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# THE RIGHT TREE

B R O C H U R E

the right size



the right kind

the right place

the right care

Prepared by Tree Trust for:



# THE RIGHT TREE

B R O C H U R E

## Avoid Hazards When Planting Trees Near Power Lines

There are many potential benefits of planting trees— environmental, economic and social. However, trees that are poorly located can create problems in communities.

Trees growing into high-voltage power lines cause power outages and downed lines in storms, endangering the lives of people who live, work or play nearby. Trimming trees away from power lines can help, but severely trimmed trees are, at best, unsightly. At worst, they become unhealthy hazardous trees that need to be removed.

Trees can also interfere with underground utility lines, scrape the sides of houses or cars, interfere with pedestrians, drop fruit into neighbors' yards, block signage and cause sidewalks to heave or break.

All of these potential problems can easily be avoided by planting the right tree in the right location.

Trees planted under or near power lines should stand no higher than 18' when fully grown.



## The Right Tree

This booklet provides guidance for homeowners, businesses and other landowners on selection and placement of trees to maximize their benefits and to avoid any hazards the trees might create. Trees, properly selected and sited, bring many benefits to homeowners and communities.

**Energy and Cost Savings—** Properly placed shade trees lower temperatures in communities and homes and reduce the need for air conditioning, conserving energy and dollars, and reducing air pollution. Trees shade homes, streets, and parking lots, reducing the urban heat island effect. In winter, trees provide shelter from winds, also reducing energy usage.

**Air and Water Quality—** Trees reduce air pollution by trapping particulates and absorbing pollutant gases. Their roots help hold soil in place, reducing erosion and slowing water runoff, contributing greatly to water quality.

**Reduced Greenhouse Gases—** Trees play an important role in the environmental cycle by absorbing carbon dioxide and giving off oxygen. Trees store large amounts of carbon in their trunks and leaves, helping reduce the negative environmental effects of burning fossil fuels.

**Increased Property Values—** Trees also enhance property values. Studies have shown that mature trees raise the value of homes by 15 percent or more. They add to the beauty and comfort of a home and can screen an unattractive view or provide privacy. Businesses also benefit from trees planted on boulevards and shopping areas, attracting more customers to their stores.

**Healthier Communities—** Trees enhance social interaction in communities. Trees are a focal point for gatherings and help reduce the isolation of inner city neighborhoods. Tree plantings are effective ways to bring communities together, which helps them organize for other community goals as well. Thus trees become catalysts for creating healthier communities.

# T H E R I G H T S I Z E

## Safety & Electric Service Reliability

### Planting Trees Near Power Lines—

It is important to avoid planting trees that will grow into power lines. The small tree you get at the nursery can grow rapidly to engulf the power lines on your boulevard or property. Trees encroaching on power lines are a major cause of serious and fatal accidents involving contact with power lines. During storms, falling limbs or trees can bring down power lines, creating dangerous situations.

Trees are a common cause of electric service interruptions. Even with regular tree trimming, power companies must respond to many

service calls because of trees—adding to the overall cost of electrical service. Fortunately, you can safely plant many trees that remain short—even at maturity—under or near power lines. You will find a list of these trees on pages 12-15 of this guide.

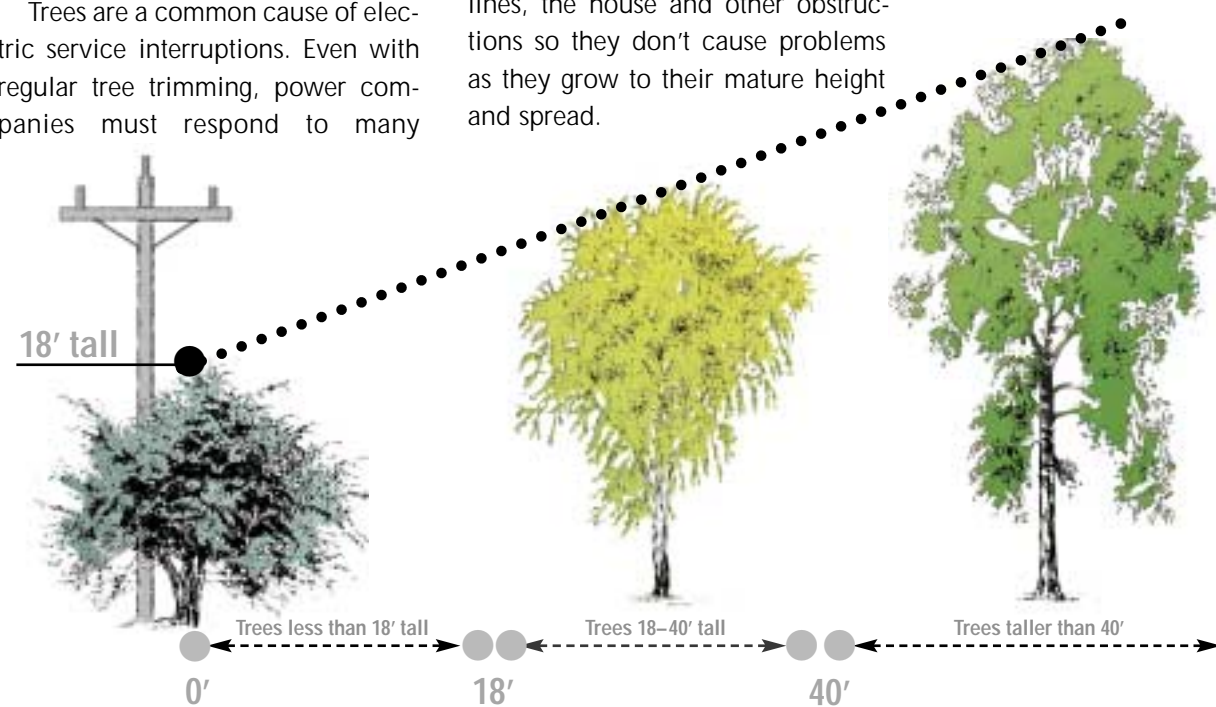
This booklet lists only trees that can safely be planted under power lines. Many shrubs fit well under power lines as well. Larger trees can be planted adjacent to power lines or in other places in your yard, but be sure to place them far enough from power lines, the house and other obstructions so they don't cause problems as they grow to their mature height and spread.

**Size—** Trees with a mature height of 18' or less can be located within 18' of either side of the power line, but consideration should be made for a clear zone around the pole to allow the access of vehicles. Trees taller than 18' should not be planted closer to the pole than their height at maturity (see Figure 1). The mature size of the tree should also be a consideration when siting it in relation to your house. Trees planted too close to a house can scrape the sides or cause foundation problems.

**Underground Utilities—** Buried utility lines can also pose serious risks when planting trees. When choosing a site you must locate all underground electric, gas, water, sewer, cable and telephone lines. The one-call service in your state (listed on page 16) will locate these lines for you within three days. All lines must be located **before you dig**. Don't dig within 24 inches of these line locations.

**Have the following information available when you call—**

- Your name
- Phone number
- Street Address
- Dig location
- Nearest intersection
- Type of work planned
- Start date and start time



**Figure 1.** Illustration showing distribution lines vs. mature heights of trees planted under and nearby. The mature height of the tree corresponds to the distance the tree is planted from the pole.

# T H E R I G H T P L A C E

## Energy Conservation

Properly placed trees conserve energy and reduce both heating and cooling bills. Planting deciduous trees— trees that drop their leaves in the fall— on the west and east sides of your house will provide the greatest energy savings during both summer and winter. The worst place to place a tree from an energy-savings perspective is on the south side of the house.

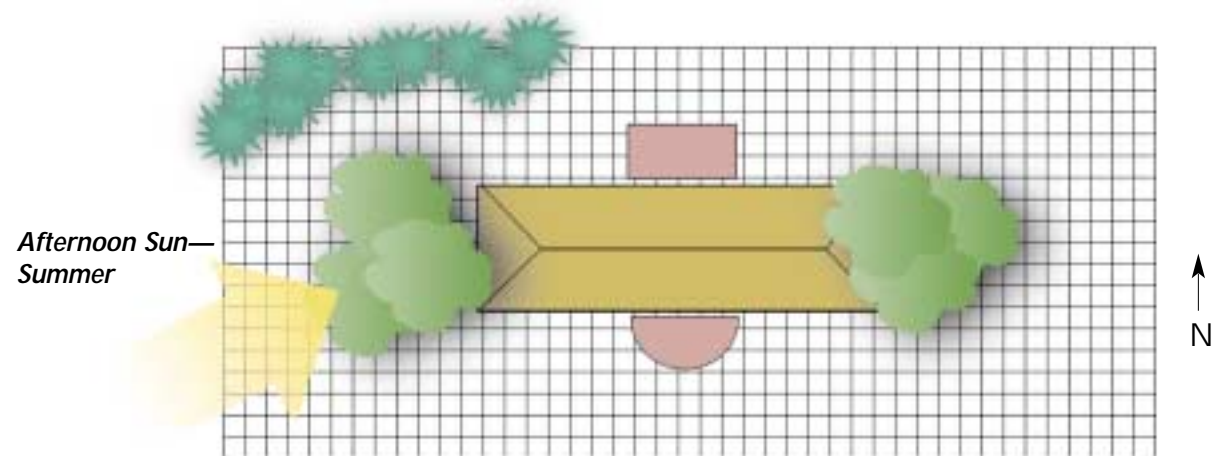
## Summer

**Cooling—** Planting trees on the east and west sides of your house will block the morning and afternoon sun in the summer, thereby reducing your cooling bill.

In addition, trees planted to shade driveways, patios, sidewalks and streets will help create a cooler atmosphere around the home. Trees do this by transpiration, a natural evaporative cooler. Such plantings will make your house more comfortable in the summer even if you do not have air conditioning.

Reducing cooling costs also reduces the peak demand for electricity in summer months, helping reduce the need for new power plants and keeping electricity costs down.

Locate air conditioners away from south windows and shade them with deciduous trees, which will help them to run more efficiently by making the area cooler, but still allow good air circulation.



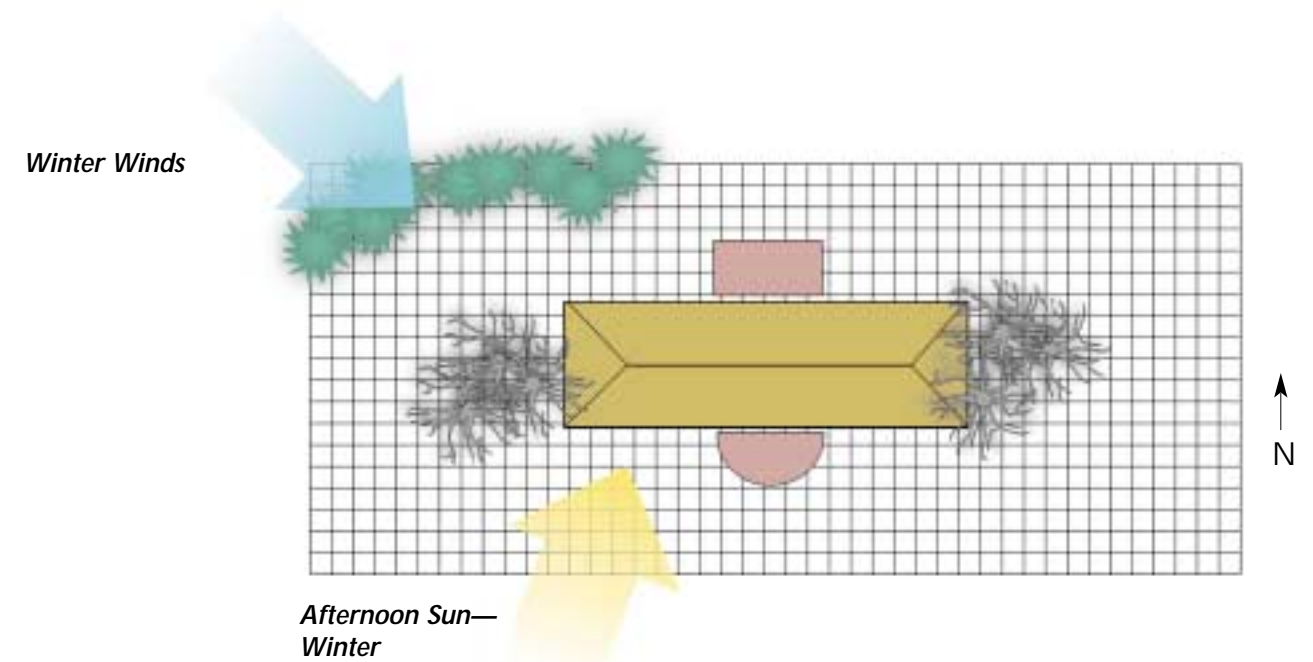
**Figure 2.** Save energy by planting trees that shade your house on the east and west sides in summer and then shed their leaves in the fall to allow heat gain from the winter sun. Evergreens planted on the north or northwest side can provide a wind-break in cooler climates.

## Winter

**Heating—** In cold climates, avoid planting trees on the south side of your house. On sunny winter days, you can open your shades on the south side to take advantage of passive solar warmth gained from the winter sun as it travels low in the southern sky. If trees do already exist on the south side of the house, prune their lower branches to allow more sun through.

Coniferous trees— trees that keep their 'leaves' all year round— can be planted as a windbreak on the north-northwest side of the house. Such plantings can reduce heating costs that result from evaporative cooling and air infiltration in the winter. Windbreaks also guide wind up and over the house. Conserve energy by planting a dense row or continuous clusters of evergreen trees with a row of shrubs or smaller

trees in front. Properly space wind-break rows so that sun can reach the lower branches of all plants.



**Figure 3.** Save energy by planting trees on the east and west sides, keeping the south side clear to allow heat gain from the winter sun. Evergreens planted on the north or northwest side can provide a wind-break in cooler climates.

# T H E R I G H T K I N D

## Appearance

When choosing a tree, you should consider its appearance and how it fits into your landscape. Trees vary widely in size and shape. They can be evergreen or drop their leaves each year. Many have showy blossoms, turn bright colors in the fall or have attractive bark all winter.

Consider how the tree will look when mature. Will it frame the house nicely or seem too large? Sometimes a tree that seems too big in a front yard will make a good background for the house when placed in the back. Consult your local nursery about trees that grow well in your area and their mature size. This will help you make the right decision about what to buy and where to place your trees.



**Blossoms.** Many trees have colorful blossoms, including: crab apples (*Malus* spp.), magnolias and most of the *Prunus* spp.

**Fruit.** Many trees have fruit that attracts wildlife and adds color to your yard, including: most of the dogwoods (*Cornus* spp.), hawthorns (*Crataegus* spp.) and the prairie flameleaf sumac (*Rhus lanceolata*).



**Fall Color.** Trees with brightly colored leaves in the fall include: amur maple (*Acer ginnala*), serviceberry (*Amelanchier*), and eastern redbud (*Cercis canadensis*).

**Bark.** Some trees have attractive bark that is especially noticeable in the winter, such as: three-flowered maple (*Acer triflorum*) and Princess Kay Plum (*Prunus nigra* 'Princess Kay').



**Evergreens.** Evergreens provide year-round color and shelter for the birds: All the conifers on this list are evergreen.

## Hardiness & Health

Another consideration in tree selection is the long-term health of the tree, which can be affected by soils, climate, susceptibility to disease and quality of nursery stock.

**Pruning**— Again, size is important. Trees that need to be pruned severely to fit into their space are prone to disease, insect infestation and wind damage.

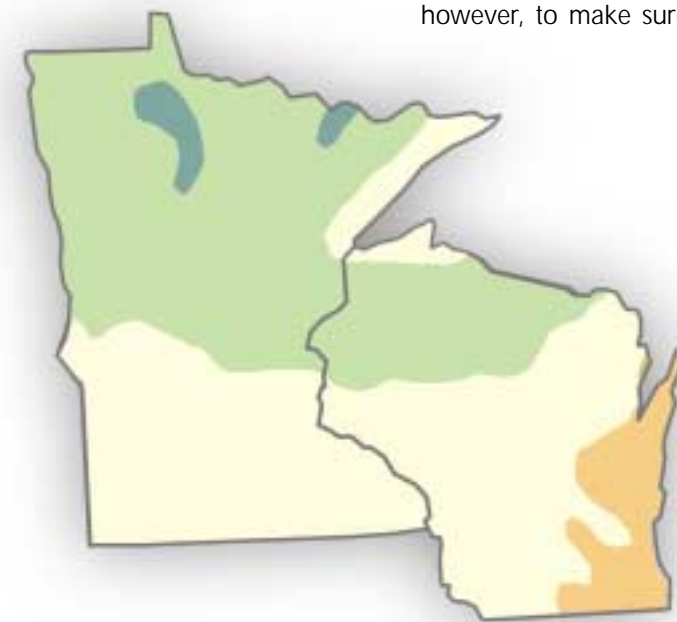
**Cold Hardiness Zone**— Select trees that are hardy in your area so they will withstand cold winters and the heat of summer. Trees in this guide are identified by their cold hardiness zone. Check the map below to see which trees will thrive in your area.

**Soil**— Soil conditions can affect the health of your trees. Some trees don't do well in boggy, poorly drained, clay or heavily compacted sites. Others have problems in sandy soils that don't hold moisture. The pH of the soil can affect growth in some trees. Most trees listed in this guide are widely adaptable to a variety of soil types. Check the special notes, however, to make sure the tree you

choose will do well on your site. If you need help determining your soil type, consult your local agricultural extension office. They can give you information for your area and even test your soil if necessary. Numbers for these offices are listed on the last page of this guide.

**Insects and disease**— Some tree species are particularly prone to certain disease or insect infestations. Choosing other species or disease-resistant cultivars of these trees can help assure the long-term health of your trees.

**Plant stock**— Purchase trees with healthy stems and roots. Stems should be free of wounds, cankers (dead areas), or other damage. Roots should be at or near the surface of the soil ball and growing away from the stem.



### Hardiness Zone Key

Zone 2	-50	To	-40	
Zone 3	-40	To	-30	
Zone 4	-30	To	-20	
Zone 5	-20	To	-10	

**Figure 4.** Use these cold hardiness zones to select trees that will survive winter in your region.

## Proper Tree Planting

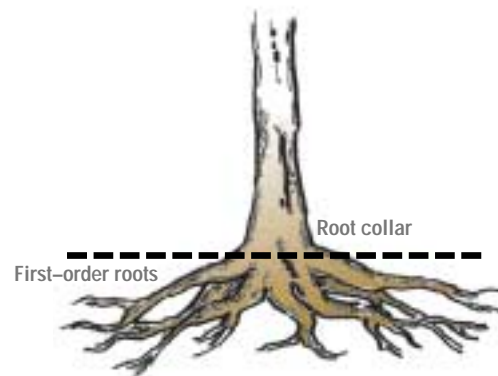
Once you have selected the right tree for your site, follow these general steps to make sure it will grow well. Also refer to Special Planting Considerations on page 11 for the type of tree you are using.

### 1. CALL BEFORE YOU DIG!

Call your state's one-call agency (see page 16 for phone numbers) to locate all underground lines in your yard before digging.

### 2. Decide how deep to plant the tree.

The tree should be planted so that its **root collar** (the bulge or flare right above the root system) is even with or slightly above the soil surface. Many trees are planted too deep at the nursery. So, to locate the root collar, probe with a wire or



**Figure 5.** Root collar should be even with or slightly above ground level.

remove extra soil. Prune away smaller roots growing from the trunk down to where the first large side roots (first-order roots) occur, about the width of a pencil.

**3. Prepare the site.** Dig a large saucer-shaped hole two to five times wider than the root ball and just deep enough so that the root collar is slightly above the soil surface. To determine how deep you need to dig the hole, measure from the first-order roots to the bottom of the rootball. Do not dig the hole deeper than you plan to plant the tree (Figure 6). It is better if the root collar is slightly higher than ground level because of possible settling. Do not disturb the soil beneath the root ball.

**4. Place the tree carefully in the center of the hole** after removing it from the container.

**5. Back fill** when the tree is positioned and straight. Back fill the hole with the soil that was removed. As the back fill is added, lightly push the soil around the roots or water the soil to eliminate air pockets. (Do not pack the soil after you water.) Back fill to the height just below the root collar. Don't plant the tree too deep.

**6. Mulch** with woodchips to a depth of 4 inches on top of the planting circle. Keep the mulch 4 inches away from the trunk to keep fungus from growing on the trunk.

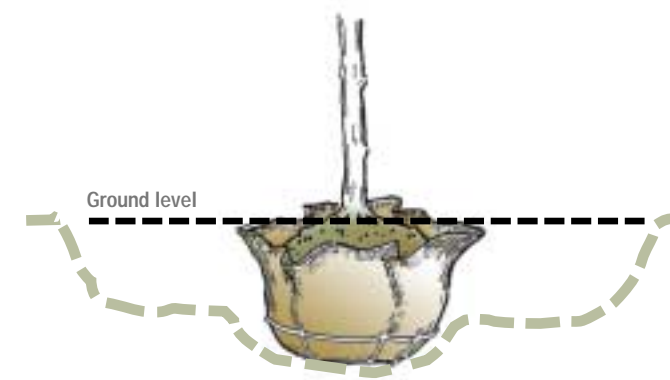
**7. Water** is very important to a newly planted tree. A slow, root-saturating, one-hour trickle once a week is a good rule of thumb for a new tree. This provides the new roots with sufficient moisture without drowning them. If it rains or is very dry, the watering schedule should be adjusted accordingly.

## Special Planting Considerations

Nurseries sell trees in three types: balled and burlapped, containerized and bare-root. There are some special planting considerations for each one.

**Balled and burlapped trees—** Balled and burlapped trees are generally larger trees dug from the ground at the nursery. The root ball is wrapped in burlap and encased in a wire or string basket.

■ The basket and burlap should not be removed until the tree is positioned in the hole. This keeps the root ball intact.



**Figure 6.** Balled & burlapped tree properly placed in wide hole.

■ Carefully loosen the top of the burlap. Probe with a wire or remove soil to determine where the root collar is located—right above where the large roots begin. Dig the hole so the root collar is even with or slightly above the soil surface.

■ Carefully place the tree in the hole and backfill some soil around the tree to stabilize it. Cut away as much of the wire basket as you can without disturbing the soil ball.

■ Remove all twine and rope from around the ball.

■ Remove the nails holding the burlap together and gently fold the burlap back.

■ Cut away loose burlap without damaging the root ball. Push any part of the basket and burlap that could not be removed down into the ground under the root ball. This will allow the roots to grow out into the soil.

**Containerized trees—** Containerized trees usually come in plastic or paper pots, or wooden baskets.

■ Remember, the tree may be planted too deep in the pot. Remove soil down to the root collar, where the first large side roots begin, about the width of a pencil. If the soil ball is dry, water it.

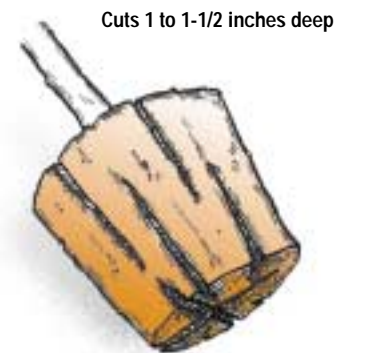
■ Determine if the tree roots hold the soil together in the pot or if the soil is loose.

■ If the soil is packed or the pot is rootbound, carefully remove the tree from the pot. You may have to lay the tree on its side and press the pot to free it from the soil ball.

■ If you see roots circling around the edge of the soil ball once the container is off, make a vertical slice up each quarter of the root ball. Cut an

X cut across the bottom of the soil ball and continue planting normally. Cuts should be 1 to 1-1/2 inches deep (Figure 7). This will reduce the chances of the tree developing stem-girdling roots as it grows

■ If the container cannot be removed easily or the tree starts to come out without the soil, first carefully cut off the bottom of the container. Place the tree and remaining pot in the planting hole and adjust for final position. Then cut the container away from the soil ball. Gently back fill and then remove the sides of the pot.



**Figure 7.** Containerized root ball showing proper scoring.

# T H E R I G H T C A R E

**Bare-root trees**— Bare-root stock has no soil on the roots. The roots must be carefully protected from drying out.

■ Bare-root trees must be kept cool and moist at all times. Small, hair-like absorbing roots can dry out quickly on a sunny or windy day. Leave these trees in their packing materials and keep them moist, or cover with moist mulch until you are ready to plant.

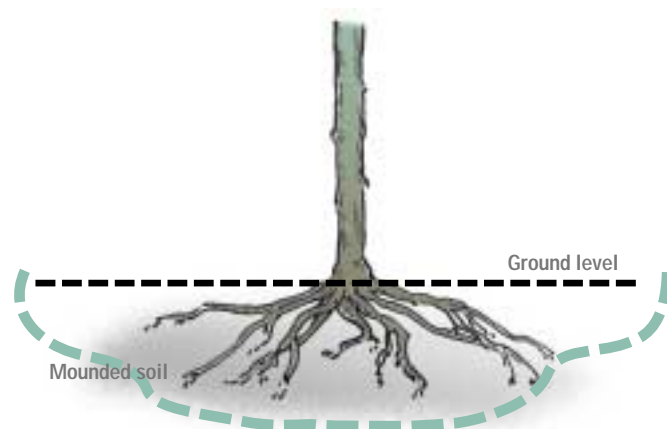
■ Soak in water for six to 12 hours before planting. Prune damaged, diseased or girdling roots before planting.

■ Make sure the hole you dig is wide enough to spread the roots all the way out. Don't wrap the roots around in the hole.

■ Stabilize the tree and spread roots out to their normal position by mounding a little soil in the bottom of the hole (Figure 8), set the tree on the mound and position roots out.

■ Since there is no root ball to hold the tree straight, you will need to support it carefully while back filling the hole. Back fill the hole half way, and then water it to eliminate any air pockets under the roots. Don't pack the soil after watering.

■ Be sure to plant the tree so the root collar is slightly above ground level. Occasionally, you may need to stake a bare-root tree after planting. Be sure to remove the stake after the first growing season.



**Figure 8.** Bare-root tree planted with root collar placed at ground level and backfill for stabilizing the tree and positioning roots.

■ Some bare-root species may have to be “sweated” to break dormancy, or they will not grow. Sweating requires a dark, humid environment to help trees leaf out. Consult your nursery about whether your trees need this procedure.

## After-Planting Care

**Watering**— Newly planted trees need regular watering. Generally, a deep watering once a week is enough. You do not need to water if there has been sufficient rainfall. Balled & burlapped and containerized trees have all their roots confined to the root ball. Be sure to water the ball thoroughly. Water the tree during dry periods for the first three years after planting.

**Fertilizer**— Newly planted trees are easily burned by fertilizer. If the trees are planted into fertile soil, do not add any fertilizer during the first three years.

**Staking**— Most newly planted trees do not need staking. Only those that are unstable should be staked. Secure the tree to the stakes using soft materials that will not damage the cambium (the layer right under the bark) of the tree. Stakes should be removed once the tree is established, usually one year.

**Pruning**— Pruning is an important maintenance practice that will improve the health and development of the tree. When you plant, and each following year, prune all broken, dead or rubbing branches. Trim away any secondary or competing “leaders.” Be very careful not to trim the tree’s main leader.

For younger trees you may want to “raise the crown” by removing some of the lower branches, especially to provide clearance for pedestrians. Only remove a few branches each season. Don’t cut the tips off the branches. Instead, make your cuts at the unions between two branches.

Proper pruning can be a successful defense against insects and disease, if the proper cut is made. Take a look at the illustration (Figure 9) to help make the proper type of cut for smaller branches.

Application of wound dressings or pruning paints is unnecessary in most instances. These paints can prevent wounds from healing correctly. Only use pruning paint when pruning oaks from April to June, the high-risk period for spread of oak wilt.

**When to prune**— The best time to prune most trees is when they are dormant—in the winter or very early spring. This helps reduce the spread of disease as well as reducing the stress on the trees. Never prune oaks or elms during the growing season.

### How to prune—

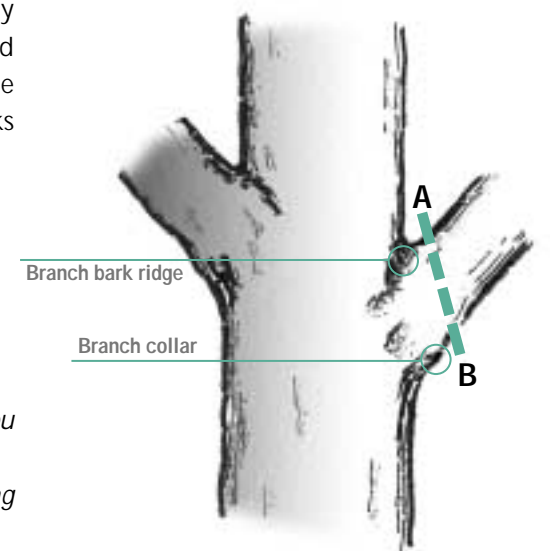
Step 1. Locate the branch bark ridge.

Step 2. Locate the branch collar.

Step 3. Locate the A & B targets.

Step 4. Support the branch as you cut to keep the bark from ripping.

Step 5. Use clean, sharp pruning shears or a pruning saw to cut from A to B.



**Figure 9.** Avoid cutting into branch bark ridge and branch collar.

**Note:** It is important not to cut into the branch collar because it creates a larger wound and it’s more difficult for the tree to cover over the wound.

**Caution:** Touching a power line can be fatal. When you’re pruning, keep yourself and all equipment away from any power line. Or, you may want to hire a certified arborist qualified to trim near these lines. Always assume that all overhead lines are energized.

# T H E R I G H T T R E E S

Trees—for planting under power lines	Size	Form	Rate <sup>1</sup>	Zone	Fall Color	Flower	Light <sup>2</sup>	Culture/Comments
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*Deciduous Trees*

<i>Acer ginnala</i> <b>amur maple</b>	15-18'h 15-25'w	rounded spreading	M	3-7	yellow red	yellow fragrant	○	Wide range of soils and pH. Best in moist, well drained soil.
<i>Acer tataricum</i> <b>tatarian maple</b>	15-18'h 15-25'w	rounded spreading	S/M	3-6	yellow reddish - brown	—	○●	Tolerant of harsh conditions, including high pH and drought. Not as hardy as <i>ginnala</i> .
<i>Amelanchier x grandiflora</i> <b>apple serviceberry</b>	18'h 15-20'w	oval to spreading	M	3-8	orange to red	white	○●	Comes in clump and single stem forms. Great tree to attract wildlife. Blue to red fruits. Select cultivars: 'Forest Prince,' 'Princess Diana.'
<i>Amelanchier laevis</i> <b>allegheny serviceberry</b>	18'h 15'w	upright oval	M	4-8	orange	white	○●	Comes in clump and single stem forms. Can form thickets. Edible, purplish blue fruit attract birds and wildlife.
<i>Cornus alternifolia</i> <b>pagoda dogwood</b>	15-18'h 20-25'w	rounded spreading	M	3-7	reddish - purple	yellow white	○●	Keep root zone cool. Moist, acidic, well drained soil. Best in cooler climates. Fruit enjoyed by birds.
<i>Cornus racemosa</i> <b>gray dogwood</b>	10-15'h 10-15'w	rounded	M	3-8	purple- red	white	○●	Showy white fruits in late summer attract birds. Tolerant of a wide range of soils. Native to the upper midwest of the U.S.
<i>Crataegus crus-gali</i> var. <i>inermis</i> <b>thornless cockspur hawthorn</b>	15-18'h 15-20'w	spreading	M	4-7	orange	white	○	Thornless variety of hawthorn. Abundant white flowers in June, followed by red persistent fruit in autumn. Prefers moist conditions, but is also drought tolerant.
<i>Crataegus laevigata</i> "Supurba" <b>crimson cloud hawthorn</b>	15'h 10-15'w	rounded	M	4-7	—	red	○●	Thornless and resistant to leaf spot diseases. Flowers are large and very bright red with white centers. Red fruits persist into winter.

**Notes:**

This list was developed with the intent of presenting a starting point for tree selection. Please work with your local forester or nursery to determine specific benefits and limitations of each species for your area. Some of the species are often found as both shrubs and in tree form, e.g. pussywillow and nannyberry. A shrub form can easily be pruned into a multi-stemmed small tree.

<sup>1</sup>Growth Rate S=less than 12 in/yr, M=13-25 in/yr, F=more than 25 in/yr. <sup>2</sup>Light ○ Full Sun, ● Partial Shade, ● Full Shade.

Trees—for planting under power lines	Size	Form	Rate <sup>1</sup>	Zone	Fall Color	Flower	Light <sup>2</sup>	Culture/Comments
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<i>Crataegus x mordenensis</i> 'Toba' <b>toba hawthorn</b>	12-15'h 12'w	upright rounded	M	3-7	—	white	○●	Hardier than the other hawthorns. Fragrant, double white flowers turn to pink. Interesting twisted bark.
<i>Hamamelis virginiana</i> <b>witch hazel</b>	15-18'h 15'w	rounded, vase- shaped	M	4-8	yellow	yellow	●	Moist soil. Somewhat tolerant of urban environment. Flowers in fall. Native to Minnesota and Wisconsin.
<i>Magnolia stellata</i> 'Royal' <b>royal star magnolia</b>	8-10'h 8-10'w	rounded	S	4-8	yellow	white	○	Sheltered location in north to prevent buds from freezing. Prefers moist, rich well drained acid soil.
<i>Malus</i> spp. <b>flowering crab</b>	10-18'h 10-25'w	oval to rounded	varies	2-8	—	white pink red	○	Well drained acid soil. See following cultivars. Consult nursery about various other cultivars that will work.
<i>Malus</i> 'Coralcole' <b>coralburst crab</b>	8-10'h 12-15'w	rounded	M	3-7	—	pink	○	Dense branching habit and uniform grower. Coral-pink buds opening to double pink flowers followed by bronze fruit. Very resistant to crab.
<i>Malus</i> 'Hargozam' <b>harvest gold crab</b>	18'h 15'w	upright	M	4-7	—	white	○	Very good disease resistance, and said to have good salt tolerance. Colorful golden fruit remain showy into December and persist into spring. Green foliage.
<i>Malus</i> 'Hargozam' <b>louisa crab</b>	15'h 15'w	weeping	M	4-7	—	pink	○	Red buds open to pink flowers, glossy green foliage, and persistent yellow fruits. Disease resistant.
<i>Malus</i> 'Pink Spires' <b>pink spires crab</b>	15'h 12'w	narrow	M	2-7	copper	pink	○	Ideal for confined screen or as a border plant. Foliage is red-purplish in spring and turns to green-bronze in summer. Purplish-red fruits do not drop.
<i>Malus</i> 'Prairifire' <b>prairifire crab</b>	15'h 20'w	spreading, rounded	M	4-7	red- orange	red	○	Good disease resistance. Foliage is purple maturing to red-green and has good retention during summer. Maroon fruit does not drop and bark is glossy dark red. Blooms later than most crabs.



# T H E R I G H T T R E E S

Trees—for planting under power lines	Size	Form	Rate <sup>1</sup>	Zone	Fall Color	Flower	Light <sup>2</sup>	Culture/Comments
<i>Malus transitoria</i> 'Schmidtcutleaf' <b>golden raindrops crab</b>	18'h 15'w	narrow upright vase	F	4-7	orange-purple	white	○	Distinguished by its fine textured deeply cut leaves. Golden yellow fruits are persistent. Disease resistant.
<i>Prunus americana</i> <b>american plum</b>	15-18'h 10-20'w	rounded	F	3-6	—	white	○	Very hardy, drought resistant tree. Thrives with neglect. Can form thickets. Excellent for wildlife plantings. Fruit used for jams.
<i>Prunus maackii</i> <b>amur chokecherry</b>	18'h 18-25'w	oval to rounded	F	3-6	—	white	○	Prefers fertile, well drained soil. Easily develops girdling root. Beautiful amber-colored birchlike bark. Small red to black fruits attract birds.
<i>Prunus cerasifera</i> 'Newport' <b>newport plum</b>	15-18'h 15-20'w	rounded	M	4-8	—	pinkish white	○●	Moist, well drained soil. Purple fruit in summer. Reddish-purple leaves.
<i>Prunus nigra</i> 'Princess Kay' <b>princess kay plum</b>	15'h 8-10'w	upright narrow	M	2-6	—	double white	○	Requires well drained soil. Not drought tolerant. Yellow-red fruit. Prominent lenticels on dark bark adding winter interest.
<i>Prunus</i> 'North Star' & 'Meteor' <b>sour cherry</b>	8-12'h 6-10'w	rounded	M	4	—	golden yellow	○	Well drained soil. Red berry used for preserves and eaten by birds.
<i>Prunus virginiana</i> 'Schubert' <b>canada red chokecherry</b>	15-18'h 15-20'w	oval	M	2-6	—	white	○	Tolerates low fertility and dry sites. Dark red-purple leaves and fruit. Susceptible to insects and black knot. Hardy and attractive.
<i>Salix discolor</i> <b>pussy willow</b>	18'h 12-15'w	pyramidal to oval	M	2-7	—	—	○	Moist to wet soil. Multi-stemmed. fuzzy silver catkins.
<i>Syringa reticulata</i> <b>japanese tree lilac</b>	18'h 15-25'w	pyramidal rounded	M	3-7	—	creamy white	○●	Full sun for best flowers. Loose, well drained acidic soil. Prefers cool summers.
<i>Syringa x hyacinthiflora</i> 'Pocahontas' <b>pocahontas lilac tree form</b>	10-12'h 10-12'w	upright	M	2-7	purple	white	○	Exceptional hardiness and vigor. Deep purple single florets. Prune to maintain shape.
<i>Viburnum lentago</i> <b>nannyberry tree form</b>	15-18'h 8-10'w	oval	M	3-7	purple red	white	○●	Very adaptable to wide range of conditions. Blue and black fruits are good winter food for birds. Native to Eastern U.S.

Trees—for planting under power lines	Size	Form	Rate <sup>1</sup>	Zone	Fall Color	Flower	Light <sup>2</sup>	Culture/Comments
<b>Coniferous Trees</b>								
<i>Juniperus chinensis</i> <b>chinese juniper</b>	15-18'h 4-6'w	pyramidal to rounded	S	4-8	—	—	○	Tolerant of wide range of soils and pH and urban environment. Attracts birds. Selected cultivars: 'Hetzil Columnaris,' 'Maneyi,' 'Sea Green.'
<i>Juniperus scopulorum</i> <b>rocky mountain juniper</b>	14-18'h 4-6'w	pyramidal	S	3-7	—	—	○	More cold tolerant than other junipers makes it good for prairie climates. Growth habit and foliage color vary with cultivars. Selected cultivars: 'Blue Trail,' 'Medora,' 'Sutherland,' 'Wichita.'
<i>Pinus mugo</i> <b>mugo pine</b>	10-18'h 4-6'w	rounded to pyramidal	S	3-7	—	—	○●	Deep moist loam. Tolerant of calcareous soils.
<i>Thuja occidentalis</i> <b>arborvitae</b>	15-18'h 15-20'w	pyramidal	S/M	3-7	—	—	○	pH tolerant. Check specific cultivars for details: 'Smaragd,' 'Sunkist,' 'Techny,' 'Teddy.'

<sup>1</sup>Growth Rate S=less than 12 in/yr, M=13-25 in/yr, F=more than 25 in/yr. <sup>2</sup>Light ○ Full Sun, ● Partial Shade, ● Full Shade.

# THE EXPERTS

*Thanks to the following experts for their advice and input on recommended trees.*

Kelly Fleishner, City Forester, City of Duluth  
Gary Johnson, Professor of Urban & Community Forestry, University of Minnesota  
Paul Walvatne, Forestry Unit Supervisor, Minnesota Department of Transportation

*For more information:*

University of Minnesota Extension — Forest Resources [www.cnr.umn.edu/Fr/extension](http://www.cnr.umn.edu/Fr/extension)  
University of Wisconsin Extension — Urban Horticulture [www.uwex.edu/ces/wihort](http://www.uwex.edu/ces/wihort)

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Tree Trust is a non-profit corporation dedicated to urban & community forestry. Its mission is to provide education & employment experience that develop individual responsibility & environmental stewardship. For more information about tree selection, planting & care, contact Tree Trust at 651-644-5800.