



# TREE TIPS

A PLANNING GUIDE

# STAY SAFE



## PSO IS CONCERNED ABOUT YOUR SAFETY.

The following are some safety tips to keep in mind when landscaping and doing tree work on your property.

### **⚠️ UNDERGROUND LINES: CALL BEFORE YOU DIG**

Touching an underground power line—with anything—could result in a serious or fatal injury.

Before you dig, remember to call your local underground locating service (In Oklahoma, call 1-800-522-6543) at least 48 hours before beginning your project. The call is free. Protect yourself at home and at work.

### **⚠️ OVERHEAD POWER LINES**

Never attempt to trim or remove trees near any power line. Serious life-altering injuries and fatalities have occurred when untrained or improperly trained individuals attempted to do such work.

Only utilize tree contractors who are certified by the Occupational Safety and Health Administration (OSHA) to work near power lines. PSO's arborists (degreed tree professionals) reference trimming and safety standards set by the International Society of Arboriculture to clear limbs that interfere with electric lines.

If trees have grown into the power line running from the pole to your house, known as the service drop. PSO will be happy to disconnect and lower the service line temporarily. This will enable you to perform the tree work safely. We will then return and reconnect the line after the trimming is done. There is no extra charge to you for this service.

Please call PSO's customer service number to request this service: 1-888-216-3523. Customers are asked to make this request at least two business days before they plan to clear the service drop of vegetation.

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Trees are an important natural resource in the community we share. When planted in the right spot and properly maintained, trees can:



PROVIDE FOOD & SHELTER  
FOR BIRDS, SMALL  
ANIMALS & INSECTS



CLEAN THE AIR BY  
ABSORBING HARMFUL  
POLLUTANTS



ACT AS A NOISE  
BUFFER TO REDUCE  
INTRUSIVE SOUNDS



REDUCE FLOODING &  
RUNOFF ON YOUR PROPERTY  
DURING STORMS



INCREASE PROPERTY VALUE &  
ENHANCE PROPERTY  
APPEARANCE



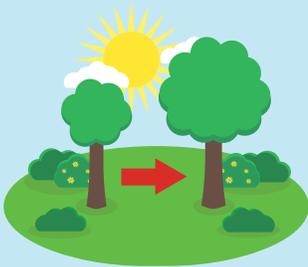
REDUCE HEATING &  
COOLING COSTS

But when trees are planted in the wrong spot and not properly maintained, they can have adverse effects on:



### SAFETY AND SERVICE

- Trees are a cause of electric power outages and flickering lights. Just one tree limb can disrupt service to dozens of families.
- Dead or broken branches can fall at any time, injuring people or damaging property. This damage is often more costly than investing in professional tree care.
- It makes more sense to remove a tree underneath power lines rather than trim it. After removal, a PSO forester can help you select the proper tree to replant.



### HEALTH

- Dead and damaged branches can make the tree unhealthy. Pruning and trimming encourages healthy and strong tree growth.
- Trees that are planted in the wrong spot may lack enough air space to grow to its full potential.
- Improper pruning cuts, such as “topping,” can lead to wood decay and make regrowth more susceptible to wind or ice damage.



### AESTHETICS

- Overgrown and unwieldy branches detract from the look of your property.
- Pruning encourages better production of fruit and flowers.
- Lack of planning when planting trees may cause cracked foundations and sidewalks.

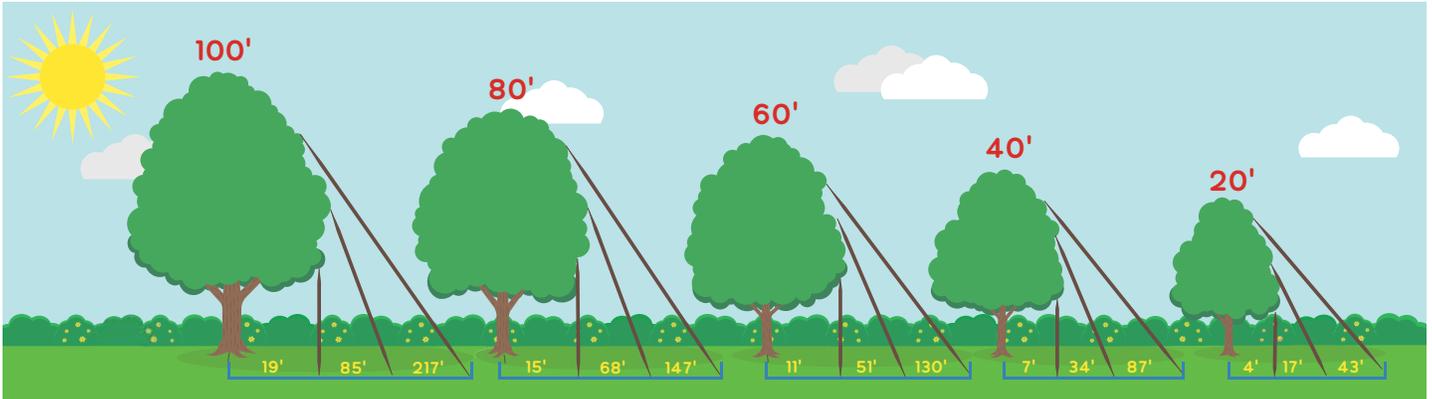
Our challenge at PSO is to balance respect for trees with our need to provide safe and reliable electric service. PSO's Forestry Program is designed to reduce outages caused by trees through line clearance work and public education of tree planning.

PSO has drawn upon the knowledge of experts to assemble the information contained in “Tree Tips: A Planning Guide” to help you make good decisions about planting and caring for your trees. We hope you find it a useful information tool. **Happy tree planting!**

# CONSERVING ENERGY WITH TREES

- ▶ By properly planting trees around your home, you can provide a beautiful landscape and add valuable energy-saving benefits year-round. Shade trees keep outside temperatures cool in the summer, while trees planted as windbreaks block the chilling winter wind.

## SUMMERTIME SHADOW LENGTHS



Average shadow lengths for five different tree heights are shown for different times of day: the shortest distance is the shadow at noon, the middle distance is the shadow at 9 a.m. and 3 p.m., and the longest distance is the shadow at 8 a.m. and 4 p.m.

## SHADE TREES BLOCK SUMMER SUN

**Planting shade trees is one of the simplest, most cost-effective energy-saving steps you can take.**

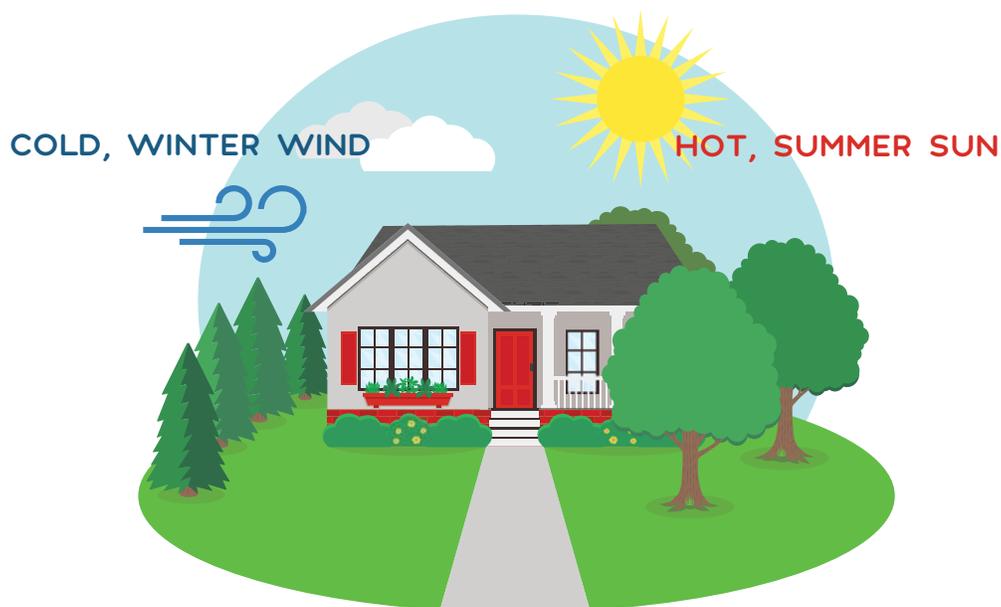
- The objective of locating trees for shade is to shield your home's roof and walls from the hot sun, as well as to cool sidewalks and driveways that reflect heat. Energy savings can occur with as little as 20 percent of the roof shaded. With 50 percent of the roof shaded, you can potentially cut your cooling costs in half.
- Shade from trees and shrubs can also improve your air conditioner's operating efficiency by 10 percent. When planting to shade your air conditioning unit, be careful not to plant too close to the unit, blocking its air flow.
- Some trees are compact and produce dense shade, while other trees are more spreading with less-dense shade. You should consider less-dense shade if you desire a larger variety of landscape planting under and around the trees.
- Medium and large variety trees provide excellent cooling because they shade your house and yard. This helps reduce both outside and inside temperatures. Select trees with wide-spreading branches and less-dense shade.
- Other factors you should consider when planting trees for shade include tree placement, mature height of the tree, and the sun's angle during the summer. These factors determine how much shade a tree will cast over a given area.
- It takes time for trees to mature enough to produce results, so start planting as soon as possible.

# CONSERVING ENERGY WITH TREES

## WINDBREAKS BLOCK THE WINTER CHILL

While shade trees conserve energy in the summer, evergreen trees and shrubs planted to block the wind conserve energy in the winter.

- Planting pines and other evergreen trees to the north of your home can reduce winter wind velocities by 75 percent, and possibly save up to 25 percent on heating costs.
- It's important to know the direction of wintertime prevailing winds. A combination of evergreen trees and shrubs can be used as a barrier to redirect harsh winds away from your home. For best results, the windbreaks should be planted between 30 and 120 feet from the area to be protected.
- It takes time for trees to mature enough to produce results, so start planting as soon as possible.



Plant evergreens on the north and west side as a winter windbreak.

Evergreen shrubs can be planted at the edge of evergreen trees to help direct winds away from your house.

Plant shrubs under utility lines; small trees should be planted at least 20 feet away.

Plant medium to large deciduous trees on the east, south and west side for shade and to block the hot summer winds.

Shrubs and small trees can be planted to provide shade for air conditioners.

"I SAT IN MY SUNNY DOORWAY FROM SUNRISE  
TIL NOON, RAPT IN A REVERIE, AMIDST THE PINES  
AND HICKORIES AND SUMACS, IN UNDISTURBED  
SOLITUDE AND STILLNESS"

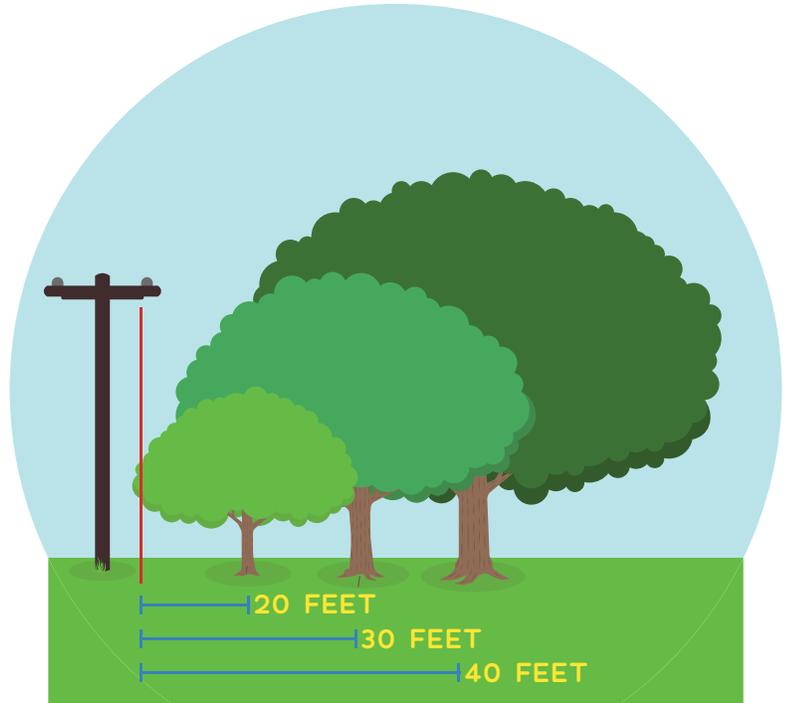
*Henry David Thoreau  
1817 - 1862  
Excerpt from Walden*

# TREES NEED SPACE

- ▶ Trees and shrubs add great beauty to the home landscape for little cost. However, many people don't understand the importance of considering site conditions or tree characteristics before planting. Taking time to plan will be less costly and less problematic in the long term.

The illustration (at right) depicts recommended distances for planting trees away from power lines.

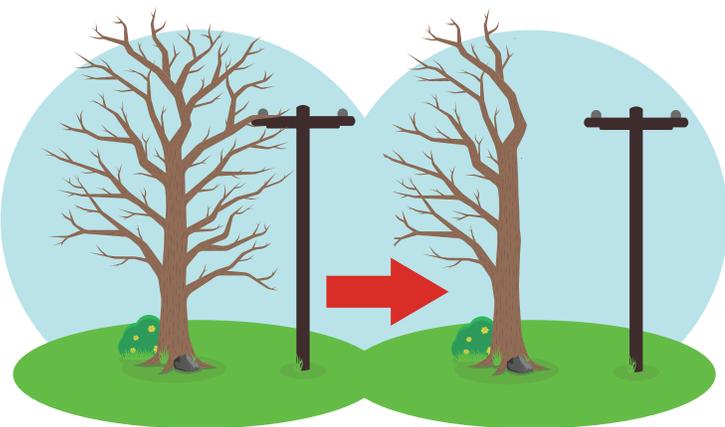
- Never plant a tree underneath power lines. Only low-growing shrubs should be planted below power lines.
- Small variety trees need to be planted at least 20 feet away, medium variety trees at least 30 feet away, and large variety trees at least 40 feet away from power lines.
- The distance is measured perpendicular to the power lines. If you follow the suggested planting distances, your trees may never need utility tree trimming.
- Also, never plant trees or shrubs within 10 feet of a transformer mounted on the ground or on a utility pole. This allows for access to perform routine maintenance.



- ▶ No single tree species is suitable for every site or for all landscaping purposes. Lack of planning can turn good intentions into serious problems. The wrong tree in the wrong location can result in clogged sewers, cracked foundations and sidewalks, and even power outages as trees grow into nearby electric lines.

## LOOK BEFORE YOU "LEAF"

**Trees in contact with electric lines are a cause of power outages and other service problems, such as flickering lights and momentary loss of service.**



Unfortunately, thousands of trees are growing too close to the power lines and must be trimmed or removed to prevent power outages and safety hazards. The illustration shows how trees growing too close to the power lines are trimmed to protect tree health, while providing the necessary line clearance for reliability and safety.

When you're ready to add a tree in your yard, PSO urges you to look up before heading to the nursery, to make sure you're not about to plant the wrong-size tree too close to the power lines.

# TREE SPECIES SELECTION GUIDE

Hundreds of tree species are available to purchase and plant: tall trees, short trees, ornamental, and shade trees. Some trees can grow in full sun while others need some shade. By carefully selecting the right tree for the right place, your investment will pay off each year.

Avoid buying the fastest growing or cheapest tree you can find to avoid future costs. Fast-growing trees are usually weak-wooded and are easily damaged during storms. These trees are hazardous if near dwellings or power lines, and they will require repeated pruning. In addition, they are often prone to surface roots and insect and disease problems.

Consider why you're planting the tree, and then find a tree that fits those needs. The first step is to draw a planning sketch of your yard showing all structures, utilities, and existing plant material. You can use the planning pages provided in the back of this booklet, or use landscaping software on a home computer. To ensure the tree you select meets your needs, answer the planning questions below.

## Mark the areas where you want to plant, then ask yourself these questions:

- What is the mature size, height and width of the tree you have selected?
- What kind of space is available for tree planting? Are there utility lines or facilities above or below?
- Are structures such as storage sheds, sidewalks, pools, etc. present that could be affected?
- Will the mature size of the tree you have decided to plant affect any existing trees or shrubs?
- What is the tree's purpose: accent, color, energy conservation, screening, etc.? Does your tree meet the purpose?
- How much maintenance does the tree require? For example, does it need annual or just periodic pruning?
- Does it have leaves or seeds that may cause a bigger-than-usual litter problem?
- Is the tree adapted to your soil conditions? For example, is your soil shallow, rocky or clay?
- Does the tree need frequent watering or is it drought-tolerant? Can it withstand wind and ice?
- What kind of disease and insect problems are common to the tree?
- Are improved varieties of the tree available?

The following database has many species of trees that grow well in Oklahoma. Take this guide with you when you visit your local nursery or garden center. Use it to discuss your landscaping needs with nursery representative. Remember, this is only a guide to help you get started, not an all-inclusive list.

## CULTIVARS & VARIETIES

Some trees may have what are called Cultivars or Varieties of a particular species.

- Cultivars are typically man-made "varieties" obtained by cross pollination of flowers of two species to produce a more desirable new species. Cultivars then must be vegetatively propagated to maintain the desired characteristics, that is, they must be either rooted cuttings, divisions, or grafted, which makes them clones of the parent plant.
- Varieties are when a species with different characteristics is found growing naturally and has developed the changes on its own. These plants, if grown from seed, should come out true to its parent plant. Plant propagators can then reproduce the variety to sell to nurseries. Propagators and growers perpetuate the named "Cultivars" and "Varieties" of various trees that have desirable characteristics. This greatly broadens the choices that landscape professionals and homeowners can make when planning their landscapes.

# TREE SPECIES CHARACTERISTICS DATABASE

## SMALL TREES

8 - 30 FEET TALL AT MATURITY

### REMINDER:

Small variety trees should be planted a minimum of **20 feet** away from overhead power lines.

GROWTH RATE:  
FAST, MEDIUM, SLOW  
FULL, PARTIAL SHADE, SHADE  
TOLERANT TO POOR SOILS  
PREFERS MOIST,  
WELL-DRAINED SOILS  
ORNAMENTAL, SHADE, WINDBREAK  
BROADLEAF, EVERGREEN, CONIFER  
IMPROVED VARIETIES AVAILABLE  
NATIVE  
WILL GROW BEST  
EAST/WEST OF I-35  
ATTRACTIVE SPRING, SUMMER  
FLOWERS: FALL, WINTER FRUIT  
YELLOW, ORANGE, RED  
FALL LEAF COLOR

COMMON NAME											BOTANICAL NAME
Trident Maple	S	F/P		X	S			E		Y/O	<i>Acer buergerianum</i>
Amur Maple	M	F/P	X	X	O	X		E		O/R	<i>Acer ginnala</i>
Texas Buckeye	S	P		X	O		X	E/W	SP	Y/O	<i>Aesculus arguta</i>
Serviceberry	S	F/P		X	O	X	X	E	SP	Y/O	<i>Amelanchier x grandiflora</i>
Pawpaw	M	P		X	O/S		X	E	F	Y	<i>Asimina triloba</i>
Eastern Redbud	M	F/P		X	O		X	E	SP	Y	<i>Cercis canadensis</i>
Oklahoma Redbud	S	F/P		X	O	X	X	E	SP	Y	<i>Cercis canadensis</i> var. <i>texensis</i> 'Oklahoma'
Desert Willow	S	F	X		O	X	X	E/W	S		<i>Chilopsis linearis</i>
White Fringetree	S	P		X	O		X	E	SP	Y	<i>Chionanthus virginicus</i>
Roughleaf Dogwood		P/S	X	X			X	E/W	SP		<i>Cornus drummondii</i>
Flowering Dogwood	S	P/S		X	O	X	X	E	SP/F	O/R	<i>Cornus florida</i>
Common Smoketree	M	F	X		O	X		E	SP/F	O/R	<i>Cotinus coggygria</i>
American Smoketree	M	F			O		X	E	S	O/R	<i>Cotinus obovatus</i>
Washington Hawthorne	S	F	X	X	O			E	SP		<i>Crataegus phaenopyrum</i>
Russian Olive	M	F	X		O/W			E/W			<i>Elaeagnus angustifolia</i>
Foster Holly	M	F	X	X	B	X		E/W	S/F		<i>Ilex X attenuata</i>
Deciduous Holly	M/S	F	X	X	O	X	X	E/W	F		<i>Ilex decidua</i>
Yaupon Holly	M	F	X		O/B		X	E/W	S/F		<i>Ilex vomitoria</i>
Goldenrain Tree	S	F	X		O/S			E/W	S	Y/O	<i>Koelreuteria paniculata</i>
Crapemyrtle	M	F	X		O	X		E/W	S	Y/O	<i>Lagerstroemia indica</i>
Saucer Magnolia	M	F		X	O	X		E	SP		<i>Magnolia soulangiana</i>
Flowering Crabapple	M	F		X	O	X		E	SP/F	Y	<i>Malus sp.</i>
Bosnian Pine	S	F	X		C			E			<i>Pinus heldreichii</i> var. <i>leucodermis</i>
Purpleleaf Plum	M	F		X	O	X		E	SP	Y	<i>Prunus cerasifera</i>
Flowering Cherry	M	F		X	O	X		E	SP	Y	<i>Prunus serrulata</i>

# TREE SPECIES CHARACTERISTICS DATABASE

## SMALL TREES

8 - 30 FEET TALL AT MATURITY

### REMINDER:

Small variety trees should be planted a minimum of **20 feet** away from overhead power lines.

COMMON NAME	CHARACTERISTICS										BOTANICAL NAME
	GROWTH RATE: EAST, MEDIUM, SLOW	FULL, PARTIAL SHADE, SHADE	TOLERANT TO POOR SOILS	PREFERS MOIST, WELL-DRAINED SOILS	ORNAMENTAL, BROADLEAF	SHADE, WINDBREAK, IMPROVED VARIETIES AVAILABLE	NATIVE	WILL GROW BEST EAST/WEST OF I-35	ATTRACTIVE SPRING FLOWERS	FALL, WINTER FRUIT	
Carolina Buckthorn	M	F/P	X	X	O		X	E	F	Y	<i>Rhamnus caroliniana</i>
Corkscrew Willow	M	F		X	O	X		E/W		Y	<i>Salix matsudana</i>
Japanese Tree Lilac	M/S	F/P	X				X	E	F	R	<i>Syringa reticulata</i>
Rusty Blackhaw	S	F/P		X	O			E/W			<i>Viburnum rufidulum</i>

## MEDIUM TREES

31 - 50 FEET TALL AT MATURITY

### REMINDER:

Medium variety trees should be planted a minimum of **30 feet** away from overhead power lines.

COMMON NAME	CHARACTERISTICS										BOTANICAL NAME
	GROWTH RATE: EAST, MEDIUM, SLOW	FULL, PARTIAL SHADE, SHADE	TOLERANT TO POOR SOILS	PREFERS MOIST, WELL-DRAINED SOILS	ORNAMENTAL, BROADLEAF	SHADE, WINDBREAK, IMPROVED VARIETIES AVAILABLE	NATIVE	WILL GROW BEST EAST/WEST OF I-35	ATTRACTIVE SPRING FLOWERS	FALL, WINTER FRUIT	
Red Maple	M	F		X	S	X	X	E		O/R	<i>Acer rubrum</i>
Sugar Maple	M	F		X	S	X	X	E		Y/O	<i>Acer saccharum</i>
Shantung Maple	M	F	X	X	S	X		E/W		Y/O	<i>Acer truncatum</i>
Atlas Cedar	S	F		X	C			E	S/W		<i>Cedrus atlantica</i>
Deodar Cedar	M	F		X	C			E	S/W		<i>Cedrus deodara</i>
American Yellowwood	M/S	F/P		X	S		X	E		Y	<i>Cladrastis kentukea</i>
Leyland Cypress	M	F/P	X	X	C	X		E/W			<i>Cupressocyparis leylandii</i>
Arizona Cypress	M	F	X		C			E/W	S/W		<i>Cupressus arizonica</i>
Honeylocust	M	F	X	X	S	X	X	E/W		Y	<i>Gleditsia triacanthos</i>
American Holly	S	F	X		B	X	X	E	S/F		<i>Ilex opaca</i>
Rocky Mountain Juniper	M	F	X	X	C	X	X	E/W			<i>Juniperus scopulorum</i>
Eastern Redcedar	M	F	X		OWC	X	X	E/W			<i>Juniperus virginiana</i>
Osage Orange	F	F	X		S/W	X	X	E/W		Y	<i>Maclura pomifera</i>
Sweetbay Magnolia	M	F/P		X	S	X	X	E			<i>Magnolia virginiana</i>
Black Gum	S	F/P		X	O/S			E		R	<i>Nyssa sylvatica</i>

# TREE SPECIES CHARACTERISTICS DATABASE

## MEDIUM TREES

31 - 50 FEET TALL AT MATURITY

### REMINDER:

Medium variety trees should be planted a minimum of **30 feet** away from overhead power lines.

COMMON NAME	GROWTH RATE: FAST, MEDIUM, SLOW										BOTANICAL NAME
	FULL, PARTIAL SHADE, SHADE			TOLERANT TO POOR SOILS		PREFERS MOIST, WELL-DRAINED SOILS		ORNAMENTAL, SHADE, WINDBREAK, BROADLEAF, EVERGREEN, CONIFER		IMPROVED VARIETIES AVAILABLE	
Austrian Pine	M	F	X			C			E/W		<i>Pinus nigra</i>
Japanese Black Pine	M	F	X			C			E/W		<i>Pinus thunbergiana</i>
Virginia Pine	M	F	X			C			E		<i>Pinus virginiana</i>
Chinese Pistache	M	F	X			S			E/W	Y/O	<i>Pistachia chinensis</i>
Common Chokecherry	M	F	X	X	O/S		X	E	S		<i>Prunus virginiana</i>
Callery Pear	F/M	F	X		O/S	X		E/W	SP		<i>Pyrus calleryana</i>
Sawtooth Oak	M	F	X			S			E/W		<i>Quercus acutissima</i>
Swamp White Oak	M	F		X	S		X	E		Y	<i>Quercus bicolor</i>
Overcup Oak	M	F		X	S		X	E		Y	<i>Quercus lyrata</i>
Nuttall Oak	M	F		X	S		X	E		O/R	<i>Quercus nuttallii</i>
Western Soapberry	M	F	X		S/W		X	E/W	F		<i>Sapindus drummondii</i>
Sassafras	F/M	F/P		X	S		X	E		O/R	<i>Sassafras albidum</i>
Western Arborvitae	M	F/P			O/S	X		E			<i>Thuja plicata</i>
Littleleaf Linden	M	F		X	S	X		E		Y	<i>Tilia cordata</i>

## BUYING A TREE

When selecting a tree to purchase, consider the following tips:

- Typically, trees have a single main trunk. Some trees may be grown with multiple trunks for certain applications. Either way, look for good straight trunk(s) with no cracks, splits, missing bark, or sunken areas.
- Some trunks may have wrap on them for shipping. If you have any doubts about its condition, ask the nursery to remove the wrap for inspection.
- Always inspect the branches, twigs, and foliage for good health. If the tree is dormant, twigs should be slightly pliable when carefully bent and have a bright green color when scratched.
- Some trees are field grown, which means the roots will be balled-in-burlap. They should have a solid root ball, tied with heavy string, and have good form. Avoid loose, crushed, or mushroomed root balls.
- Some trees are grown in nursery pots. The advantage is you get all of the root system the tree was grown with, but there may be some wrapping of the roots around in the pot. Understand some roots may need to be cut and somewhat unwrapped from circling before planting.
- When handling the tree, always support the root ball/container. Do not carry the tree by the trunk.

# TREE SPECIES CHARACTERISTICS DATABASE

## LARGE TREES

51 - 80+ FEET TALL AT MATURITY

### REMINDER:

Large variety trees should be planted a minimum of **40 feet** away from overhead power lines.

GROWTH RATE:  
FAST, MEDIUM, SLOW  
FULL, PARTIAL SHADE, SHADE  
TOLERANT TO POOR SOILS  
PREFERS MOIST,  
WELL-DRAINED SOILS  
ORNAMENTAL, SHADE, WINDBREAK,  
BROADLEAF, EVERGREEN, CONIFER,  
IMPROVED VARIETIES AVAILABLE  
NATIVE  
WILL GROW BEST  
EAST/WEST OF I-35  
ATTRACTIVE SPRING, SUMMER  
FLOWERS, FALL, WINTER FRUIT  
YELLOW, ORANGE, RED  
FALL LEAF COLOR

COMMON NAME	GROWTH RATE: FAST, MEDIUM, SLOW	FULL, PARTIAL SHADE, SHADE	TOLERANT TO POOR SOILS	PREFERS MOIST, WELL-DRAINED SOILS	ORNAMENTAL, SHADE, WINDBREAK, BROADLEAF, EVERGREEN, CONIFER, IMPROVED VARIETIES AVAILABLE	NATIVE	WILL GROW BEST EAST/WEST OF I-35	ATTRACTIVE SPRING, SUMMER FLOWERS, FALL, WINTER FRUIT	YELLOW, ORANGE, RED FALL LEAF COLOR	BOTANICAL NAME	
River Birch	F/M	F	X	X	S		X	E		Y	<i>Betula nigra</i>
Pecan	M	F		X	S	X	X	E/W		Y	<i>Carya illinoensis</i>
Ginkgo	S	F	X		S	X		E		Y	<i>Ginkgo biloba</i>
Kentucky Coffeetree	M	F	X	X	S	X	X	E/W		Y	<i>Gymnocladus dioicus</i>
Walnut	M	F		X	S		X	E/W			<i>Juglans nigra</i>
Tulip Tree / Yellow Poplar	F	F		X	S		X	E	S	Y	<i>Liriodendron tulipifera</i>
Southern Magnolia	M/S	F		X	O/S	X	X	E	S		<i>Magnolia grandiflora</i>
Sycamore	M	F		X	S	X	X	E/W			<i>Platanus occidentalis</i>
Loblolly Pine	M	F	X		W/C		X	E/W			<i>Pinus taeda</i>
Eastern White Pine	M	F	X	X	C		X	E			<i>Pinus strobus</i>
White Oak	M/S	F		X	S		X	E		O/R	<i>Quercus alba</i>
Bur Oak	M/S	F	X		S		X	E/W			<i>Quercus macrocarpa</i>
Chinkapin Oak	M/S	F		X	S		X	E/W		Y/O	<i>Quercus muhlenbergii</i>
Water Oak	F/M	F	X		S		X	E			<i>Quercus nigra</i>
Pin Oak	M	F	X		S		X	E			<i>Quercus palustris</i>
Shumard Oak	M	F	X		S		X	E/W			<i>Quercus shumardii</i>
Post Oak	M/S	F			S		X	E			<i>Quercus stellata</i>
Japanese Pagoda Tree	F/M	F	X		S			E			<i>Sophora japonica</i>
Baldcypress	M	F	X	X	O/S		X	E		O	<i>Taxodium distichum</i>
American Linden	F/M	F		X	S	X	X	E		Y	<i>Tilia americana</i>
American Elm	M	F	X		S	X	X	E/W			<i>Ulmus americana</i>
Cedar Elm	M	F	X		S		X	E/W			<i>Ulmus crassifolia</i>
Lacebark Elm	F/M	F	X		S	X		E/W		Y	<i>Ulmus parvifolia</i>
Japanese Zelkova	M	F			S	X		E		Y	<i>Zelkova serrata</i>

# PROBLEMATIC TREES & DIVERSITY

## PROBLEMATIC TREES

**Ailanthus (Tree of Heaven).** Extensive root system. Produces root suckers or sprouts along root system that eventually take over the landscape.

**Ash Trees, Green and White.** These native trees occur throughout eastern Oklahoma, the green can be found west of I-35. Ash trees have struggled with boring insects for years, but now a more aggressive and devastating boring insect, the Emerald Ash Borer (EAB), has appeared. These insects have caused the death of thousands of Ash trees. It is not recommended to plant these trees.

**Bradford Pear.** Highly over-planted, fast-growing landscape tree. Prone to much storm, insect, and disease damage. Other varieties of the Callery Pear are recommended.

**Chinese Tallow.** Fast-growing, weed-type tree. Forms thickets.

**Eastern Cottonwood.** Fast grower. Produces massive amounts of cotton-like seeds that cause allergy issues and clog air conditioners. The cottonless variety produces a massive root system that can destroy sewers, walkways, and foundations. The branches are susceptible to wind and ice damage.

**Lombardy Poplar.** Short-lived tree. May live only 10 years before disease and wood borers destroy it. Weak-wooded; susceptible to wind and ice damage.

**Mimosa.** Short-lived tree. Weak-wooded; susceptible to wind and ice damage. Branch sucker problem under stress. Disease and insect problems are likely as tree grows older.

**Silver Maple.** Widely over-planted species. Weak-wooded; susceptible to wind and ice damage. Major surface root problems.

**White Poplar.** Fast grower. Susceptible to wind and ice damage. Has extensive root system that produces suckers or sprouts. May have insect problems.

## URBAN FOREST DIVERSITY

In the 1920s and '30s, as cities grew and more people began moving in suburban areas, trees were planted along streets to beautify homes and neighborhoods. The American Elm became the tree of choice. It was durable, grew to a large size, had a great canopy of branches, and could grow in restricted root areas with poor soil. Streets became lined with American Elms. Then disaster hit, Dutch Elm Disease, a disease spread by the Elm Bark Beetle, killed thousands of elm trees. There was no diversity of trees planted in the communities and the disease spread quickly. Entire populations of these trees were wiped out.

There are many examples of one species being over planted. The Bradford Pear became the favorite overnight. They were overplanted and as they grew older, people found out they were very susceptible to storm damage.

Now, Urban Foresters reinforce the importance of having a diverse population of tree species, so entire populations will not be wiped out if another insect or disease arrives.

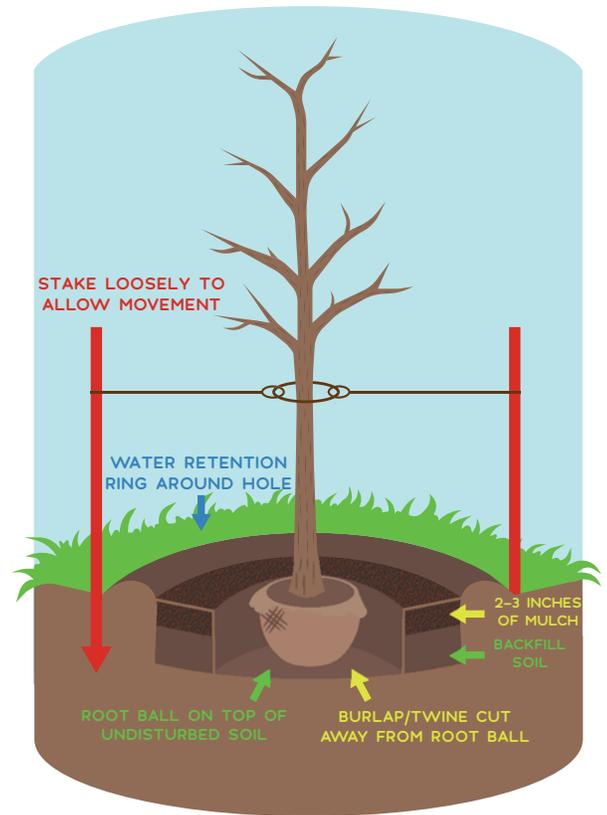
"IF YOU WOULD KNOW STRENGTH AND PATIENCE,  
WELCOME THE COMPANY OF TREES."

*Hal Borland  
1900 - 1978*

# HOW TO PLANT A TREE

## PLANTING A TREE

- ⚠️ • First, if your property has underground utilities, be sure to have them located before selecting the planting site to be sure you will not be digging into the utilities. Call 1-800-522-6543 before digging.
- Second, it is very important to plant the tree an appropriate distance away from overhead power lines and other wire utilities. Check the recommended tree list for mature height for each species.
- Also, make sure the tree has enough air space to grow to its full potential. Trees that are crowded may not produce a strongly developed crown of branches, which could make them susceptible to storm damage.



### Once the best site has been determined, the digging can begin.

- Mark an area two times the diameter of the root ball. If you are planting in a grassy area, outline the area by edging the circle with the shovel, then skim off the grass inside the circle two inches deep and set aside.
- Now dig the hole. Be sure to place the soil in two piles on either side of the hole. Do not dig the hole any deeper than the root ball. If you do have to back-fill, be sure to pack the soil so the tree does not settle and end up too deep.
- You want the top of the root ball to be even with the surrounding grade, or even a few inches higher in poorly drained soils.
- If you have a container-grown tree, be sure to loosen the circling roots so they will grow outward. Then backfill the soil that was dug out. Be sure to break up any large clods so there will not be any air pockets.
- With ball-in-burlap trees, backfill half the soil and firm around the root ball to stabilize. Cut the twine and/or wraps from around the trunk, cut and remove the burlap covering the top portion of the root ball. Finish filling the hole, being sure to break up any large clods.
- Form a berm around the area with leftover soil and the skimmed grass soil. The grass can be controlled with an appropriate herbicide later.
- Stake the tree as shown if necessary.
- Add 2-4" of mulch, but make sure the mulch does not come in contact with the trunk of the tree.
- Water the root ball thoroughly.

# PROPER CARE OF NEWLY PLANTED TREES

**Maintenance of newly planted trees is very important. The most important consideration is proper watering.**

Some things to consider when deciding how much to water are:

- What type of root system?
- What soil type is the tree being planted in?
- Is the tree a drought-tolerant species?

▶ Balled-in-burlap trees typically do not dry out as quickly as container grown. The soil ball with a balled-in-burlap holds water very well, particularly when mulched.

▶ Container-grown trees have a soilless mix (peat moss, pine bark, etc.) and can dry out quickly.

As an example, during the hot summer months, a 2 inch caliper balled-in-burlap tree might need 10 gallons of water once per week, whereas a container grown 1.5 inch tree might need water every other day. Overwatering can be as harmful as underwatering. If a new tree is overwatered, the roots can be suffocated by the lack of oxygen.

Most trees take 2 to 3 years or more to establish a root system from a balled-in-burlap root ball. During this time, the area inside the watering ring should be kept free of any vegetation. Bermuda grass and weeds will compete with the tree for moisture. Sometimes people have grass and weeds around their new tree and use a weed-eater to cut them down. Weed-eaters can severely damage the thin bark on the young trunks. Herbicides labeled for this type of application can be used carefully to control unwanted vegetation, or just good old hand-weeding will do the trick.

## STAKING NEWLY PLANTED TREES

**To stake or not to stake, that is the question. I don't know if Hamlet ever planted a tree, but many people planting a tree may ask themselves this same question.**

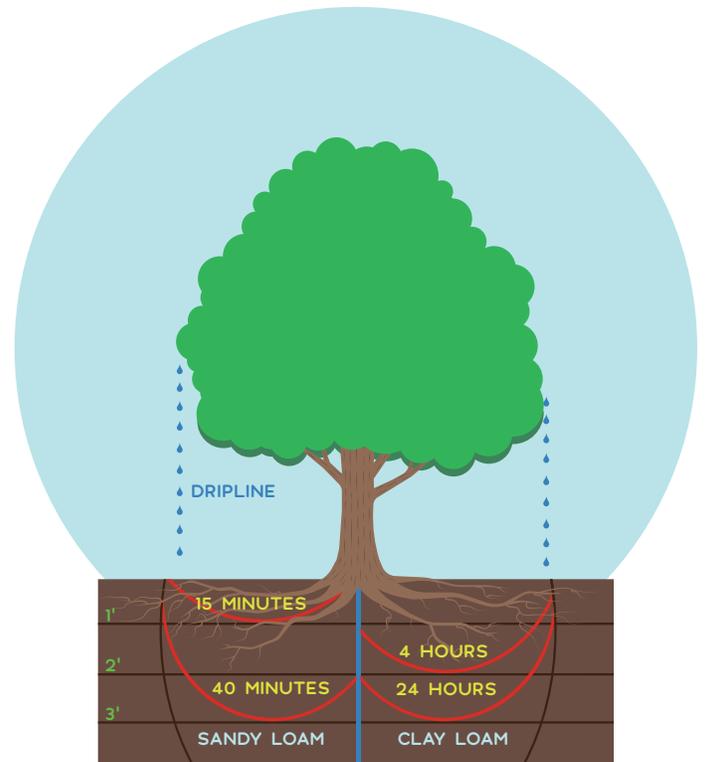
Generally, staking newly planted trees is a good idea. Staking is important because it helps stabilize the tree while it is growing new roots during the first few years of establishment in its new location.

Typically trees are either grown in a field nursery or containers such as plastic pots or wooden boxes. Field grown – balled-in-burlap trees will lose 80 to 90 percent of their roots during the digging process. These root balls are heavy and will remain somewhat stable in the planting hole but staking for at least one year is advisable.

Container grown trees have 100 percent of the roots the tree grew with in the nursery, may not be very stable in the planting hole. When the tree is fully leafed out a strong wind could easily blow the tree over if not staked. These trees should be staked for at least one to two years until stable in the ground.

Other staking considerations are the materials used between the stake and the tree trunk and trunk wrap. Wire is the most common item used to secure the tree to the stake. It is very important not to wrap the wire around the trunk, this can griddle the trunk. Use a short piece of old garden hose or a strap of some kind to protect the trunk.

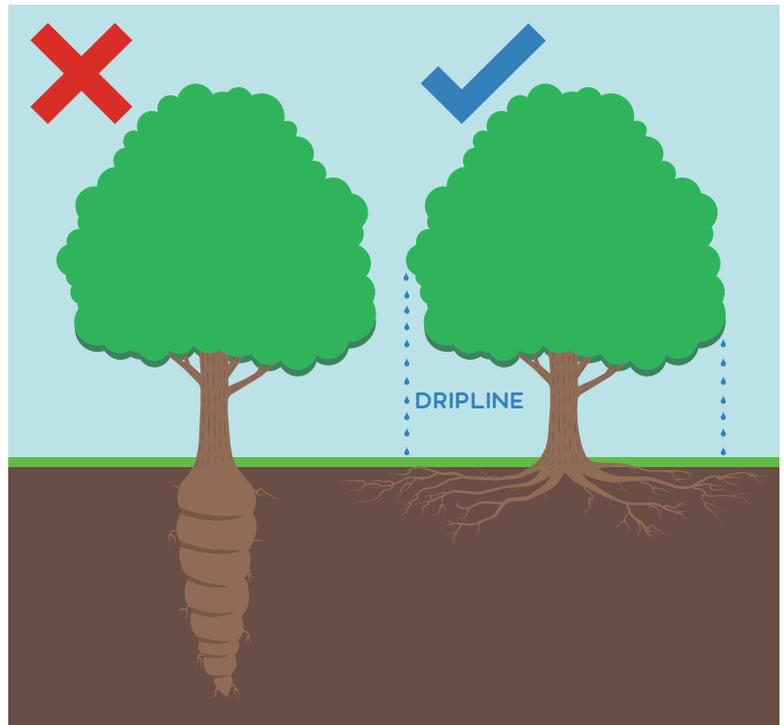
Wrappings are often used to protect the tree trunk during shipping, but they can also protect the trunk during the establishment period. The wintertime sun can cause 'sun scald' damage to the trunk on the south and west side. The sun warms the thin bark and then a freeze at night can cause the bark to split. Apply the wrap in the fall and remove the next spring since insects can harbor under the wrap during the warm growing season.



# ROOTS ARE IMPORTANT TOO

- ▶ Trees roots need oxygen and water to survive and grow. Compacted soil around the roots reduces the amount of oxygen and water available to them. Eventually soil compaction can suffocate the roots, causing the tree to decline in health and eventually die. Heavy construction equipment, vehicle traffic, lawn maintenance, and foot traffic can threaten the health of your tree by compacting the soil.

Tree roots don't grow like carrots. At least 85 percent of a tree's roots exist in the top 24 inches of the soil. Roots can spread twice the height of the tree in good soil.



## KEEPING ROOT DAMAGE TO A MINIMUM

**When a building or remodeling project requires heavy machinery on your property, be sure to tell the contractor, the foreman on site, and anyone else involved in the project, that you want your trees protected from damage during work.**

- Make sure protective barricades are erected around trees. Protect as much area around a tree as possible, but at least out as far as the branches spread (also called the drip line).
- Make sure utility contractors trench outside the protective barricades around your tree. If that's not possible, insist they bore or tunnel rather than trench.
- Use bricks, flagstone, gravel, etc. rather than continuous cement walkways under trees.
- Use a turf aerator on an annual basis to aerate the soil under and around trees.

**Here are some tips for protecting trees from damage by mowers and trimmers:**

- Use mulch around young trees. This helps conserve water.
- Plant perennial groundcover under older trees. Use your creativity to design a ground cover bed as part of your overall landscape design.
- Place a section of corrugated PVC pipe around the base of the tree during its first few years.

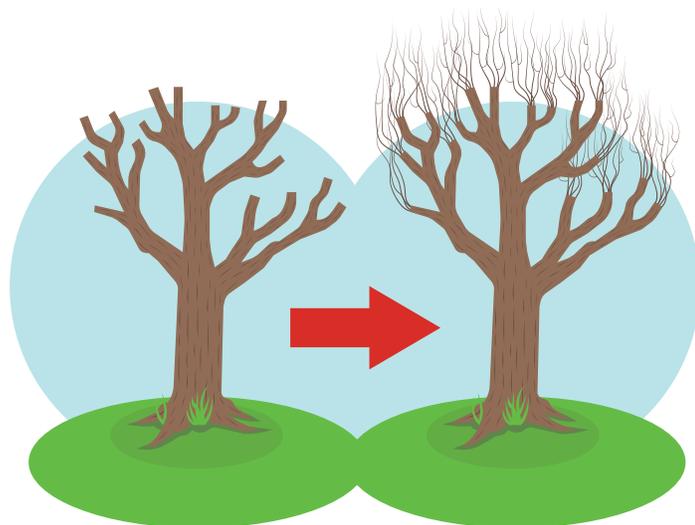
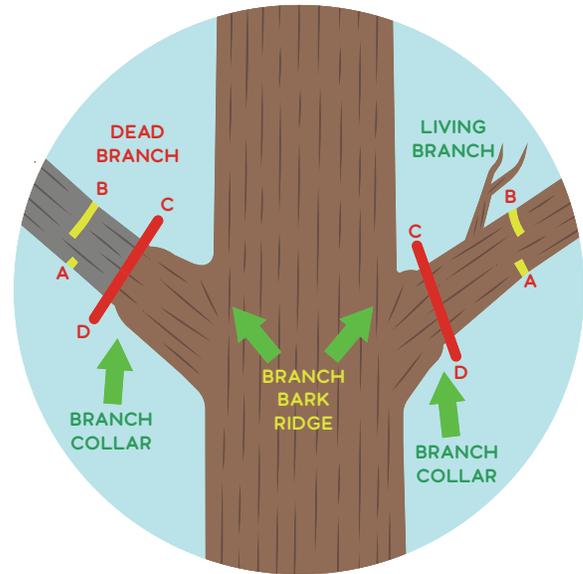
# MAKING PROPER PRUNING CUTS

- ▶ Next to planting your tree in the right place, correct pruning is the best way to prevent future problems. Merely taking a saw and cutting off an unwanted branch is not the right way to prune. Stubbed-off branches and branches cut flush with the trunk—common pruning mistakes—usually result in disease and insect problems for your tree.

Trees heal only by growing new wood over the wound; they cannot replace damaged tissue with new tissue. The faster the new wood grows over the area, the sooner the area is protected. Fortunately, nature has given trees something to help new wood grow faster: a branch collar.

The branch collar is a swollen area at the base of every branch fork. Pruning cuts should be made at the point where the branch meets the swollen collar. Pruning at the collar allows the tree to quickly grow new wood. Using this technique, you can prune at any time of the year.

To remove larger branches, it's best to remove the bulk of the weight before making the collar-cut. As the illustration shows, make the first cut by sawing upward one-quarter of the way through the branch (A). Next, cut downward through the branch until it drops (B). Make the final collar-cut (C to D) without peeling the bark down the trunk. We don't recommend the use of pruning paint or any other type of dressing. These products may only inhibit the branch collar from growing new wood.



## NEVER "TOP" YOUR TREES

“Topping” a tree harms its health and mars its natural appearance permanently. At first, a “topped” tree resembles a hat-rack; soon weak, odd-looking sprouts pop up.

As an alternative, lateral-branch trimming can be used to reduce a tree's overall size. Lateral-branch trimming retains the overall shape of the tree and incorporates proper pruning cuts. Rather than all the branches being lopped off, selected branches are pruned at the fork. Reducing tree size can often be accomplished without having to cut branches larger than 6 inches in diameter.

# TIPS FOR HIRING AN ARBORIST

- ▶ Arborists are tree professionals and are the most knowledgeable persons to consult about your trees. Arborists may have a degree in forestry or horticulture (or other field of study), or they may possess a certification by the International Society of Arboriculture (ISA). Some arborists have both a degree and an ISA certification.

## WHEN TO HIRE AN ARBORIST

**There are times when a property owner would benefit from hiring an arborist for consultation services, but it's not always easy to determine when this should be done.**

Take a close look at your trees and consider the questions below:

### **Plant Health Care:**

- Are there cracks in the trunk or splits in the bark?
- Are branches dying?

### **Pruning:**

- Are there storm-damaged branches or other branches that need to be pruned?
- Are there branches that you are unable to prune without a ladder?

### **Tree Removal:**

- Are there trees that are dead, have insect infestations, or disease that need to be removed?
- Are there trees that require the use of a chainsaw for removal?

### **Consultation**

- Do you have additional questions regarding planning, tree selection, planting, or maintenance that are not answered in this booklet?

If the answer is “yes” to any of these, you should consult an arborist.

## HOW TO HIRE AN ARBORIST

**Here are some tips for selecting the right arborist for the job.**

- Check the phone book's yellow pages or use a search engine online to locate arborists that list their educational credentials, such as a degree in forestry or horticulture, and/or certification by the ISA.
- Ask friends and neighbors if they can recommend a tree company with which they've had a good experience.
- Ask to see liability and worker's compensation insurance certificates. Call the insurance company to see if the policy is current. If damage occurs to your or your neighbor's property, or someone is injured, you are responsible if they don't have insurance.
- Ask for local references and verify the quality of work.
- Have more than one company look at your job. It's best to get at least three opinions.
- Ask about the company's pruning techniques. If they say they “flush-cut” or suggest “topping” or “hat-racking” your tree, don't hire them.
- Be wary of anyone going door-to-door offering to do tree work. Most reputable tree companies have plenty of work without knocking on doors.
- Don't be rushed by bargains; never hire someone who insists on being paid before the work is complete.

# ORGANIZATIONS & SOURCES

## ORGANIZATIONS:

Up With Trees

Oklahoma Department of Agriculture, Food and Forestry

National Arbor Day Foundation

International Society of Arboriculture

## SOURCES FOR THIS PUBLICATION:

*A Field Guide to Trees and Shrubs*

*America's Garden Book*

*Know It and Grow It III*

*Manual of Woody Landscape Plants*

*Planting New Life in the City*

*Urban and Community Forestry:  
A Guide for the Interior Western United States*

*Tree City USA Bulletins*

*Taylor's Guide to Trees*

*Handbook of Landscape Cultivars*

## FOR MORE INFORMATION:

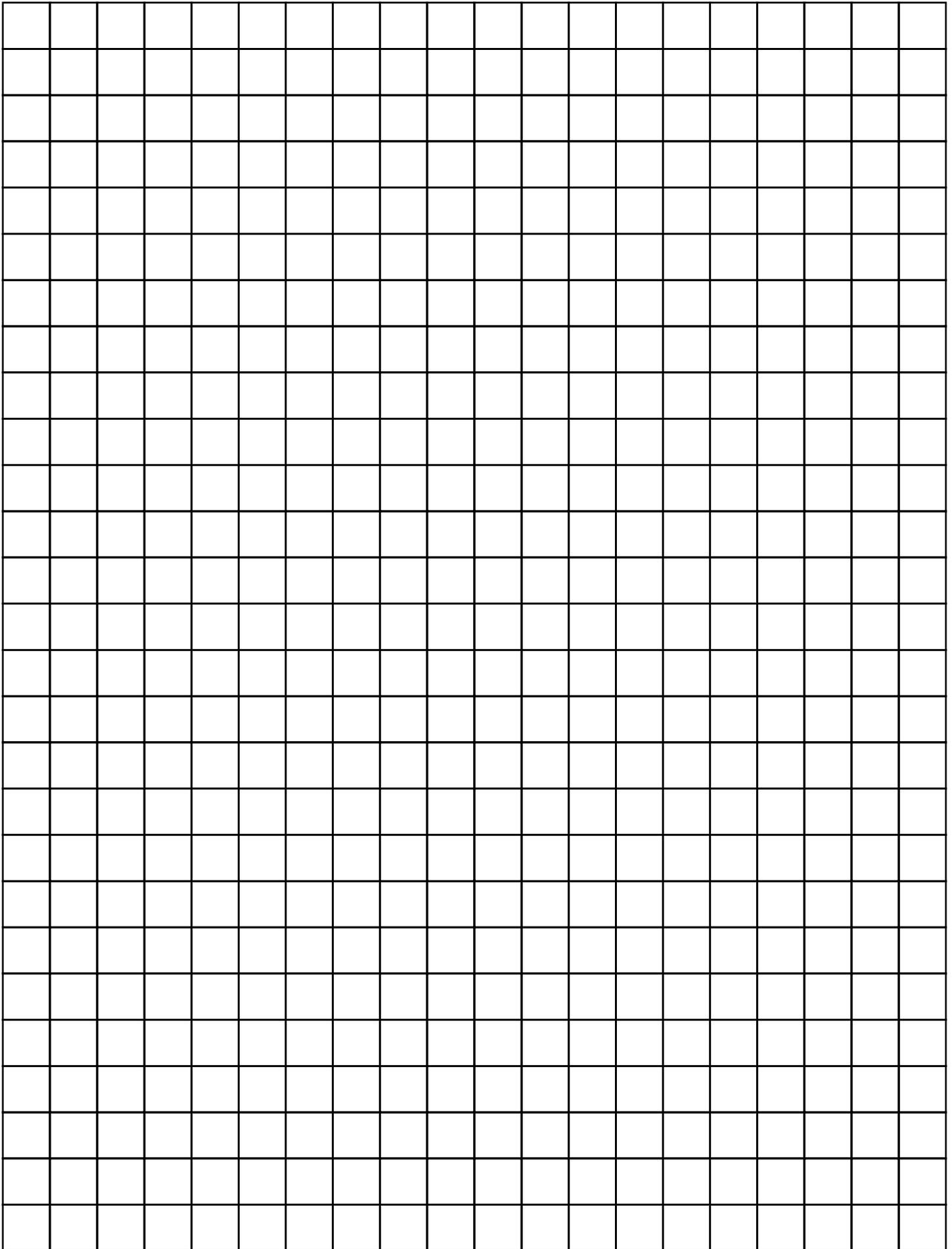
**Visit the PSO website:**

[www.psoklahoma.com/info/treertrimming](http://www.psoklahoma.com/info/treertrimming)

**To request additional copies of "Tree Tips" or to contact PSO Forestry, please call:  
1-877-367-6815**



Use this grid to draw a planning sketch of your yard. Refer to "Tree Species Selection Guide" on Page 6.





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