
CITY OF ENID
OKLAHOMA
ENID
Tree Board
Tree Care
&
Selection Guide
Champlin Park • Enid, Oklahoma

In Enid, We ♥ Trees!

It wasn't long ago when the terms urban and forestry were never used in the same sentence. Today, urban or community forestry programs are an important component in the overall quality of life in our urban areas. Trees are everywhere in our cities and towns: along streets and highways, in parks, residential, and commercial properties.

Many studies and surveys indicate that urban and community forests are in decline. In most cases, this decline is due to a lack of management, or in some cases, mismanagement. To reverse this trend, many cities and towns have developed community forestry programs with the goal of creating and maintaining a long-term urban forestry management program.

After the devastating ice storm of 2002, the City of Enid was awarded an Urban Forestry Grant. Its purpose was to hire an urban forester to conduct a tree inventory of all city-owned property and rights-of-way and to develop a forestry master plan for Enid. A Tree Board was established to oversee the development and implementation of this master plan. The goals and objectives of this plan include proper tree pruning, planting, maintenance, and to provide the public with educational information regarding trees and their care.

This Tree Guide is meant to be an Enid specific planting and maintenance guide, as well as to provide a resource for Enid residents to address some of the most common problems in our urban landscape. We can only improve our urban forest with the efforts of private citizens in removing dead trees that pose disease problems to surrounding healthy trees, in planting new trees and keeping them healthy, and in maintaining our mature trees.

*Thank you for your efforts in helping Enid to **"GO GREEN"**!*

Happy Planting

For more information contact
the
City of Enid Tree Board
P.O. Box 1768 • Enid, OK 73702
www.enid.org
580-234-0400

ENID
Tree Board

Other Helpful Websites

OK PLANT TREES
www.okplanttrees.org

INTERNATIONAL SOCIETY OF ARBORICULTURE
www.isa-arbor.com

TREE CARE INDUSTRY ASSOCIATION
www.treecareindustry.org

ARBOR DAY FOUNDATION
www.arbordayfoundation.org

TREES ARE GOOD
www.treesaregood.com

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Why *plant* a Tree?

Thinking of planting a tree? Perhaps you have a new home and would like to make that new yard less bare by adding a tree or two. Or possibly you've seen a really great tree blooming in the neighbor's yard. Or you've seen a picture in a book and you are tempted to try one for your own yard.

Trees are beautiful. They add color, form and splendor to our environments. But beauty isn't the only benefit of trees. We often don't realize how much trees add to our lives. Trees can provide payback for generations to come. Reasons to plant a tree:

- ***Shade*** - Trees make our lives more comfortable. They give us shade in summer for comfort, beauty, and energy savings - Three well placed trees, when mature, can cut air conditioning costs by 10-50 percent.
- ***Winter Wind Protection*** - Evergreen trees planted on the north side of the house can provide protection from the wind in the winter. More savings on those winter heating bills!
- ***Oxygen*** - Trees are good for our health. An average tree consumes 26 pounds of carbon dioxide every year. An average tree exhales enough oxygen in a day to keep a family of four breathing.
- ***Air Filtration*** - Trees fight air pollution. The leaves act as natural filters, removing particles and carbon dioxide and returning fresh oxygen.
- ***Noise Buffers*** - Trees buffer noise. The leaves and small branches in a tree absorb and deflect sound.
- ***Wildlife*** - Trees shelter wildlife, providing habitat for birds and small creatures.
- ***Erosion Prevention*** - Trees improve soil by preventing erosion. Tree roots hold soil in place so it is not washed away by wind and water.
- ***Cleaner Water*** - Trees clean water. The tiny root fibers of trees help filter ground water, trapping pollutants that could contaminate it.
- ***Economic Value*** - Trees increase property values. When buying a home most people prefer their home and neighborhood with trees. Statistics have also shown that trees attract people to businesses.
- ***Cultural Value*** - Because trees live so long, they are living witnesses to our history, representing great cultural value to society. For example, the Great Sequoia trees in California are cultural treasures to our society. Closer to home, the tree that your parents or grandparents planted in the backyard to commemorate your parent's birth becomes part of the family history.
- ***Quality of Life*** - It's been proven that trees and views of trees actually calm people's nerves. Hospital patients heal faster when they have a view of trees from their windows. Road rage is significantly reduced along roads with trees. Besides, trees are just plain fun. They are secret castles, treehouse fortresses, and natural jungle gyms.

Trees add to the quality of our lives both at home and for the larger community. They pay back our investment in time and care for many years.

What Kind of *Tree* Should I Get and Where do I Put it?

It would be nice if we could just go out, buy a tree, plant it, then relax and enjoy its shade. Unfortunately, it's not quite that easy. A variety of factors will influence the success or failure of your tree. A little research into the tree you are considering and the place you are planting it will pay off in the long run.

Size. You probably have a spot in mind for your tree. Take a good long look at the site. Imagine what the tree will look like once it grows. Do you have room for a tree that's 100 feet tall with a 50 foot spread? 50 feet with a 25 foot spread? Will it shade your neighbor's garden, block windows, cover your chimney, or interfere with outside lighting? Trees need space. If a tree grows too large for its space, you eventually get three choices: living with problems, trimming it heavily to fit the space (often spoiling natural good looks and health), or removing it. A good choice now can avoid paying for tree removal later.

Root System. A tree with a greedy system of surface roots is a poor choice close to the house or in your lawn or garden area. The tree will compete with your lawn and plants for water and nutrients. A tree too close to your house could even cause soil shrinkage. As water is withdrawn from soil by the tree, it shrinks away from under the foundations of the house, causing cracking. This is a particular problem in clay soils. Trees with vigorous root systems planted too close to the house can also seek out cracked pipes, eventually clogging sewers. Some trees grow heavy surface roots that lift and crack nearby pavement, definitely not a good choice for planting near sidewalks, driveways, patios or pool areas. That same tree causing problems with foundations, sewers and sidewalks may be just fine if planted near the edge of a large property.

Tree Structure. Avoid trees having weak or brittle wood or weak crotches. (For example, the Bradford Pear). Such trees may break easily in wind or storms, becoming hazardous to people and property. Trees with brittle wood are accidents waiting to happen in storm swept or windy areas such as Enid.

Electric Lines. How close is the site to overhead electric lines? During storms, wind blown or ice laden trees that contact power lines are a common cause of power outages. Selection of the proper tree avoids the problem. If trees don't grow into lines, they won't have to be trimmed away. A tree too large for its site ends up being trimmed, often spoiling its looks. Actually, no tree should be planted directly under electric lines. Stick with shrubs if you need greenery in that area. Remember, always look up before you plant.

Light and Air. Sunlight is crucial to development of all plants, particularly trees. Some trees need a lot of sun; others prefer some shade. Shade loving trees are not a good bet in Enid. Even fairly sheltered areas get a lot of hot sun here. Be sure to look at your planting site at different times of day AND different times of the year. The amount of sunlight may change from season to season and even throughout the day.

Drought Tolerance. How much water does the tree need to flourish? Will it tolerate Enid's frequent long dry spells? Or will you have to be spending more time than you wish bringing water to the tree?

High Maintenance? Some trees, such as Fruited Mulberry, Soapberry or Fruited Osage Orange, may have extensive fruit, flower or foliage drop. This may not be a problem if planted at the back of a large property or in a natural setting. It can be an enormous difficulty if fruit and blossoms are dropping on a walkway that needs constant cleaning.

Pest and Disease Problems. All localities have problems with particular insects or diseases. To avoid difficulties, gather information on pests or diseases common to your area and avoid tree species known to host them. Recurring insect pests or diseases in an area will plague some trees. Very often damage is slight. But if the results of a particular insect or disease will spoil the enjoyment of the tree, you would be wise to plant a less troublesome one. Sometimes varieties of a particular tree have been bred for resistance, allowing you to have the tree of your choice without the accompanying problems of the original variety.

Diversity. What kind of trees are in the area? No one type of tree should be planted in excess of 5% of any local population. Too many trees of the same type allow disease and insects to multiply rapidly if a favorite host is readily available. A variety of trees adds beauty to the environment and discourages swift spread of disease or insects that might invade the vicinity.

Questions about particular trees and their structure, size at maturity, and susceptibility to pests and diseases are readily available through several sources. This guide will attempt to answer many of these questions. The Enid Tree Board has made a list of Top 12 choices that successfully grow in Enid. The list is shown on pages 10 & 11. More information can be obtained from local nurseries, books, the Internet, and directly from the Tree Board. Information on the planting site is best collected by some observation and research on your part. Lack of planning can turn good intentions into serious problems. A little preliminary time and trouble will reward you with a healthy thriving tree that you can enjoy for many seasons.

"Landscaping, especially with trees, can increase property values as much as 20 percent."
Management Information Services | ICMA

Climate

No matter what type of tree you prefer, our climate often makes the choice for you. So to avoid disappointment, keep in mind the extremes of the environment in Enid. Choose trees that accept our region's prevailing conditions or at least attempt to select areas where conditions can be somewhat moderated.

Many gardeners automatically look at a USDA hardiness zone map to help them select a tree. That map, however, is not the whole picture. The Zone Map is made up from average minimum temperatures. It does not take into account maximum temperatures or rainfall at all. For example, Enid is a part of Zone 7. So is Pennsylvania! Obviously, the same trees will not thrive in both locations.

While Enid can have winter temperatures as low as Pennsylvania, summer temperatures are another matter. The best trees for Enid will tolerate high temperatures, even at night, and be tolerant of both dry conditions and the occasional flooding downpour. Tolerance of strong winds, of course, are a necessity.

While climate differences can be offset to some extent by extra watering, mulching and care, trying to force a tree to thrive that is not suited for our climate is an uphill battle at best and often a losing proposition.

Soil

Soil is the most overlooked factor when planting a tree. Trees are living organisms that require air and water much like we do. They rely on the soil to obtain the air, water and nutrients needed to thrive. Soil is a complex mix of mineral particles, air, water, and organic matter. The characteristics of the soil determine how hospitable it will be to the tree. Species that need light soil should not be planted in rocky or clay type soils. Tolerance for acidity or alkalinity varies from species to species. It is an important factor in selection of the new tree.

Two important characteristics of soil are the soil type and the pH balance. Learning about these two factors and knowing what is present at your planting spot will aid you in making a good choice of tree to plant in that soil.

Types of soil can range from extremes of clay soil at one end, to sand at the other. Plants need a balanced soil to allow air and water to circulate. If you have too sandy a soil, it drains too fast and the tree does not get enough moisture. Clay soils can stick together and smother the roots. The best soil for good planting is a nice loam, which falls somewhere in the middle. Unfortunately, you don't see much of that nice loam in Enid. In new construction areas, such as new subdivisions, another problem is highly compacted subsoil, which creates a difficult growing environment.

How do you know what kind of soil you have? Take a handful of soil from your garden and rub between fingers and thumb. Clay soil feels sticky and will roll into a ball that simply changes shape when pressed. It feels slick to the touch. Squeeze a ball of it in your hand and it will ooze through your fingers in ribbons. Sand is coarse and gritty, while silt feels silky smooth. Limestone has a dry crumbly feel and a grayish-white color, while peat is black and moist.

Clay

Soils composed mainly of clay have very little pore space between particles. Water soaks in slowly and flows through slowly as well. Clay soils retain water longest and its heavy density tends to hold nutrients well. That is the good news. But because drainage is slow, plants can become deficient in soil air if over watered. In wet weather (or when trees are over watered) clay soil prevents moisture from draining correctly, and the tree can literally "drown" because it cannot get enough air. Clay is slow to warm up in spring. Since clay does not absorb sunlight easily, clay is slower to bring warmth to plants when they need it. Tree roots can have difficulty reaching down through clay soil.

Clay can also pose significant problems in hot Oklahoma weather. Clay has a significant proportion of very tiny particles. Because the particles are so minute, they tend to stick together when wet. When clay soil dries out in hot weather, the particle groups separate. The soil then cracks, more moisture evaporates, and the hot, dry situation becomes even worse.

The clay soil in Enid is often a chief culprit of tree problems. There are ways to deal with clay soil. While you can amend the soil, the process would have to be repeated over time, which is not a good option when dealing with a tree that may live longer than you do. The best way to deal with clay soil is to choose clay-tolerant trees. You can also help your tree along by using the planting instructions shown on Page 17, and by proper watering methods.

pH is a measure of relative acidity or alkalinity, based on a 14-point scale. A 7 would be neutral, higher numbers are alkaline and lower numbers are acidic. Knowing the pH of your planting site is important because extremes in pH can interfere with the ability of the tree to absorb nutrients. The soil's acidity or alkalinity affects the availability of certain nutrients. If pH readings are significantly greater in either direction, key nutrients are tied up in the soil and not available to the roots. Fertilizers won't help because their nutrients, too, will be tied up by an over acidic or over alkaline soil.

One problem caused often by the alkaline soil in Enid is chlorosis. Many of our pines and several oaks including water oak and pin oak suffer from chlorosis. Symptoms of chlorosis show as yellow new growth. In milder cases, areas of yellow show up between the dark leaf veins. In severe cases, the entire leaf turns yellow and can cause severe growth mutations in the tree. Chlorosis usually indicates an iron, manganese or zinc deficiency. Usually this deficiency occurs in an alkaline soil that renders existing iron unavailable to the plants.

To find the pH of your garden soil, you can do a fairly simple test with a kit from your local garden center, or you can request a more complete analysis from your OSU County Extension Office at 580-237-1228.

Plant trees adapted to your climate and soil type without attempting to significantly alter your soil. If your soil is distinctly acid or alkaline you may be able to moderate the extremes with soil treatments. But the effect won't be permanent, and in time you'll need to repeat the treatment over and over. This is impractical among permanent tree plantings. Most trees will outgrow any "improved" soil within a few years.

"The planting of trees means improved water quality, resulting in less runoff and erosion. This allows more recharging of the ground water supply. Wooded areas help prevent the transport of sediment and chemicals into streams."
USDA Forest Service

Enid Top Twelve

The Enid Tree Board has developed a Top 12 list of favorite trees that have proven to do well in the Enid area. The list includes the picture, a common name and the Latin name so you will be able to identify your choice. Also included are locations around Enid where you can drive by and see the tree in its maturity. Is it the right tree for you? Planting a tree from this list will go a long way toward insuring that you end up with a beautiful, healthy tree for your efforts.

Some trees are just not good for Enid!

Some are bad choices because they don't do well with our unique soil and climate conditions. Other trees have been over-planted here, causing their own brand of problems.

- Silver Maples - While these are beautiful trees, they have prolific rooting systems which often split sidewalks, driveways and streets, clog sewer and drainage lines, and compete with other plants for water and nutrients, also, the branches of these maples break easily.

- Cottonwoods - Are fast growing and very brittle, which makes thin limbs break off easily during storms. They also have prolific, invasive rooting systems.

- Dogwoods - These need a shaded, sheltered environment which is not common in Enid. They also don't tolerate the high clay soil of this area.

- Bradford Pears - These are brittle wooded and poorly branched. The combination will almost guarantee that the tree will lose branches or even split in half during ice or wind storms.

- Pin Oaks, Water Oaks, and Willow Oaks don't fare well in Enid because of high alkaline soils.

- The Japanese Black, the Japanese Red and the Austrian Pine Trees are very susceptible to Pinewood Nematodes which are currently active in Enid. When infested, a tree will die within two to three weeks.

- Azaleas, some hollies, Rhododendrons, and many more are not included on the recommended tree guide because they don't do well in Enid.

Trees occasionally go in and out of fashion just like clothing styles or furniture. With trees, though, it's best to stay away from trends. No tree should be over 5% of any one local population. Too much of a "usually good thing" encourages disease and insects to spread like wildfire if they have access to a favorite host. Some trees that have been over-planted or close to over-planted in Enid include Bradford Pears and Silver Maples.

There are still many trees that can be successful in Enid. The Tree Board's list of trees that can be grown in Enid is included on the following pages.

"In laboratory research, visual exposure to settings with trees has produced significant recovery from stress within five minutes, as indicated by changes in blood pressure and muscle tension."
Dr. Roger S. Ulrich, Texas A&M University

Enid's Top

Bald Cypress "Taxodium ditichum"

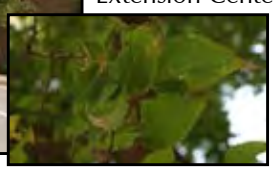
The Bald Cypress is native to swampy areas and grows profusely in a wide range of soils. It must have full sun and considerable moisture. It is a moderate to rapid grower, can grow 60-100 ft. high, and is pyramidal in shape. It has fern-like needles that turn coppery bronze in the fall before falling off. An example of this tree can be seen at 1609 E. Pine.

Cedar Elm "Ulmus crassifolia"

The Cedar Elm grows to 50-70 ft. in height, with a spread of 40-60 ft. It does well in full sun, is very drought tolerant, and exists well in ground that is periodically saturated. An example of this tree can be found at 1901 Indian Drive.

Hackberry "Celtis occidentalis"

The Hackberry grows at a medium to fast rate, does well in full sun and grows to a height of 40-60 ft. and spread of 40-60 ft. It has some tolerance for both flooding and drought. The Hackberry is tolerant of strong winds and will tolerate air pollution. An example of this tree can be found by the northwest corner of the OSU Extension Center at 316 E. Oxford.



Lacebark Elm "Ulmus parvifolia"

The Lacebark Elm is drought and wind resistant and tolerates extreme heat and drying winds. It is a rapid grower 40-50 ft. high with a 30-40 ft. spread, has a round to oval crown, low branches, not a central leader. The leaves turn pale yellow in the fall, and it has an attractive grayish, orange-brown lacy, flaking bark. An example of this tree can be found on the north side of the Dillingham Memorial Gardens at Government Springs Park.

Chinese Pistache "Pistacia chinensis"

The Chinese Pistache is drought resistant, tolerates extreme heat and drying winds, and grows well in urban area regardless of soil conditions. It is a moderate grower, 20-40 ft. high with a 20-30 ft. spread and has brilliant orange to red-orange color in the fall.

An example of this tree can be found in the northeast parking lot of the Cherokee Strip Conference Center, 123 W. Maine.

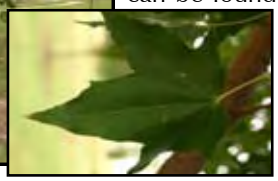
Shumard Oak "Quercus shumardii"

Shumard oaks will tolerate urban conditions, and can grow in poor soil. It is a moderate to rapid grower, reaching 80-100 ft. with a 50-60 ft. spread. It can tolerate restricted root systems such as between a sidewalk and curb. An example of this tree can be found at the east end of the Dillingham Memorial Gardens at Government Springs Park.

Twelve Picks

Shantung Maple "Acer truncatum"

The Shantung Maple is drought tolerant, needs full sun exposure, and tolerates a wide range of conditions. This small to medium-sized tree is great under power lines or in residential landscapes. It grows quickly, but only to 30 ft. high, and has excellent fall color ranging from yellow to orange to red. An example of this tree can be found on the east side of St. Francis Xavier Catholic Church, 110 N. Madison.



Oklahoma Redbud "Cercis reniformis"

"Oklahoma" Cultivar is the most drought resistant, and will tolerate most soils, but needs full sun. It is a slow grower with a round canopy reaching a height of 25 ft. and a 15 ft. spread, with pink to purple flowers in the spring. Its foliage turns yellow to yellow-green in the fall with brown seedpods. An example of this tree can be seen on the southwest corner of St. Mary's Regional Medical Center.

Bur Oak "Quercus macrocarpa"

The Bur Oak can tolerate poor soil and low rainfall better than other oaks. It is a slow to moderate grower, will reach 80 ft. tall with a 30-50 ft. spread. It produces acorns that are sometimes as large as 2 inches in diameter. Occasional problems are aphids and spider mites, but these are not typically a concern. This tree can be seen at the Champlin Mansion at 612 S. Tyler.

American Holly "Ilex opaca"

The American Holly grows at a slow to medium rate, reaches 40-50 ft. in height, 18-40 ft. spread at full maturity. It does well in full sun to partial shade, tolerates some flooding, and has good drought tolerance. It can successfully be planted underneath the canopies of larger shade trees. This tree can be seen just east of 2519 W. Chestnut.

Loblolly Pine "Pinus taeda"

A fast growth rate, 60-90 ft. in height, 25-35 ft. spread at maturity, the Loblolly Pine does well in full sun, and will tolerate some flooding, with moderate drought tolerance. It is very easy to transplant and adapts well to moist soil conditions. This tree can be seen at the entrance to the Seven Pines Village on West Randolph.

Caddo Sugar Maple, "Acer saccharum" "Caddo cultivar"

"Caddo" is extremely drought resistant and tolerant of drying winds. It is a very dense shade tree which makes it difficult to grow anything beneath it. A slow to moderate grower reaching up to 60 – 80 ft. with a 50-60 ft. spread. The "Caddo's" fall color is a brilliant red to red-orange to yellow. An example of this tree can be seen on the corner of Maine and Washington.

Shopping for the *Tree*

You'll probably shop for your tree at a local nursery or garden center. If you're more adventurous, you may go the mail order route. Whatever your shopping style, the information in this section will help you choose a healthy tree that has the best chance to thrive and grow once you get it home.

Look for the following when choosing your tree:

- A straight main trunk without dead branches or split or cracked bark.
- Scratch the bark on a small twig. If it is dull or brown instead of a bright green, the tree is not healthy.
- Rootballs should be moist and firm. If you find a dried out rootball, look for one in better condition.
- The rootball also needs to be well established, strong enough to hold the ball of dirt intact, but not overgrown or circling in the container.
- Watch for pests. Partially eaten leaves, egg sacs, or bugs themselves are a signal to move on to another tree. Bugs on all the trees you look at may also be a sign to move on to another nursery.

Your best choice when tree hunting is a healthy, relatively small tree. A small tree is more likely to avoid transplant shock and recover faster. When a tree gets transplant shock, the roots don't take in water fast enough to supply the top of the tree with moisture and nutrients. Soon after planting it can soon look wilted or sick. The small tree cuts down your chances of trouble.

Try to plant on a cool, moist day, if possible, and water it in properly. To insure a cool moist day, plant in early spring or late autumn.

Trees may be sold in different ways: Containerized, balled and burlapped, or bare root.

Containerized Stock

Containers for trees are usually plastic or compressed fiberpots which the tree has been grown in. It may look like a giant flowerpot. The tree has often spent it's whole life in the container. As it hasn't been dug from the ground, most of its roots should be intact.

They are often grown in a soil mixture with a slow-acting fertilizer, so they can be transplanted at almost any time (your best results will still be in cool weather). With container stock you may be able to get a larger tree if instant landscaping is something that's important to you.

Some things to watch for:

- A container tree may have transplant shock if it's recently been moved between containers.
- Container trees can be prone to being "potbound" if they weren't transplanted into bigger pots soon enough. If the roots are circling around the pot or are growing heavily through the bottom of the container, keep looking.
- Cutting or roughing up the rootball slightly when planting is important to encourage the roots to penetrate the new surrounding soil. This prevents the roots from becoming "pot bound."

Balled and Burlapped Stock

These are the trees which are dug out of nurseries every year. The roots are in a large ball of soil which is wrapped in burlap. When choosing the tree, the ball should be 10 times the width of the tree at 6 inches above the base, meaning that if you bought a 1-inch caliper tree it should have a minimum 10 inch ball (12 inch would be better). The bigger the ball, the better the tree's chance of survival, although the bigger balls are harder to transport, plant, and maneuver.

Some things to consider:

- These trees can lose quite a bit of their root area when they are dug up so it is important to plant them soon after harvesting.
- Buy stock that was dug during the present year so the tree is fresh.
- The best time to get balled and burlapped stock is during the spring.
- Keep in shade until planted.
- It's okay to put off planting for a few weeks if absolutely necessary. Keep the root ball moist, but do not allow the tree to sit in water.

Bare Root Stock

Bare root trees are wrapped, but have no soil around the roots. When you buy trees this way, open the packaging and add moisture if the roots are dry. Keep them in a cool place, out of the sun, until you are ready to plant. Plant them in spring when fully dormant.

"Healthy mature trees add an average of 10 percent to a property's value."
-USDA Forest Service

Some things to consider:

- These trees may have lost some roots when dug from location.
- They should be planted soon, the same day if possible.

Getting Your New Tree Home

- Carry the tree by the rootball, not the trunk. You can damage the tree by not supporting a heavy rootball.
- Use a closed vehicle large enough to hold the tree, OR
- In an open truck make sure it is securely covered.
- Highway speeds can dry out a tree so wrap loosely in burlap or other material to protect from windburn or other damage.

Container

Burlapped

Bareroot

Planting

To insure successful tree establishment, the following planting techniques and methods should be used.

When to Plant

The best time to plant most trees is spring or fall; however, many containerized trees can be planted any time if handled properly. Plants installed during the growing season are susceptible to high transpiration rates leading to drying of plant tissues.

- Early fall - Best time for container-grown and balled and burlapped (B&B) trees.
- Mid-February through early April - Bareroot.

Handling Trees Before Planting

Avoiding unnecessary damage and stress to trees prior to planting will insure better success.

- Keep root ball moist.
- Handle tree by the container, not by the trunk.

Preparing the Hole and Planting the Tree

Preparing the planting area properly before planting is very important.

- *Do not* apply amendments to backfill.
- Dig planting hole 2-3 times the diameter of tree's root ball and no deeper than the root ball itself.
- Since most Oklahoma soils are clay, plant trees 2-3" above grade. Plant trees at original grade in sandy soil.
- *Do not* put crushed stone or gravel in bottom of hole!
- Remove the bag, container, and all strings and wires from the trunk. Burlap of B&B trees may be left on to decay. Be sure to lay burlap back away from trunk and cover with soil.
- If roots are excessive and circling inner walls of pot, score outer edge of root ball by slightly severing or scratching root system. *Do not* cut deeply into root ball.

Backfilling the Planting Hole

Fill in the planting hole (backfill) with native soil and tamp lightly. Soil amendments are not necessary and may result in further complications such as root rots.

Fertilizing

A new tree has a very limited capacity for utilizing fertilizer until it becomes established, thus fertilization often is not recommended at the time of planting. Excessive fertilizer in the root zone can be damaging, so *do not* add fertilizer to the backfill. If fertilizer must be used at planting or in the first growing season, apply a controlled-release or liquid fertilizer.

Watering the New Tree

Newly planted trees should be watered well at the time of planting. Natural rainfall is usually not adequate to provide the moisture needs of newly planted landscape trees.

Generally, young plantings need an equivalent of one inch of rain per week. Newly planted trees may need to be watered two or three times a week in extremely hot, dry, windy weather because their root systems cannot take up the amount of water needed to replenish the water lost through the leaves. Watch for signs of wilting as an indicator that the tree needs water.

Apply water slowly at the base of newly planted trees. This is especially important for container

grown plants as their soilless mixes can dry while the bed or surrounding soil remains damp. If you have several young trees and shrubs, a trickle irrigation system would be wise.

Be cautious not to overwater or the amount of oxygen in the soil will be lowered to a level that will damage roots. Make certain the timing and patterns of lawn watering systems are not overlapping into plant beds and too much water is being applied.

Mulching the New Tree

New trees should be mulched using an organic mulch 2-4″ deep and 5-6 ft. in diameter. Keep mulch at least 4-6″ away from trunk of tree. Do not mound mulch up against trunk of tree. Benefits of mulching to create a weed and turf-free area include:

- Reduced plant competition for water and nutrients.
- Even soil temperature and moisture.

Pruning the New Tree

Avoid overpruning new trees. Leave lower limbs intact if possible. Remove injured or diseased branches only. Overpruning may result in sunscald and inhibit tree growth.

Trunk Protective Materials

Protective wraps provide physical protection against lawn mower and weed-eater damage.

Protective wraps also provide protection by modifying temperatures and bark moisture for thin-barked trees such as ash, birch, linden, and maple.

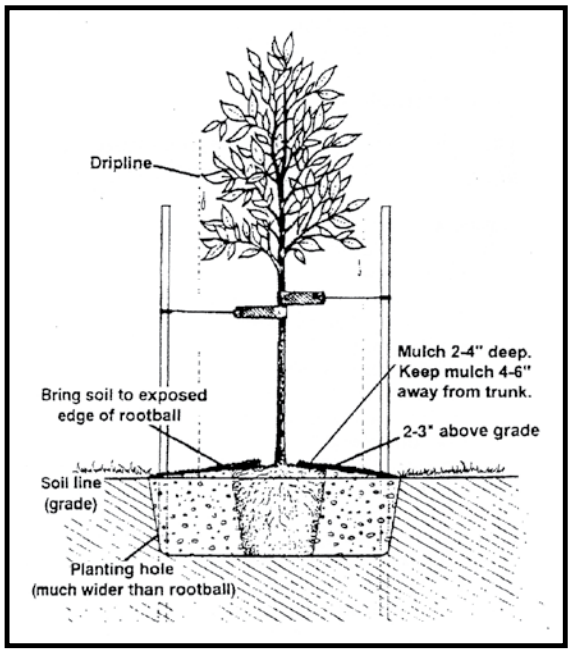
If misused, however, damage may occur in the form of trunk girdling or constriction, insects, diseases and excessive moisture.

- Protective wraps may not be necessary at planting time. Use based on type of protection needed.
- Normal application of tree trunk wraps is October - March for the first two growing seasons.
- Remove each spring prior to spring growth.
- Wrap loosely from base up to first branch by overlapping for shingle affect.
- Plastic guards should fit loosely and include holes or slits.
- Inspect for damage and insects and spray for borers when necessary.

Staking Trees

Stake young trees sparingly and briefly when possible. In fact, prolonged staking can have detrimental effects on the development of the tree. Too often, staking materials end up injuring or girdling the tree.

Stake when top-heavy or planted in windswept areas. The material used to attach the tree to the stake should be broad, smooth, and somewhat elastic. Do not stake the tree too rigidly. Always allow for sway. Too tight or prolonged staking results in an overall weaker tree and is more subject to girdling. Triple staking provides more protection against strong wind and lawn mowers. Support stakes and guy wires generally should be removed after one growing season. If staking is left in place for more than two years, the tree's ability to stand alone may be reduced, and the chances of girdling injury are increased.



Tree Experts Agree... Don't top that tree!

1 STARVATION: Good pruning practices rarely remove more than 1/4 to 1/3 of the crown, which in turn does not seriously interfere with the ability of a tree's leafy crown to manufacture food. Topping removes so much of the crown that it upsets an older tree's well-developed crown-to-root ratio and temporarily cuts off its food-making ability.

2 SHOCK: A tree's crown is like an umbrella that shields much of the tree from the direct rays of the sun. By suddenly removing this protection, the remaining bark tissue is so exposed that scalding may result. There may also be a dramatic effect on neighboring trees and shrubs. If these thrive in shade and the shade is removed, poor health or death may result.

3 INSECTS AND DISEASE: The large stubs of a topped tree have a difficult time forming callus. The terminal location of these cuts, as well as their large diameter, prevent the tree's chemically based natural defense system from doing its job. The stubs are highly vulnerable to insect invasion and the spores of decay fungi. If decay is already present in the limb, opening the limb will speed the spread of the disease.

4 WEAK LIMBS: At best, the wood of a new limb that sprouts after a larger limb is truncated is more weakly attached than a limb that develops more normally. If rot exists or develops at the severed end of the limb, the weight of the sprout makes a bad situation even worse.

5 RAPID NEW GROWTH: The goal of topping is usually to control the height and spread of a tree. Actually, it has just the opposite effect. The resulting sprouts (often called water sprouts) are far more numerous than normal new growth and they elongate so rapidly that the tree returns to its original height in a very short time and with a far more dense and dangerous crown.

6 TREE DEATH: Some species of trees are less tolerant to topping than others. Beeches, for example, do not sprout readily after severe pruning and the reduced foliage most surely will lead to death of the tree.

7 UGLINESS: A topped tree is a disfigured tree. Even with its regrowth it never regains the grace and character of its species. The landscape and the community are robbed of a valuable asset.

8 COST: To a worker with a saw, topping a tree is much easier than applying the skill and judgment needed for good pruning. Therefore, topping may cost less in the short run, however, the true costs of topping are hidden. These include: reduced property value, the expense of removal and replacement 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.

Shade from trees could save you up to $175 per year (per structure) in air conditioning costs."
Dr. Lowell Ponte

The First Few Years

Whether a tree flourishes can depend on the care you give it when young and newly planted. Keep the following guidelines in mind:

Water when young. Water is an important factor in new tree nutrition. For all trees, follow a regular watering schedule for the first few years. Even a drought tolerant tree needs routine watering for the first three years after planting so that the roots develop enough to carry the tree through dry periods. A drought tolerant tree is not a cactus! A drought tolerant tree still needs water. It needs more water when young, as the term "drought tolerant" really refers to the tree's characteristics at maturity. Deep, thorough watering done occasionally is much better than shallow watering done every couple of days. Put a hose at the base of the tree and allow a trickle of water to flow for at least 45 minutes. The heavy clay soil common to Enid drains slowly, and you must allow time to elapse between watering.

Stake only if necessary. Unfortunately, with Oklahoma's almost constant winds, staking is usually a necessity. If the new tree is top heavy enough to topple in wind without a support, stake it. Don't

stake trees the old way with wire and garden hose. The hose limits trunk growth. Use a soft collar of webbing or polyethylene fastened loosely around the tree. Other good materials include pantyhose or socks. Attach it to stakes as low as possible to the ground to allow the tree some sway. Swaying in young trees promotes strong growth in the trunk and improves the root system. Never use wire or nylon twine for staking. They can cut through the trunk as the tree grows.

Fertilizing a new tree is not usually necessary or even recommended. Trees arrive from the nursery already storing a good supply of nutrients. It should not be necessary to add them while the tree establishes itself.

Mulch conserves water, slows down evaporation of water from the soil, and helps keep the soil temperature consistent. A 2-4″ layer of mulch should be placed around new trees. In this case, more is not better. Do not place more than 6 inches of mulch. That thick a layer could prevent air from reaching the roots near the surface.

Don't prune lower branches. Young trees increase in trunk girth faster if you allow lower branches to remain on the trunk for several years. Cut back low branches only if they show signs of growing at the expense of higher branches. 3 to 5 years is plenty of time to go back and trim the lower branches

Established Trees

If you've made a good choice, care of your mature tree should not be very difficult. Some attention to basic details will help you have a tree that adds beauty and benefit to your landscape.

Watering. As with the young tree, an established tree needs moisture to thrive. If you have chosen one that does well in the Enid area, you should have few difficulties. However, even a drought tolerant specimen may need some assistance. A regular watering schedule in very dry weather is a good idea. Deep, thorough watering done occasionally is much better than shallow watering done every couple of days. The clay soils common to Enid need less frequent water applications than well-drained sandy soils. But clay absorbs water more slowly than sand, so clay soil needs more water at a given time to penetrate to any given depth. Put a hose at the base of the tree and allow a trickle of water to flow for at least 45 minutes.

Mulching. You've probably already mulched your tree when young. But just because it is now established is no reason to give up on a habit that does so much good. Mulch still should be laid in to a depth of 4-5″ in a ring approximately 3 feet around the tree. Mulch serves many purposes:

- It retains moisture - Evaporation is greatly slowed by mulch around the tree
- It insulates soil - The temperature of the soil is much more constant under a layer of mulch. Soil at an even temperature is much more hospitable to earthworms and natural bacteria. These keep the soil healthy and better able to support the nutrients for your tree.
- It keeps out weeds - While mulch won't totally remove the weeding chore from your life, it will retard weed's growth
- It reduces lawnmower and weedeater damage - The mulch forms a kind of "safety zone" around the tree where mowing and weedeating are rarely needed
- It prevents soil compaction - Even a lot of walking can compact the soil near the tree. Compacted soil reduces the amount of water and oxygen that can get to the roots.

Be sure not to pile the mulch heavily up against the tree trunk. You could be building a home for insects or building up moisture and causing rot.

Winter Care. Water trees well in advance of any hard freeze. Plants that enter winter in dry soil have no moisture reserve in the root zone to counteract drying winter winds. The result can be dehydrated, dead plants. You can also water in the winter when temperatures are above the mid-30's.

Fertilizing. An annual output of strong new growth with good color tells you that the plant is doing well without your assistance. If the tree has smaller or paler leaves than normal, if new growth is slight or weak, or if the tree seems to have a lot of dead wood, you may need to add fertilizer. Use broadcast lawn fertilizer over the root zone at the same time you fertilize the lawn. Don't fertilize a

perfectly healthy tree "just to be safe". Unnecessary fertilizer can promote young, vulnerable growth attractive to pests or can burn delicate roots.

Protecting the root system. Eighty-five percent of a tree's roots can be in the top 24 inches of soil and can extend out as far as the tree is tall in really good soil. In poorer quality soil, roots usually extend to the dripline (outer reach of the branches). It is extremely important to protect these roots because they provide oxygen and water that a tree needs to survive and grow.

Construction equipment, vehicle traffic, lawn maintenance and foot traffic can all compact the soil. Compacted soil reduces the amount of water and oxygen that can get to the roots, and severe compaction can literally suffocate a tree to death.

To prevent compaction, landscape in a fashion that discourages heavy traffic directly over the root system. Use mulch under established trees. People are less likely to walk on the groundcover. If you must have a walkway under an established tree, use mulch or gravel under a tree rather than continuous cement walks that can smother the roots.

If there is construction in the area, put up barricades around the area covered by the crown of the tree to prevent compaction by heavy equipment. Any new construction around an established tree can cause damage, and that injury can accumulate over time. If the contractors are trenching for utility lines or pipes, have them avoid the tree area.

Pruning

Always have a plan when pruning. Bad pruning is more detrimental to the tree than no pruning at all. Pruning of an established tree is chiefly done for minor maintenance. If extensive work is needed it is best to call in an arborist.

There are fashions in tree pruning just as there are in tree choices. We now know that some popular pruning practices of the past are, in fact, very bad for the health of your tree.

- You should not prune to limit a tree's size. If you do, you chose the wrong tree for the location. Replace the tree with one that is the right size for the site.
- Never top a tree (cut back all the main branches to stubs). Topping doesn't make a tree healthier or less prone to storm damage. In fact, it does the opposite. It leaves large, ugly stubs that slowly rot. The weak, whip-like branches that sprout at the end of the stub often break in storms. The appearance of the tree is permanently ruined.
- Don't try to force prune a tree into a shape contrary to its natural inclination. You may be successful, but only temporarily. You'll have to repeat the process as the tree attempts to overcome your work and return to its natural inclination.
- Painting tree wounds and the cut ends of branches used to be commonly advised. However, it doesn't promote faster healing and may actually encourage disease in some instances.

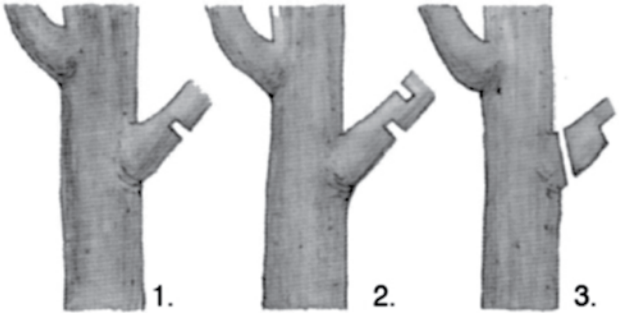
Some reasons to get out your pruning tools:

- To improve the health of the tree. A tree needs adequate air, light and water to flourish. Reducing crowding and removing dead branches allows the air, water and light to reach all parts of the tree more efficiently.
- To direct or control growth (shaping). Prune small branches about 1/4 inch above an outward facing bud to direct new growth away from the interior canopy.
- To remove suckers. Suckers are thin growth around the base of the trunk.
- To eliminate low branches that may block a path.
- To remove crossing limbs that can damage each other.

- To remove dead, injured, weak, diseased, or insect infested limbs. Watch for these and remove promptly. These limbs pose a threat to the health of the tree. They also cause harm when they fall. They can spread disease and insects to nearby healthy trees.
- Branches that form a narrow "V" angle to the trunk are attached less strongly than those that make a wider angle. They tend to break in storms. Whenever possible, favor the wider-angled limbs and remove those with a narrow "V" attachment.

Larger limbs (from wrist size upward) are heavy and need special attention. If you try to cut through one with a single cut, it will likely break off before you finish the cut. The limb may fall, tearing bark and wood off the remaining area.

Don't rip bark when pruning. Recommended steps below.



1.First cut beneath the branch, one third of the way through it.

2.Cut off limb beyond the first cut.

3.Remove limb stub, careful not to disturb bark on main part of tree.

Recommended Trees for Enid

Small (Under 25 ft. high)
Apricot
Crabapple, Flowering
Hawthorn, Washington
Laurel, Cherry
Magnolia, Saucer
Magnolia, Star
Maple, Amur
Pine, Pinyon
Redbud, Eastern
Redbud, Oklahoma

Medium (25-45 ft. high)
Chittamwood
Desert Willow
Goldenrain Tree, Panicled
Hardy Rubber Tree
Maple, Hedge
Mulberry, White
Pistache, Chinese
Soapberry, Western
Yellowwood

Large (Over 45 ft. high)
Bald Cypress
Birch, River
Catalpa, Southern
Dawn Redwood
Elm, Lacebark
Ginkgo
Hackberry
Holly, American
Honeylocust
Kentucky Coffee Tree
Linden, American
Linden, Littleleaf
Magnolia, Southern
Maple, Red
Maple, Sugar
Oak, Bur
Oak, Chinquapin
Oak, English
Oak, Live
Oak, Northern Red
Oak, Sawtooth
Oak, Shumard
Osage Orange
Pine, Limber
Pine, Loblolly
Pine, Ponderosa
Pine, Shortleaf
Planetree, American (Sycamore)
Planetree, London
Redcedar, Eastern

"Trees properly placed around buildings can reduce air conditioning needs by 30 percent and can save 20-50 percent in energy used for heating."
USDA Forest Service

How to Hire an Arborist

Hiring a tree care specialist deserves all the consideration and caution that goes into selecting a banker or home builder. A mistake can be expensive and long-lasting, but the right choice can assure health, beauty and longer life for your trees.

1. Check in the phone directory, usually under Trees, Tree Service or Tree Care Service. Although anyone can list themselves in the yellow pages, a listing at least indicates some degree of permanence.

2. Beware of door-knockers. Most reputable companies have all the work they can handle without going door-to-door. Door-knockers are especially common after storms when non-professionals see a chance to earn some quick money. Often, storm damage creates high risk situations for both workers and homeowners, and there is opportunity for even more damage to trees and shrubs if work is not done correctly.

3. Find out if the arborist is certified through a state certification program or the International Society of Arboriculture.

4. Ask for certificates of insurance, including proof of liability for personal and property damage, and worker's compensation.

5. Ask for local references and other jobs the company or individual has done.

6. Determine if the arborist is a member of a professional arborist organization such as TCIA, The Voice of Tree Care, or the International Society of Arboriculture.

7. Never let yourself be rushed by bargains ("If you sign an agreement, I can take ten percent off the price..."). NEVER PAY IN ADVANCE.

8. Have more than one arborist look at your job and give you estimates.

9. A good arborist will offer a wide range of services (Pruning, fertilizing, cabling/ bracing, removal, pest control, etc.).

10. A good arborist will recommend topping a tree only under rare circumstances (such as to save the tree after severe physical damage to the crown).

11. A conscientious arborist will not use climbing spikes if the tree is to remain in the landscape.

12. Beware of an arborist who is eager to remove a living tree. Removal clearly should be a last resort.

"Trees can be a stimulus to economic development, attracting new business and tourism. Commercial retail areas are more attractive to shoppers, apartments rent more quickly, tenants stay longer and space in a wooded setting is more valuable to sell or rent."

The National Arbor Day Foundation

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