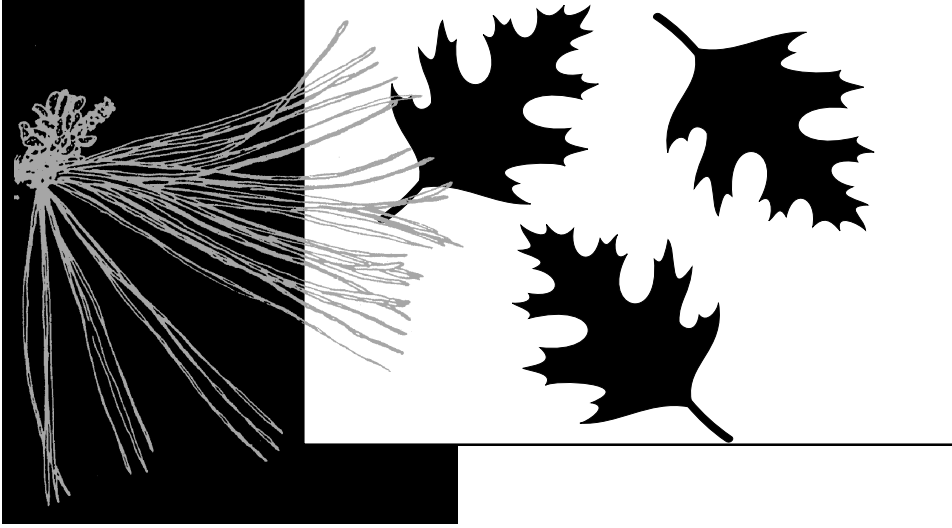
LSU AgCenter
Research & Extension

Trees

for Louisiana Landscapes

A Handbook



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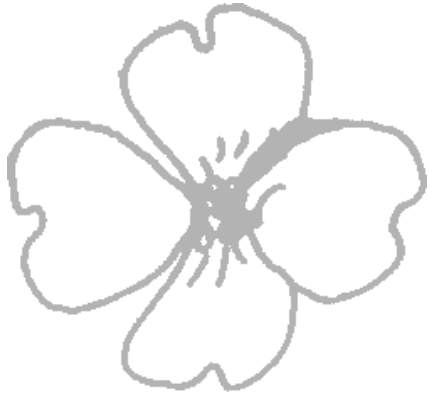


INTRODUCTION

Communities where many good trees have been established and more are being planted demonstrate a feeling of continuity with the past and anticipation for the future.

Trees that have been properly selected, placed and cared for indicate a community's or homeowner's pride in their environment. Citizens are quick to point out to visitors and tourists the better residential districts, parks, campuses and other areas where old trees survive as the most beautiful parts of their communities. Cities and towns where beautiful trees are abundant have a character all their own of which citizens may be justly proud.

Even old and relatively unattractive structures can become visibly acceptable with the proper use of trees. Few buildings are acceptable in the landscape without some natural vegetation. An environment that is good for the culture of trees may also be said to be good for people.

In addition to these aesthetic reasons for having trees, there are some practical ones. Trees are sometimes referred to as nature's air conditioners. They moderate the climate by protecting from extremes in wind, heat, cold and drought. Trees also purify the air. Adequate numbers of them can considerably reduce smog and other air pollution problems that are making large areas of our country unsafe and undesirable. Many birds and animals also depend on trees for food and shelter.

The value of a tree is closely associated with its relation to its environment. This value may be affected by the variety, placement, age and proximity of other trees of equal merit and even such considerations as historical or sentimental associations. Where trees are widely scattered, it may be advisable to save them all. If the site has many trees, all that are not in the direct path of construction may be kept until construction work is completed and the effect of the loss of others can be better judged.

Often it is more economical to replace small trees than to try to protect them. Old trees are more sensitive to changes in the environment so need to be of significant value to warrant the large expense involved in attempting to preserve them. Badly damaged or diseased old trees are usually best removed.

Removing less desirable trees may benefit those that remain by reducing competition for moisture, nutrients and light. When stands of trees are thinned, changes in the environment of the tree occur. If trees which formerly grew in partial to dense shade are suddenly exposed to increased sunlight, drying winds and to more violent temperature changes, some damage may occur.

The topsoil beneath a tree is essential to its welfare. To remove it can cause serious damage. Topsoil from an area to be occupied by buildings should be scraped and saved for spreading in a thin layer under trees and in low areas needing soil improvement. Compost formed by decaying leaves should be allowed to remain on the ground to help retain moisture. The lack of humus is a major problem in our Louisiana soils. In addition to helping to hold moisture, humus gives the soil a lighter texture and improves air circulation in the root zone of plants.

Properly selected trees carefully placed around our homes can make our indoor and outdoor environments much more livable and pleasant. They can cut the cost of air conditioning or make homes without air conditioning more comfortable during the summer. Where dust is a problem, trees can be placed to serve as filters. Tree plantings can also be effective windbreaks during the winter. In addition, recent reports have illustrated that noise can be absorbed by tree plantings by as much as 50 percent.

Real estate people tell us that one of the best reasons to plant good trees is to increase the value and sales appeal of our homes. Beautiful, well-placed trees are a prime selling factor, especially in older homes.

Trees are probably one of the biggest bargains in our environment. Since considerable time is required to produce a tree of useful size, it is important to plant them as soon as possible and select adapted varieties that fill specific needs. The lists and descriptions here should help you make intelligent selections.

A few basic points of landscape design to keep in mind when placing trees include: scale and proportion of tree species at maturity, restraint in number of species used for a given development, cultural and maintenance requirements, year-round interest in foliage, flower and fruit, orientation or placement for proper shade and sun needs, and a proper balance between deciduous and evergreen trees.

The landscape architect is the professional whose job is to select and place trees in the environment. Trees should be part of an overall landscape plan. Whether a professional landscape architect, landscape nursery contractor or homeowner places the trees, it is best to plan the overall development first, as to avoid costly moving and other mistakes. Remember that trees are a living investment that increases in value continually if properly placed and cared for.

Conserving Existing Trees

Nearly everyone recognizes the value of trees in providing shade, ornament and protection for our living environment. Too often, valuable trees are lost from injuries caused by construction work. This damage is not always immediately evident. Usually the most serious injuries are caused by earth fill and cuts. By the time the visible parts of the tree begin to show damage, it may be too late to save the tree. Frequently several years pass before injury is apparent.

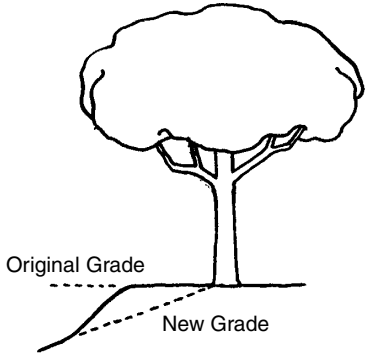
The loss of existing trees can seriously reduce the value of a building site. Newly planted trees usually have less value for shade and ornament than long established ones.

Often it is impossible to repair injuries to a tree or restore it to good health, but it is usually better and more economical to prevent damage than to correct it. Before construction begins, evaluate the existing trees and give careful thought to protecting those that are valuable to the completed project. This is often an initial step of the professional landscape architect. During the early stages of planning, it is often possible by slightly modifying plans to adjust alignments and grade so as to minimize injury to valuable trees on the site.

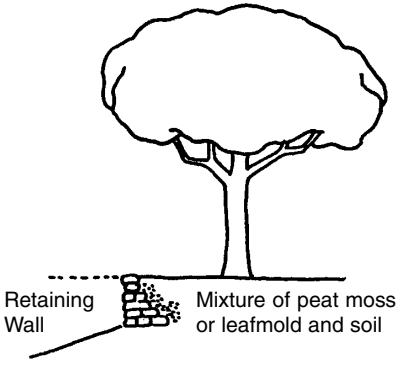
The addition of soil around existing trees is a major cause of damage. To remain healthy, tree roots must have an adequate supply of both air and water. Fill around trees will upset the proper air-water balance. Impervious fills such as clay, even if very shallow, can be much more harmful because they admit little or no air and water to the feeding roots of the tree. In these situations there are several methods you can use to compensate for grade changes. Figure 1 illustrates construction techniques which may be beneficial for particular situations. No method is a guarantee for the survival of a tree where grade changes have been made.

If their roots are continuously covered by water, most trees will die because they are unable to obtain sufficient oxygen from the water. A deep fill tends to raise the water table and increase the soil moisture to a point where the roots are damaged. Even shallow fills over heavy turf may cause such drastic change in the normal gaseous condition around the tree roots as to result in damage or death.

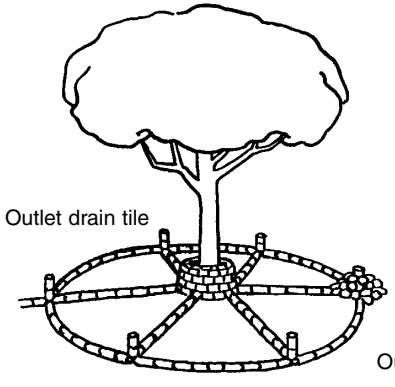
Soil compaction caused by pedestrians and vehicular traffic kills many trees. Few will survive for an extended period where compaction takes place. Circulation patterns should be established to reduce heavy traffic beneath the canopy of primary landscape tree specimens. It is difficult to correct the condition once it takes place. Slow decline and even death often result.



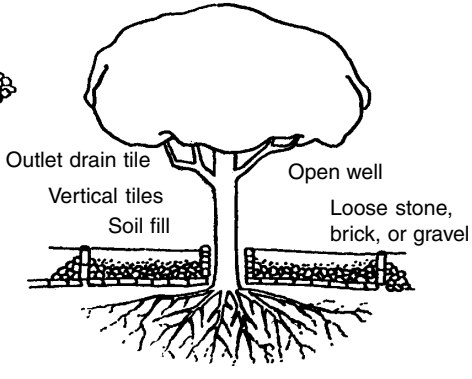
A. Terracing method



B. Dry retaining wall



C. Diagram of drainage tile layout



D. Cross section showing soil and drainage tile over roots

Figure 1. Techniques for preserving maximum number of tree roots when change in grade is necessary

Planting and Transplanting

Nursery-grown Trees

Trees are usually available from nurseries in three basic forms: balled and burlapped, container grown and bare root. Large trees are normally sold balled and burlapped. However, there is a trend toward marketing trees in larger containers.

Container-grown trees may be planted any month. This method of marketing trees extends the planting season beyond the traditional dormant period. Plants grown in containers offer the most shockless form of transplanting. Fall is the ideal time to plant in Louisiana.

Most plants are sensitive to depth of planting, and container-grown trees should be planted at or only very slightly below the depth at which they were growing in the container. By using containers, certain plants which were formerly difficult to transplant are now available for general landscape use.

Many fruit and nut trees are sold in bare root form. For bare root plants, it is important to prevent the roots from drying during the handling process. “Heel in” plants after purchase if they cannot be planted immediately. This includes covering the roots with moist soil or organic matter. Bare root plants should be set in winter or early spring. Remove any damaged or broken roots with pruning shears.

Transplanting Trees

Select nursery-grown trees rather than digging trees from native stands. Two reasons for this are that homeowners frequently lack the knowledge and skill required to properly transplant trees, which often results in failure of a tree to grow. Also, some of our finest native plants are in danger of extinction, partially because many have been removed from their natural environments for home landscape developments.

The tragedy of this situation is that many plants require special handling, soil conditions and other environmental factors. If these conditions are considerably different in the new environment only a few, if any, of the plants will survive.

An important procedure to the success of transplanting trees is root pruning. Large trees being moved either from their native environment or to a different location in the same landscape development should be root pruned at least one growing season before moving. The best method of root pruning is to dig a trench about 3 feet in diameter for a 3-inch caliper tree. Make the trench deep enough to sever most of the lateral roots. A trench depth of about 2 feet for a 3-inch caliper tree is sufficient. Refill this trench with a mixture of good soil and organic matter such as peat moss. When the proper time arrives for moving the tree, the severed lateral roots will have sprouted many small feeder roots.

To prepare for transplanting, dig a trench outside of the one previously dug. Be careful not to damage the new roots. Wrap the ball with burlap to protect the roots and to help hold the soil together. Using this method will not only reduce mortality, but also make the tree easier to handle by reducing the size of the ball.

Most trees are easiest to transplant during their dormant period which lasts from about December through February in Louisiana. With proper handling and care during and after the transplanting process, most trees can be transplanted throughout the year. A problem with transplanting during the summer is providing adequate moisture. Preparations are now available which prevent the rapid loss of water through leaves of the tree during and after transplanting.

The transplanting of shade trees may be condensed to a five-step process:

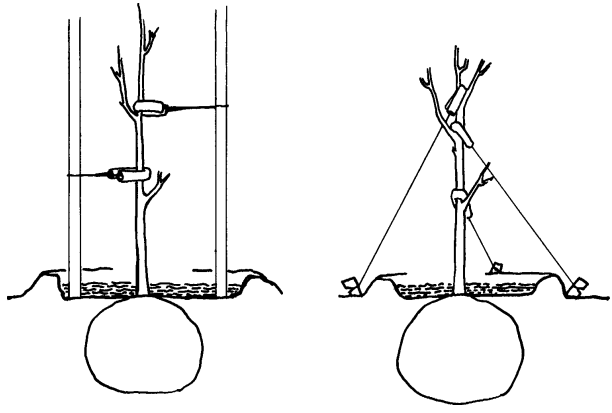
1. ***Dig the hole before moving the tree.*** It is important that the tree be put in the ground as quickly as possible. It is equally as important to dig a large enough hole to spread the roots out naturally if the tree is bare rooted. If a balled and burlapped tree is being moved, make the hole large enough to add at least 6 inches of prepared soil on all sides of the ball. Ideally, a planting hole should be twice as wide as the original root ball and the same depth as the root ball.

2. ***Keep the roots moist while out of the ground.*** For bare root trees, the puddling process (dipping root system in a thick solution of soil and water) or placing the root system in plastic bags is helpful. Balled or container-grown trees should be watered frequently to prevent drying. If the tree is to remain unplanted for an extended period, "heel in" the tree. This involves covering the roots with loose soil or organic matter such as wood shavings, pine bark or compost.

3. ***Placing the tree.*** Place the tree in the hole at the same depth it grew before transplanting. For bare root trees, spread the roots out to prevent crowding. The roots should be in about the same position as they were growing before transplanting. Do not amend the backfill when re-filling the planting hole.

4. ***Water.*** Trees should be thoroughly watered after planting. For bare root trees, apply water while placing backfill around the roots to eliminate air pockets.

5. ***Stake tree.*** Use 2x2-inch wooden or metal pipe stakes to hold the tree in place while it grows. There are two basic methods used for staking trees. One involves using two stakes (figure 2) placed very close to the trunk with a wire tied to each stake and threaded through a short section of garden hose at the point of contact with the trunk. For trees which are in the open and not in areas where circulation or mowing may be a problem, three stakes placed in a triangle about 5 to 6 feet from the tree may be used. The support wires provide considerable anchorage. Wrapping the support wires with a colorful material can help prevent accidents caused by the nearly invisible wires. Allow stakes to remain in place no longer than one growing season.



A. Two vertical stakes near tree with attached wires

B. Three short stakes and attached wires

Figure 2. Staking Methods

Pruning

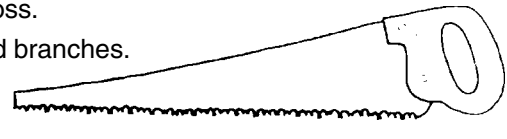
Proper pruning is important to obtain maximum value from trees. Reasons for pruning trees are:

- To preserve the natural character
- To increase flower or fruit size or quality
- For training purposes
- To remove dead, diseased or weak wood
- To make fruit and nut harvesting, spraying or cultivation easier

Most pruning should be done during the winter or when the tree is dormant. This is in December through February in Louisiana.

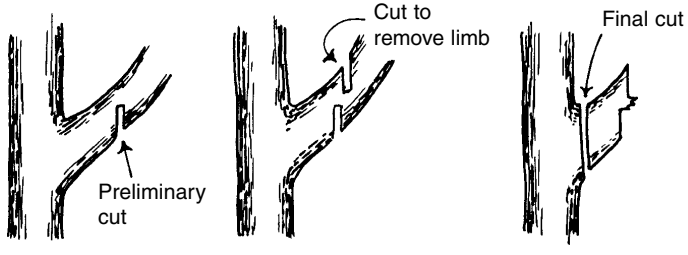
Small amounts may be removed from evergreen trees throughout the year. If more drastic pruning of evergreens is necessary, do it in December, January or February. Some points to remember when pruning trees are:

- Before any cutting is done, observe the tree carefully and be certain to cut only the portion which needs pruning.
- Prune according to the natural habit of growth of the tree.
- Leave no stubs.
- Remove large branches that cross.
- Remove dead wood or diseased branches.
- Remove suckers.

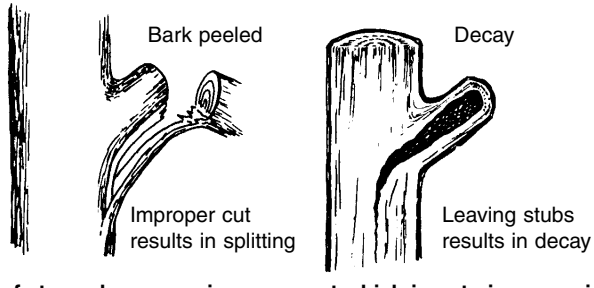


Pruning has long been thought to aid in transplanting trees. Pruning of shoot growth before transplanting actually stimulates additional shoot growth at the expense of root growth. The first priority after transplanting is root growth, so don't prune shoots before transplanting.

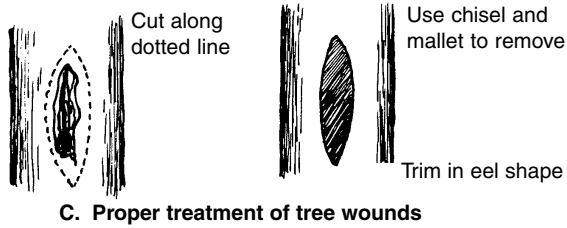
Storm-damaged trees often need pruning. This should include sawing off damaged limbs immediately after damage occurs. See figure 3 for proper procedures for treating large tree wounds. Large-scale tree work should be referred to professional licensed and insured arborists who are skilled climbers with proper equipment.



A. Steps for removing a large tree limb



B. Results of storm damage or imporper cut which is not given special attention

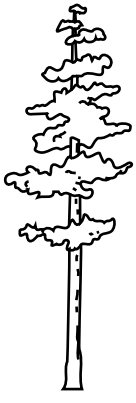


C. Proper treatment of tree wounds

Figure 3. Pruning Techniques

Tree Fertilization

Trees growing in urban areas typically require more attention to fertilization (nutrient management) than do trees growing in a more natural habitat. Urban sites can be lower in fertility because of topsoil removal, compaction, paved areas and increased landscape competition. Urban shade trees need more fertilization attention. The overall objectives in a fertilization program should be:

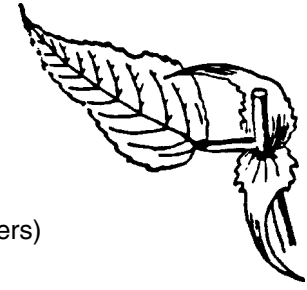


1. Accelerate root growth of newly planted shade trees. This helps in initial landscape establishment. Do not use root stimulators. Avoid nitrogen applications initially. Shoot growth will be accelerated at the expense of root growth.
2. Fertilize to maintain the existing growth, health and vigor of mature trees. Mature shade trees may not need fertilization on a regular basis. This depends on the site (competition present) and results of soil analysis.
3. "Rescue" or partial recovery of declining trees can be accomplished with fertilization and cultural practices.
4. Fertilize to current nutrient deficiencies (example: foliar Fe application to oaks on high pH soil).

Overfertilization, particularly of fast-growing species, results in a weaker structural (branching) network, and corrective pruning may eventually be needed. Fast-growing species (cherrybark oak, sawtooth oak, tulip poplar, sycamore, green ash) typically do not need high nitrogen fertilization to achieve the desired fast growth rate. Slowly growing trees (redbud, dogwood) respond adversely to high fertilization rates. Fertilization response can vary from a container production situation to a field production situation or landscape situation. Oaks respond favorably to medium or high fertilization applications in the landscape but need low fertilization applications when grown in commercial nursery situations. Bald cypress and genetically improved loblolly pine seedlings will grow 6 feet the first season after planting in a 3-gallon container if fertilized under a high nitrogen system. This is, however, not desirable. It is best to produce a slightly shorter, stockier, stronger plant for selling.

Timing of fertilizer application depends on the nutrient, formulation, application method, soil texture, soil drainage, climate and a plant's nutrient level. Some people recommend determining fertilization need by evaluation of twig elongation. If more than 6 inches of new growth is apparent, fertilization may not be needed. If growth is between 2-6 inches, consider fertilization. Fertilization is usually needed if a mature or close to mature tree has less than 2 inches of new twig growth. In general, tree fertilization is probably needed once every two to three years.

Inspect foliage color of trees yearly. If an ”off“ color is present, several factors could be involved:



(1) High pH (iron chlorosis)
(2) Excessive fill
(3) Excessive moisture
(4) Root disease
(5) Insect/spider mite damage
(6) Herbicide injury (weed-and-feed fertilizers)
(7) Mechanical damage

Check the pH and levels of nutrients by soil sampling. Micronutrients are deficient on high pH soil. This is generally pH above 6.8 and common on some oak species (willow oak, pin oak). Fe deficiency is most common. Keep records of tree fertilization. It is easier to determine when to fertilize later.

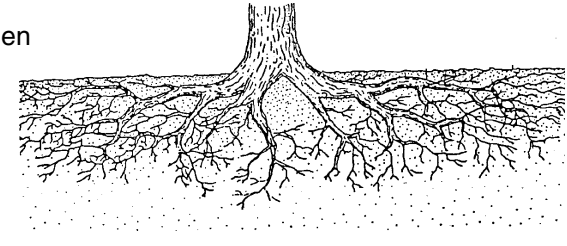
Determining fertilization needs can be conducted by examining twig elongation and by considering these inspection methods:

(1) Visual Observations: Examine for typical leaf size, color and form. Examine shoot growth (twig elongation). Observe any premature fall color and leaf drop (can also be contributed to moisture stress). Insect, disease, soil compaction and related stresses can cause symptoms similar to nutrient deficiencies.
(2) Soil Sampling
(3) Leaf Tissue Sampling

The old recommendation for fertilization of shade trees is to (a) fertilize trees with a trunk diameter of less than 3 inches at the rate of 1 lb. 8-8-8 per inch of diameter, and (b) fertilize trees with a trunk diameter larger than 2 inches at the rate of 2 lbs. 8-8-8 per inch of trunk diameter measured 1 foot above the soil line. The new recommendation for fertilization of shade trees is based on the root system spread method and not on the tree diameter method. Several items to remember in using this method include:

(1) Reduce rate if root systems are reduced or restricted by pavement, construction, etc.

(2) Do not increase rates when root systems overlap.



(3) Reduce rates when broadcasting over turf or ground cover areas. Soil incorporation or injection is a better application method.

The steps involved in determining the area to fertilize require knowing the way a root system extends based on tree form. Columnar trees (Southern magnolia, bald cypress, pines) have roots extending three times the distance from the trunk to the dripline, and broad trees (most shade trees) have roots extending 1.5 to two times the distance from the trunk to the dripline (figure 4). Apply fertilizer at the rates of 1-3 lbs. N/1000 ft^2 for evergreen trees and 3-6 lbs. N/1000 ft^2 for deciduous trees.

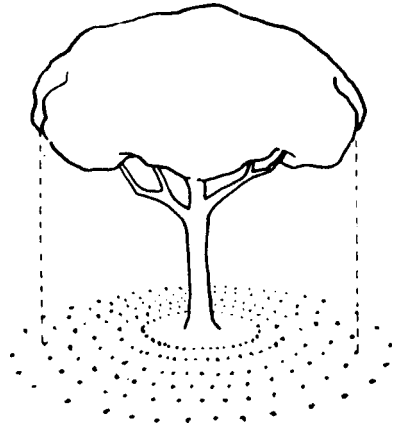


Figure 4. Diagram of hole placements for fertilizing large tree

Total Root Area = 3.14 x $(radius)^2$

Example: **Columnar** tree with 5-foot dripline

3 x 5 = 15-foot radius

3.14 x $(15)^2$ = 706.5 ft^2 to fertilize

Example: **Broad** tree with 10-foot dripline

2 x 10 = 20-foot radius

3.14 x $(20)^2$ = 1256 ft^2 to fertilize

Root zone area to be fertilized			
Columnar		**Broad**	
Dripline distance	Sq. Ft. Area	Dripline distance	Sq. Ft. Area
3	255	5	314
4	452	6	452
5	707	7	616
6	1018	8	804
7	1386	9	1018
8	1810	10	1257
9	2291	11	1521
10	2828	12	1810
11	3422	13	2124
12	4072	14	2463
13	4779	15	2828
14	5542	16	3217
15	6363	17	3632
		18	4072
		19	4537
		20	5027

General recommended rates to correct deficiencies in shade tree fertilization are:

Element	Rate
Nitrogen	3 lbs/1000 ft^2 (evergreen trees) 3-6 lbs/1000 ft^2 (deciduous trees)
Phosphorous	1-2 lbs/1000 ft^2
Potassium	2-4 lbs/1000 ft^2
Calcium	15-20 lbs/1000 ft^2
Magnesium	2-4 lbs/1000 ft^2
Sulfur	1-2 lbs/1000 ft^2

Micronutrients should be foliarly applied. Optimum pH range for most shade trees is 5.5-6.5. When using a complete fertilizer in tree fertilization, select a $N\text{-}P_2O_5$ - K_2O ratio of 3-1-2 or 3-1-1.

Methods of fertilization include broadcasting on the soil surface, drenching the soil surface, soil incorporation by drilling holes, soil incorporation by liquid injection and foliar sprays. Broadcasting on the soil surface is a common method but is a problem when turf or ground covers are present. When broadcasting, never apply more than 1 lb N/1000 ft^2 per application if a ground cover is present. When plants (turf, ground covers) are present under trees to be fertilized, it is best not to use the broadcast method. Drenching the soil surface with liquid fertilizer has no advantage over broadcasting a dry fertilizer over the soil surface.

Drilling holes and placing fertilizer in the holes (soil incorporation) is a highly recommended, but labor-intensive, method. Make holes 2 inches in diameter and 12-18 inches deep. Place holes 2-3 feet apart in concentric rings around the tree throughout the root system, including the area beyond the dripline. It is not necessary to fertilize near the trunk diameter. Concentrate on just inside the dripline and outward. Divide the amount of fertilizer between the holes, and water thoroughly. The drilling system also greatly aids in aeration and provides for root growth and stress reduction. Other methods of tree fertilization include soil incorporation via injection and foliar sprays to correct micronutrient deficiencies.

Street and Parking Area Plantings

This publication cannot cover the many facets of street and parking lot tree plantings. However, community leaders should be aware of the importance of significant tree plantings.

Street trees provide a strong unifying element. They define space, and in many instances give to space a more human scale. The site of building and other structural elements is often visually modified by the wise selection and placement of trees along a street. Trees massed may screen objectionable views, baffle sound and generally provide a setting where people can have meaningful living experiences.

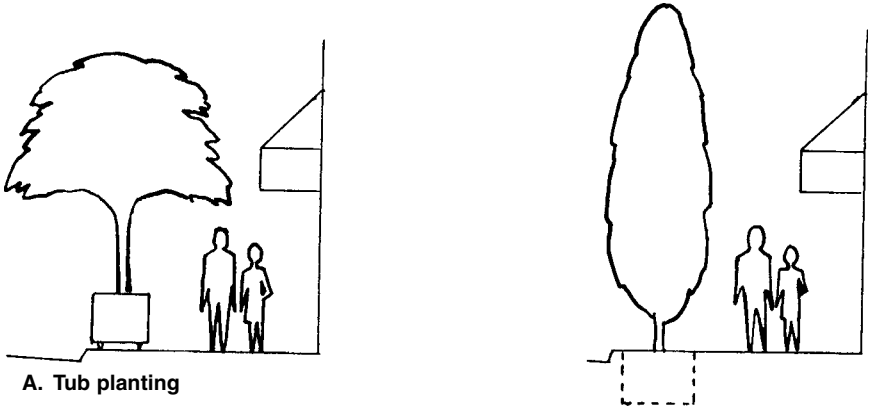
No factor is more important in street planting than the proper tree selection. The height and spread are two major factors which will markedly influence appropriateness.

Since streets should be designed to handle the rapid and orderly movement of traffic, tree plantings must be planned so that they will not present traffic hazards.

Utilities, both above and below ground, must be considered. In one Louisiana community, maple trees 10 to 12 feet high were planted beneath utility wires which were less than 10 feet above the trees at planting time. This shows a lack of knowledge of what can be expected of the tree since the maples will have to be badly butchered in a short period or the utility wires removed. In this case, a number of other species could have been more wisely selected.

In many cities, above-ground utilities dominate the landscape. For these situations it becomes almost impossible to use major tree plantings effectively. The best solution is the underground placement of utilities. Fortunately many new residential areas have adopted this practice. Generally, homeowners have been willing to pay the price for the added aesthetic value as well as the elimination of storm damage. The same standards should be incorporated for the more congested areas of the cities where tree plantings could greatly improve the environment.

Three means are commonly used to plant trees along streets where hard surfacing predominates. They may be planted in movable tubs, raised planters or in cut-out sections of sidewalk paving (figure 5). The latter method is by far the most preferred since maintenance is considerably less than in the other two methods. Restricted planting areas tend to dwarf trees because the root systems are not able to develop to a point that will support expanded tree canopies. In some cases, this is desirable; in other cases, a large specimen is preferred. If possible, provide a planting area of from 5 to 20 square feet. Around the base of the tree a living ground cover, loose aggregate or special brick work may be used.



A. Tub planting

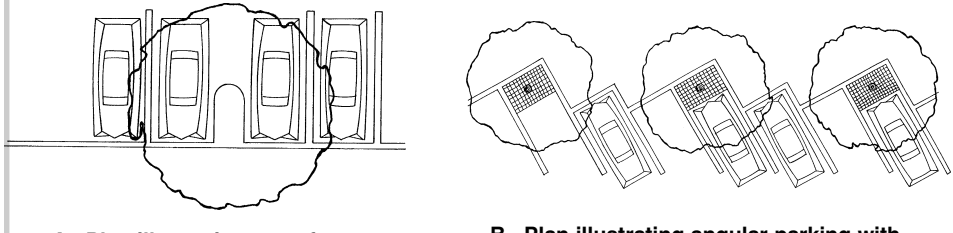
B. Tree planted in cut-out section of paving

Figure 5. Two methods for using street trees

Refer to the list of examples of trees for street or parkway plantings.

For parking area plantings, many of the same points considered for street plantings are equally important. Trees in parking lots provide shade, reduce glare, alter the monotony of excessive paving and generally provide a more inviting environment. Although trees are seldom used in parking areas, well-designed facilities with trees can accommodate an equal or larger number of cars.

Proper tree selection is critical. Some trees cause excessive litter and have other characteristics which make them unsuitable for parking areas. The five sketches (figure 6) illustrate possibilities of how trees may be used in parking areas.

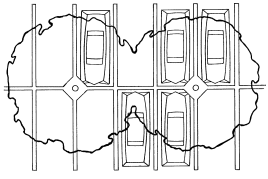


A. Plan illustrating use of a tree in a parking area

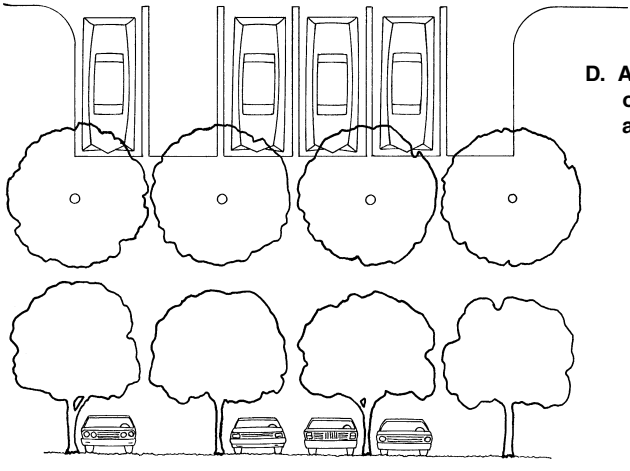
B. Plan illustrating angular parking with parking areas where trees are featured

Figure 6. Examples of how trees may be used in parking area plantings.

Figure 6. Examples of how trees may be used in parking area plantings. *(continued)*

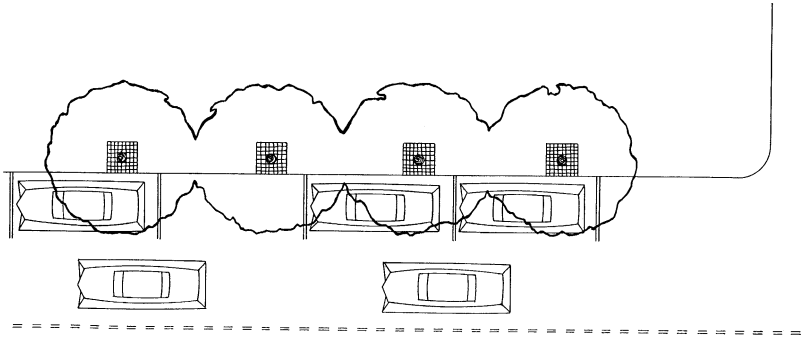


C. Trees incorporated in a parking area where a minimum space is allowed



D. Above: Plan illustrating use of trees to border parking area

Below: Elevation of same showing tree canopy over automobiles



E. Plan illustrating street tree planting

Tree Evaluation

There are many factors to consider in estimating the value of trees. Popular formulas can furnish only basic guidelines for determining realistic values. A near worthless tree on the commercial market may have significant aesthetic appeal. On a given site, placement is often a major determining factor. One tree strategically located may be worth far more than a cluster of the same species in another area of the property. Tree species, growth rate, tree placement value, scarcity of a species, condition, land or real estate value, crop value and personal preference are other factors which provide the basis for estimating value.

The International Society of Arboriculture has provided a popular formula for estimating tree value. The basic value is based on $27 per square inch of trunk cross section at diameter breast high (4.5 feet). However, not all trees are valued at 100 percent of the basic cost. Certain category classes have been set to designate the specie preference. In addition, the condition of a particular tree must be considered.

For example, a specimen pecan with a trunk diameter of 16 inches has a cross-section area of 201.1 square inches. Multiplying this by $27 per square inch, the value is $5,429.70. Since the pecan is in the 80 percent class as a shade tree, the actual value is $4,343.76 for a near-perfect specimen.

Licensed horticulturists, landscape architects and arborists are professionals who have had the training and experience needed to give the most authentic judgment on tree evaluation.

Tree Lists

(According to Landscape Uses and Cultural Requirements)

The following lists may provide a guide for tree selection. Before making a decision, read the description provided and make observations in the locale where the tree is to be planted. These lists do not imply that the species listed are the only ones worthy of consideration.

Trees Preferring an Acid Soil

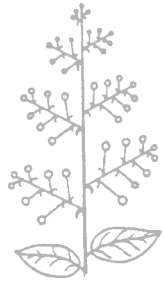
Drummond Red Maple
Sugar Maple
American Beech
Pawpaw
Flowering Dogwood
Sourwood
Huckleberry
American Holly
Dahoon Holly
Red Bay
Southern Magnolia
Sweet Bay Magnolia
Fringe Tree (Grancy Graybeard)

Trees Tolerating Dry Conditions

Catalpa
Carolina Buckthorn
Jujube
Smooth Sumac
Persimmon
Yaupon
Hackberry
Blackhaw Viburnum
Parkinsonia
Black Locust
Deciduous Holly
Crape Myrtle
Chinaberry
Green Ash
Arizona Ash
Red Cedar
Chinese Pistachio
Bradford Pear
Tung Oil
Salt Cedar
Chaste Tree (Vitex)
Sweet Gum

Medium to Large Flowering Trees

Catalpa
Sourwood
Sassafras
Black Locust
Tulip Poplar
Southern Magnolia
Drummond Red Maple
Snowball



Outstanding Small Flowering Trees

Dogwood
Mayhaw
Sweet Bay Magnolia
Parsley Hawthorn
Fringe Tree (Grancy Graybeard)
Silverbell
Eastern Redbud
Crape Myrtle
Native Crabapple
Blackhaw Viburnum
Parkinsonia
Mexican Plum
Red Bay
Tree Huckleberry
Bradford Pear
Taiwan Cherry
Green Hawthorn

Trees Tolerating Less Than Ideal Drainage

Weeping Willow
Salt Cedar
Mayhaw
Parsley Hawthorn
Drummond Red Maple
Sweet Bay Magnolia
Blackhaw Viburnum
Possumhaw Holly
Wax Myrtle
Dahoon Holly
Yaupon
Persimmon
Rough-leaf Dogwood
River Birch
Tupelo Gum

Trees with Attractive Berries or Fruit

Carolina Buckthorn
Flowering Dogwood
Dahoon Holly
Yaupon
Parsley Hawthorn
Drummond Red Maple
Huckleberry
Persimmon
Mayhaw
Crabapple
Deciduous Holly
Sweetgum
Chinese Tallow Tree
American Holly

Trees with Edible Fruit or Seeds

Crabapple
Jujube
Pawpaw
Persimmon
Japanese Persimmon
Huckleberry
Loquat
Mexican Plum
Pear
Black Cherry
Pecan
Shagbark Hickory
Peach

Trees Frequently Providing Good Fall Color

American Beech
Red Oak
Bur Oak
Water Oak
Pin Oak
Willow Oak
Smooth Sumac
Flowering Dogwood
Black Gum
Japanese Persimmon
Persimmon
Cedar Elm
American Elm
Ginkgo
Sourwood
Huckleberry
Pond Cypress
Blackhaw Viburnum
Sassafras
Crape Myrtle
Drummond Red Maple
Sugar Maple
Bradford Flowering Pear
Shagbark Hickory
Chinese Pistachio
Nuttall Oak
Cherrybark Oak
Sweetgum
Tulip Poplar
Bald Cypress
Swamp Cyrilla

Trees for Street or Parkway Plantings

Windmill Palm
Sabal Palm
Oriental Magnolia
Pin Oak
White Oak
Shumard Oak
Water Oak
Bur Oak
Cedar Elm
Small-leaf Elm
American Elm
Crape Myrtle
Sugar Maple
Thornless Honey Locust
American Holly
Bradford Pear
Dahoon Holly
Flowering Dogwood
Fringe Tree (Grancy Graybeard)
Ginkgo
Sycamore
Tulip Poplar

Trees Attractive to Birds & Other Wildlife

Yaupon
American Beech
American Holly
American Hornbean
Black Cherry
Bradford Flowering Pear
Dahoon Holly
Eastern Red Cedar
Huckleberry
Wax Myrtle
Sumac
Jujube
Mayhaw
Mexican Plum
Parsley Hawthorn
Pawpaw
Pecan
Persimmon
Shagbark Hickory
Crabapple
Chinese Pistachio
Flowering Dogwood
Deciduous Holly
Silverbell

Fast-growing Shade Trees

Water Oak
Shumard Oak
American Elm
Cedar Elm
Lacebark Elm
Honey Locust
Drummond Red Maple
Bald Cypress
Bradford Pear
Southern Red Oak
Cherrybark Oak
Chinaberry
Green Ash
Hackberry
Tree Ligustrum
Sycamore
Eastern Cottonwood
Tulip Poplar
Sawtooth Oak
Nuttall Oak
Swamp Chestnut Oak

Trees With Interesting Trunks

River Birch
White Oak
Crape Myrtle
American Hornbean
Black Cherry
Chinese Parasol Tree
Lacebark Elm
Huckleberry
Jujube
Parsley Hawthorn
River Birch
Mayhaw
Shagbark Hickory

Trees With Fragrant Blossoms

Southern Magnolia
Black Locust
Devilwood
Parkinsonia
Mexican Plum
Crabapple
Sweet Bay Magnolia

Quick Tree Selection Guide

Small Trees

Common Name Scientific Name	Form/Type Growth Rate	Mature Size/Ft.	Site Comments
Flowering Dogwood* *Cornus florida*	dense, mounding, deciduous slow	20	fertile, acid, well-drained will not tolerate wet soils, exposed, dry site
Fringetree* *Chionanthus virginicus*	round, spreading, deciduous medium	35	fertile, acid, well-drained decorative spring flowers, yellow fall color
Crape Myrtle *Lagerstroemia indica*	mounded to upright, deciduous medium	25	undemanding, full sun, excellent flowers and bark, maintenance needed, new hybrids available
Eastern Redbud* *Cercis canadensis*	oval, irregular, deciduous fast	25	fertile, acid, well-drained early spring color, understory tree
Cherry-Laurel* *Prunus caroliniana*	oval, dense, evergreen fast	30	fertile, well-drained good native evergreen
Southern Crabapple* *Malus angustifolia*	mounded, irregular, deciduous medium	25	moist small flowering tree, wildlife food
Saucer Magnolia *Magnolia soulangiana*	upright, oval, deciduous medium	30	loamy, acid flowers early, fragrant, called Tulip tree
Mexican Plum* *Prunus mexicana*	irregular, open, deciduous medium	25	fertile, moist, acid largest native plum, pink flowers
Purpleleaf Plum *Prunus cerasifera*	oval, dense, deciduous medium	25	well-drained, full sun short-lived, contrasting plant
Mimosa *Albizia julibrissin*	spreading, flat, deciduous fast	30	undemanding wilt disease a problem, foliage, flowers, form
Carolina Buckthorn* *Rhamnus caroliniana*	elliptical, shrubby, deciduous fast	25	moist, fertile, acid prominent fruit, shiny foliage
Pawpaw* *Asimina triloba*	upright, broad, deciduous medium	30	rich, bottomland, moist fruit, understory tree, interesting flower
Loquat *Eriobotrya japonica*	whorled, evergreen medium	20	fertile, undemanding fire blight serious, frequently freezes, foliage
American Snowbell* *Styrax americanus*	upright, ascending, deciduous medium	20	moist, fertile, porous soil white flowers, shade tolerant
Two-winged Silverbell* *Halesia diptera*	broad, ascending, deciduous medium	30	moist, sandy slopes spring flowers, patio tree, clean
Red Buckeye* *Aesculus pavia*	oval, irregular, deciduous medium	20	moist to dry red flowers, understory, fruit poisonous

* native

Common Name Scientific Name	Form/Type Growth Rate	Mature Size/Ft.	Site Comments
Titi* *Cliftonia monophylla*	spreading, semi-evergreen medium	30	moist, acid attracts honeybees, attractive form
Japanese Maple *Acer palmatum*	upright, spreading, deciduous slow	25	protected, moist, well-drained slow growth, needs protection from hot sun and wind
Serviceberry* *Amelanchier arborea*	rounded, deciduous medium	25	moist called Shadbush, mass of white flowers
Devil's Walking Stick* *Aralia spinosa*	tall, umbrella, deciduous fast	30	fertile, high organic spiny, good fall color, fruit in panicles
Strawberry Tree *Arbutus unedo*	sculptured, evergreen medium	25	fertile, well-drained problem with high humidity
Deciduous Holly* *Ilex decidua*	upright, spreading, deciduous medium	20	moist, fertile winter berries, wildlife food
Tree Huckleberry* *Vaccinium arboreum*	irregular, semi-evergreen slow	20	fertile, moist, acid red fall color, edible fruit
Possumhaw* *Viburnum nudum*	oval, spreading, semi-evergreen medium	15	sandy, acid, full sun to partial shade white flowers, red new growth, small spaces
Common Hoptree* *Ptelea trifoliata*	rounded, deciduous slow	20	undemanding foliage has lemon-like odor, three leaflets
Yaupon* *Ilex vomitoria*	oval, irregular, evergreen medium	20	undemanding excellent fruiting, screen plantings
Buttonbush* *Cephalanthus occidentalis*	open, spreading, deciduous medium-fast	20	low, marshy areas wet areas around water bodies, unique flower
Tung Oil Tree *Aleurites fordii*	broad, spreading, deciduous fast	20	sandy loam soils poisonous fruit, seldom used
Paper Mulberry *Broussonetia papyrifera*	round, spreading, deciduous fast	25	undemanding hairy leaves, suckers a problem, messy
Ironwood* *Carpinus caroliniana*	round, irregular, deciduous slow	30	rich, moist loams muscular-looking, gray bark, fine texture foliage
Eastern Hophornbeam* *Ostrya virginiana*	mounding, irregular, deciduous slow	30	moist, well-drained, slopes and ridges hop-like fruit, understory tree

* native

Medium Trees

Common Name Scientific Name	Form/Type Growth Rate	Mature Size/Ft.	Site Comments
River Birch* *Betula nigra*	oval, upright, deciduous fast	40	moist, sandy, acid exfoliating bark, often multitrunked
Chinese Tallow Tree *Sapium sebiferum*	irregular, deciduous fast	40	undemanding fall color, volunteer seedlings a problem
Red Maple* *Acer rubrum*	pyramidal, deciduous medium	50	moist, upland early flowers, good fall color
Boxelder* *Acer negundo*	upright, open, deciduous fast	40	moist, undemanding weak wood, questionable merit
Silver Maple* *Acer saccharinum*	broad, oval, deciduous fast	50	fertile, undemanding shallow root system, foliage silver underside
Bradford Pear *Pyrus calleryana 'Bradford'*	pyramidal, deciduous fast	40	fertile, well-drained sidewalk tree, white flowers, fall color
Winged Elm* *Ulmus alata*	spherical, deciduous fast	50	acid, undemanding good for city conditions, small spaces
Chinese Elm *Ulmus parvifolia*	oval, spreading, deciduous medium	45	fertile, undemanding summer flower, bark features good
Siberian Elm *Ulmus pumila*	oval, irregular, deciduous fast	50	well-drained, undemanding drought tolerant, weak wood
American Holly* *Ilex opaca*	round, pyramidal, evergreen slow	40	fertile, well-drained, acid only female sets fruit, numerous cultivars
Eastern Redcedar* *Juniperus virginiana*	pyramidal, columnar, evergreen slow	40	poor, alkaline picturesque form, avenue tree
Chinese Parasol Tree *Firmiana simplex*	umbrella, round, deciduous fast	40	undemanding adapted to narrow spaces, green trunk and branches
Golden Rain Tree *Koelreuteria bipinnata*	broad, oval, deciduous fast	40	fertile, undemanding subject to winter injury, shade tree
Chinese Pistachio *Pistacia chinensis*	oval, mounding, deciduous slow	50	well-drained, moderate dry urban settings, good fall color, durable
Chinaberry *Melia azedarach*	round, umbrella, deciduous fast	40	undemanding messy fruit and leaves, short-lived
Sourwood* *Oxydendrum arboreum*	pyramidal, oval, deciduous slow	50	well-drained, acid sensitive to environment, good fall color

* native

Common Name Scientific Name	Form/Type Growth Rate	Mature Size/Ft.	Site Comments
Red Bay* *Persea borbonia*	dense, rounded, evergreen medium	50	moist, undemanding aromatic foliage, wet sites, cooking spice
Camphor Tree *Cinnamomum camphora*	stout, rounded, evergreen fast	40	moist, fertile loam, tolerant southern La. only
Catalpa* *Catalpa bignonioides*	broad, rounded, deciduous fast	40	undemanding fish bait (worms), showy blooms, hanging seed pods
Black Cherry* *Prunus serotina*	oblong-oval, deciduous fast	50	deep, moist edible fruit, distinctive bark, wildlife food
Sassafras* *Sassafras albidum*	upright, oval, deciduous medium	50	poor sandy uplands “file” from leaves, tea from roots, good fall color
Carolina Silverbell* *Halesia carolina*	spreading, irregular, deciduous medium	40	moist, sandy pest resistant, does not do well on coast
Sweetbay Magnolia* *Magnolia virginiana*	pyramidal, semi-evergreen medium	40	moist to relatively dry, acid fragrant flowers, will tolerate bog areas
Black Willow* *Salix nigra*	rounded, irregular, deciduous fast	40	tolerant of wet to dry, full sun multiple trunks, messy twigs, short-lived
Deodar Cedar *Cedrus deodara*	pyramidal, evergreen medium	40	well-drained, clay-loam bluish-green foliage, distinct form(pendulous)
Spruce Pine* *Pinus glabra*	broad, oval, evergreen medium-fast	50	moist, fertile best for windbreaks, hardwood-like bark
Arizona Ash *Fraxinus velutina*	pyramidal, round, deciduous fast	40	undemanding short-lived, green-yellow foliage
Sawtooth Oak *Quercus acutissima*	round, oval, deciduous fast	50	moist, fertile, full sun clean, pest-free, early acorn production
Live Oak* *Quercus virginiana*	low spreading, evergreen slow	50	moist, undemanding long-lived, problem with freeze damage (North)
Japanese Evergreen Oak *Quercus acuta*	oval, round, evergreen medium-slow	40	fertile, well-drained dense mass, yellow-green foliage, wildlife food
Swamp Red Maple* *Acer rubrum drummondii*	oblong, oval, deciduous medium	50	low, moist to uplands good red color in spring and fall, short-lived

* native

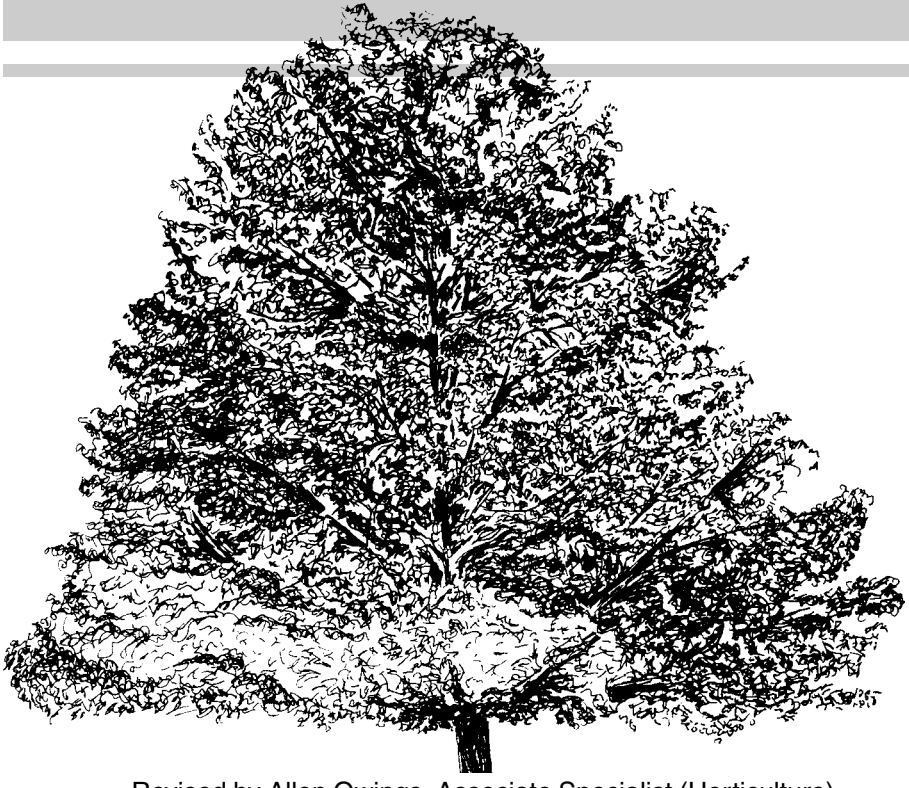
Large Trees

Common Name Scientific Name	Form/Type Growth Rate	Mature Size/Ft.	Site Comments
Green Ash* *Fraxinus pennsylvanica*	spreading, round, deciduous fast	60	moist to dry good shade tree, good fall color
American Beech* *Fagus grandifolia*	oval-round, deciduous slow	80	fertile, well-drained climax species, good fall color, smooth gray bark
Pecan* *Carya illinoinensis*	broad, round, deciduous medium-slow	100	fertile, moist long-lived, high maintenance
Sweet Gum* *Liquidambar styraciflua*	pyramidal, oval, deciduous fast	80	undemanding good fall color, fruit a nuisance
Yellow-Poplar* *Liriodendron tulipifera*	oval, pyramidal, deciduous medium-fast	80	fertile, moist, well-drained yellow fall color, clean, good street tree
Sycamore* *Platanus occidentalis*	oval, spreading, deciduous fast	100	dry to moderate site anthracnose a problem, high maintenance
Cottonwood* *Populus deltoides*	oval, deciduous fast	90	fertile, dry to moist competitive root system, weak wood, quick shade
White Oak* *Quercus alba*	pyramidal, irregular, deciduous slow	100	moist, well-drained, acid clean, pest-free, wildlife food
Southern Red Oak* *Quercus falcata*	broad, oval, deciduous medium	90	well-drained, sandy persistent-deciduous, excellent shade tree
Swamp Chestnut Oak* *Quercus michauxii*	compact, oval, deciduous slow	80	moist, well-drained long-lived, dominant oak, good fall color
Water Oak* *Quercus nigra*	broad, oval, deciduous medium-fast	80	moist, well-drained, clay foliage is half-evergreen, limb shed a problem
Willow Oak* *Quercus phellos*	broad, oval, deciduous medium	100	loose, moist, clay shallow roots, wildlife food, long-lived
Shumard Oak* *Quercus shumardii*	wide, oval, deciduous medium	100	fertile, well-drained excellent shade tree, red fall color, strong
Pin Oak* *Quercus palustris*	pyramidal, deciduous medium	70	fertile, moist good form, red fall color
Southern Magnolia* *Magnolia grandiflora*	pyramidal, irregular, evergreen medium	100	moist, undemanding showy flower, leaves and fruit need raking
American Elm* *Ulmus americana*	broad, vase-shaped, deciduous medium	70	undemanding, moist Dutch elm disease makes it questionable to use

* native

Common Name Scientific Name	Form/Type Growth Rate	Mature Size/Ft.	Site Comments
Hackberry* *Celtis laevigata*	broad, oval, deciduous medium-fast	70	undemanding, moist shallow root system, drought tolerant
Cedar Elm* *Ulmus crassifolia*	broad, spreading, deciduous fast	70	undemanding scaly bark, summer flowering, fall fruiting
Sugar Maple *Acer saccharum*	upright, oval, deciduous slow	60	moist, well-drained good fall color, avoid harsh environmental conditions
Black Gum* *Nyssa sylvatica*	pyramidal, deciduous medium	60	moist, well-drained early fall color, premature leaf drop
Tupelo Gum* *Nyssa aquatica*	pyramidal, deciduous medium	70	moist to wet large leaves, wet sites, early fall color
Baldcypress* *Taxodium distichum*	conical, irregular, deciduous fast-slow	100	undemanding, wet to dry deciduous conifer, bronze fall color
Dawn Redwood *Metasequoia glyptostroboides*	pyramidal, irregular, deciduous fast-medium	90	moist, fertile, slightly acid, high organic matter clean and neat, bronze fall color
Gingko *Gingko biloba*	upright, oval, deciduous slow	80	undemanding good fall color, plant male tree only
Common Persimmon* *Diospyros virginiana*	cylindrical, deciduous medium	70	undemanding edible fruit, wildlife food
Shortleaf Pine* *Pinus echinata*	broad, oval, evergreen fast	100	sandy, well-drained small cones, drought tolerant
Loblolly Pine* *Pinus taeda*	broad, oval, evergreen fast	100	well-drained fusiform rust a problem, shade for azaleas
Longleaf Pine* *Pinus palustris*	oval, evergreen fast	125	sandy, well-drained seedling as grass stage, long-lived, tall, thin form
Slash Pine* *Pinus elliottii*	irregular, evergreen fast	100	well-drained, undemanding fusiform rust a problem, southern La. only

* native



Revised by Allen Owings, Associate Specialist (Horticulture)

Originally prepared by N. G. Odenwald and William C. Welch

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Louisiana State University Agricultural Center, William B. Richardson, Chancellor
Louisiana Cooperative Extension Service, Jack L. Bagent, Vice Chancellor and Director

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