site. **The mulch layer should be no more than 2 inches deep after settling.** The diameter of the layer will depend on the size of the tree, but generally avoid clumping a deep layer of mulch in a small diameter around the base of the tree. See below for examples of good mulching and bad mulching:



Pruning

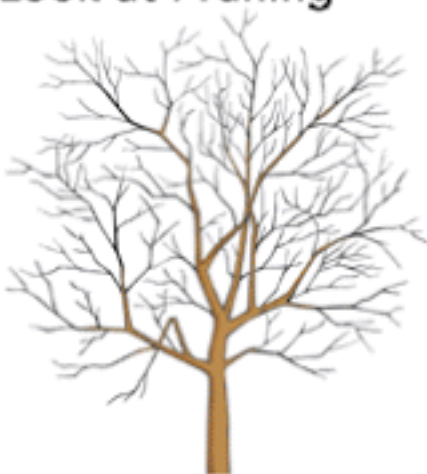
Pruning is important when dealing with trees long term. Urban trees can sprawl outside their intended limits, negatively affecting driving conditions, power lines, and pedestrian safety. **It is best to remove only a small percentage of the live part of a tree at one time.** Healthy trees can be pruned up to 25% in one year, but avoid pruning 25% of the tree crown two years in a row. It is especially important to prune broken and diseased limbs to contain the damage.

The images below show examples of good pruning and bad pruning.

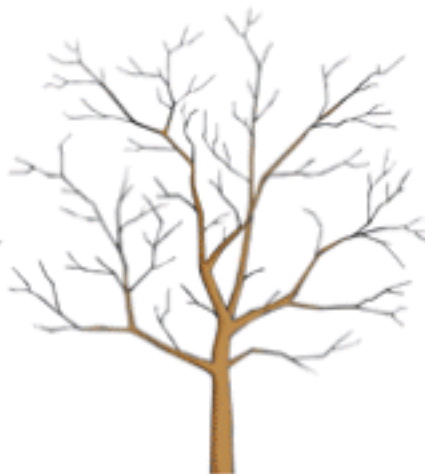
A Look at Pruning

GOOD

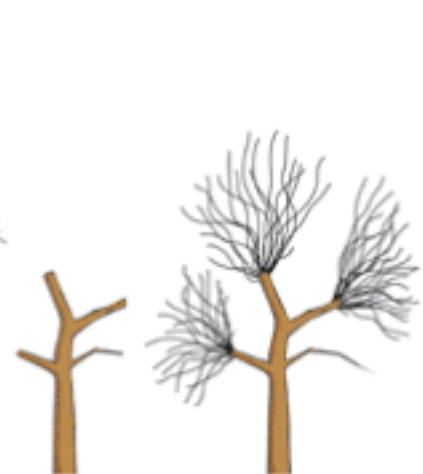
NOT GOOD



Before Pruning



Well-Pruned, Open Head



Topping produces clumps of uncontrolled growth

Staking

Staking a tree can be beneficial during its early development, but the staking must be done with care in order for it to be helpful. Trees need to become accustomed to natural winds and other forces in their new environment. When trees are first introduced to a new environment, they have not yet put deep roots in the ground. This means sometimes they need help with stability by having stakes connected to the tree.

WHEN TO STAKE A TREE

If your tree is in a:



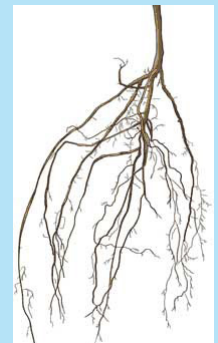
Wide Open Area



Windy Area



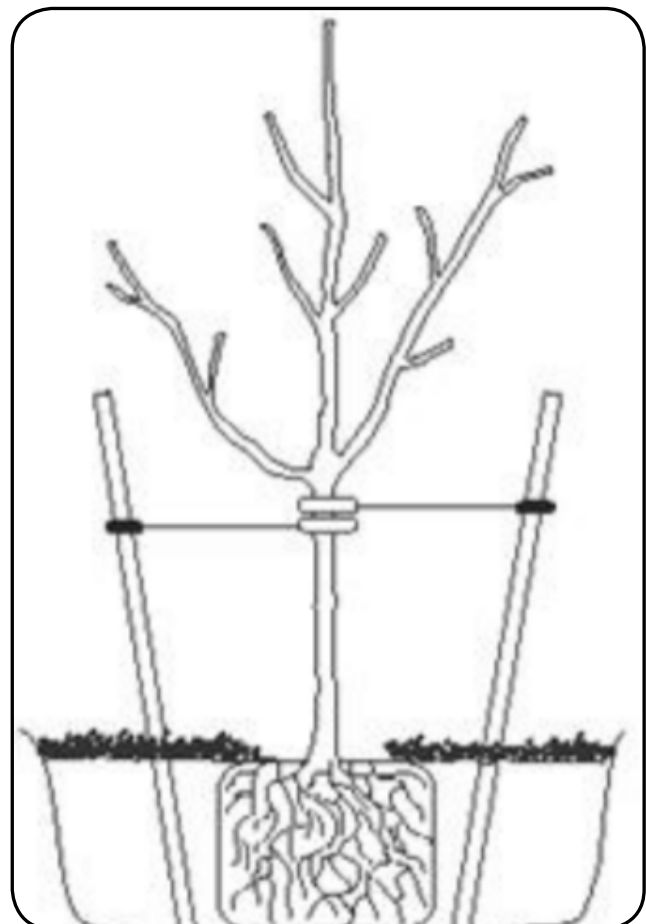
Floodplain



Tall, Bare-root Tree

Some important tips for staking include:

- Stakes should be made of flexible material in order to adjust as the tree grows.
- Two stakes on opposite sides of the tree should be used.
- Stakes should be placed on the outside of the root ball for maximum support and to avoid damaging the roots.
- Stakes should be placed at least a foot away from the tree on both sides.
- Stakes should be no higher than 2/3 of the height of the tree.
- Shake the stake in order to test whether it will withstand the wind.
- Stakes should usually be removed after one growing season when they are able to stand on their own.



Watering

Water is an essential element in the growth of trees. When trees are first planted, they need water from significant rainfall events or from watering consistently to establish a healthy root system in their new home. **A good rule of thumb is that trees will need 10 gallons of water per inch of trunk diameter every week.**

For each new tree, water daily, continuing for about 2 weeks after planting. After these two weeks, water the tree every 2-3 days, continuing for about 8 weeks. At this point, the tree may be well-established in the new planting area. If the tree is not fully established in its new growth area, then a weekly watering schedule is to be performed until the tree is fully established. The larger the tree, the longer this will take. **Water is to be applied directly to the root ball (the area where the roots are located) and to the area surrounding the root ball to promote outward root growth.**

If frequent watering is difficult, slow release watering bags may be a good alternative. These bags can be found at many home improvement stores, as well as online, and can cost between \$10 and \$20 each.

Trunk Protection

There are a number of tree guards you can install to help protect trees from handling/planting equipment, weather, or animal damage. Different types of tree guards are effective at protecting trees from various types of threats, so choose a tree guard based on the kind of damage the tree is likely to encounter. For example, trees in the yard will most likely be harmed by equipment like weed whackers or lawn mowers, whereas trees in an open field are more likely to be damaged by animals. There are three main types of barriers used to protect trees:

Plastic Guard Tubes

Most common. These simple guards usually have plastic latches or connectors that allow them to be easily fixed into place. They are effective at providing protection against small animals or rodents, however they do not offer much structural protection.



Paper Wrap

Normally used to protect from cold weather and they can sometimes be treated with eco-friendly insect deterrents to keep pests away as well.



Burlap

Effective in deterring some pests and can provide some insulation (not in severely cold weather).



Sharing the Story

As a community, look back on what was accomplished during the tree planting. It is likely that not everything went exactly as planned, but this should be seen as a learning and growing opportunity. Learning from the issues experienced in one tree planting can help the community anticipate those issues during future events. Assess whether the goals were met for number of volunteers, number of trees planted, how much time the event took, number of donations, and budgeting. Reflect on how the volunteers were managed – if fewer volunteers than expected showed up, what steps were taken to redistribute labor? Also, think about how planting these trees impacted the neighborhood – both in the short term and twenty years from now.

Perhaps most importantly, share the stories and lessons learned with others. A simple mention of how well a tree planting occurred in your neighborhood can spark interest in others. Take the opportunity to boast about the work the neighborhood accomplished, the benefits of that work, and to pass along advice to those considering a similar tree planting. This promotes awareness of the need for tree plantings, which helps make our city greener.

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Questions?

Call 859.266.1572

or visit bgGreensource.org



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