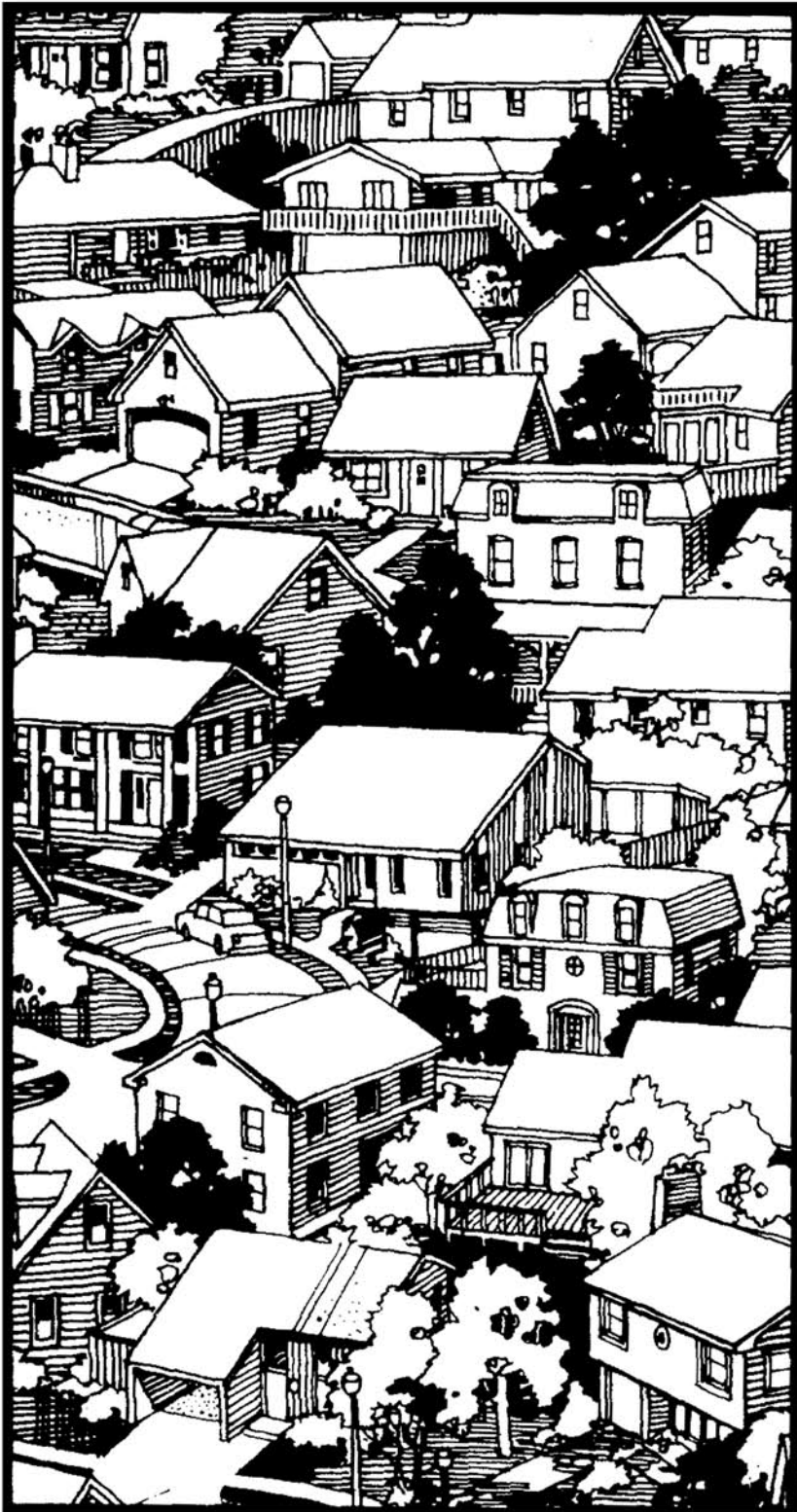


# A Citizens Guide to Trees in Alabama's Cities



## INTRODUCTION

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*One of the first things you'll notice in this booklet is there is not a list of tree species recommended for planting. Conditions of site, species availability, plus changing research and genetics affecting tree performance would make almost any list obsolete, incomplete or subject to ridicule in only a few years. Instead, this booklet serves as a guide to the person interested in more and better trees for their home, neighborhood or city. The good news is a lot of information has been Learned over the past few years to help citizens have an abundant and healthy city forest. The bad news is a lot of this information has not been made available to the general public. That's the purpose of this booklet - compile, in a concise form, information which will help you improve the quality of Alabama's urban forest.*

*This booklet attempts to highlight key concepts helpful to a healthy urban tree. You will notice one section deals with how a tree works. When a person understands this, then tree care practices are more meaningful and appropriate. Other topics are geared toward consideration based on a tree's age and anatomy.*

*The road to a healthy, thriving community forest is open to those who understand trees as they really are. For the person who doesn't take the time to learn about trees, choices will be left to chance, bias or misinformation. In addition, because of a lack of knowledge, the odds for a successful urban forest will be low and embarrassingly visible to all. For the one who does seek the "truth", there is the satisfaction of knowing their tree will live in dignity and harmony with man.*

## ***THE LIVING TREE***

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*The first step in understanding how a tree works is to disregard all comparisons with human examples. Trees are highly specialized living organisms. They have adapted many strategies which enable them to survive. Most of these strategies are different from those used by the human body. For example, wounds do not heal in a tree. Plants can not regenerate the first cell. Instead, a tree will attempt to contain decay by "walling off" sound wood from injured areas.*

*Another feature of a tree is its ability to make its own food through photosynthesis. Chlorophyll in the leaves is triggered by sunlight to convert carbon dioxide and water into oxygen, water and sugars. The sugars are then moved downward to be stored in the trunks and roots.*

### ***ROOTS:***

- *Absorb oxygen and water in the soil.*
- *Absorb minerals in the soil.*
- *Anchor the tree.*
- *Stores food.*

### ***TRUNK:***

- *Provides for movement of materials up and down the tree.*
- *Provides vertical support for the crown.*

### ***LEAVES:***

- *Convert carbon dioxide from the air.*
- *Release oxygen into the air.*
- *Filter particulates from the air.*
- *Make food for the tree.*

## TREE ROOTS

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*The root system is often the most neglected or misunderstood part of a tree care program. Because we can't see them, we often ignore or abuse them. Some features of a tree root system will help you take better care of them.*

- *An undisturbed root system can reach a distance of two and one-half times the tree's height.*
- *The bulk of the "feeder" roots are within the top meter of the soil surface.*
- *Roots thrive where there is a balance of water, air, nutrients and soil looseness.*

*Tree care practices for a healthy root system should provide for air, water, space and minerals. Specific techniques include preventing root damage, mulching and proper planting.*

## PRUNING

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*A property owner's tree pruning goal should be to see and fix problems at the earliest possible time. There are two reasons for this. One, trees recover from most small preventive wounds quickly and easily. Secondly, prevention usually costs only a small fraction of repair, it works better, and lasts longer.*

*The types of problems solved by pruning are:*

- *Deadwood*
- *Weak crotch with "included bark"*
- *Mechanical weakness (split. etc.)*
- *Crossed, rubbing branches*
- *Recurrent and duplicate branches*
- *Access conflict (street/utility R-O-W)*

# PRUNING

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*Work with a tree's protection zone when pruning. Make cut just beyond branch collar. Leave no stub, but DO NOT flush cut.*

*Topping can cause serious injury. Should topping be necessary, then the tree may need to be removed and replaced.*

## ***Bad Times to Prune***

- *During leaf fall (tree is storing energy for winter)*
- *During leaf formation (tree reconverts stored energy for production of energy)*

## ***Good Times to Prune***

- *Deadwood – anytime*
- *Live branches – late spring, after leaves reach full size*

*Eliminate sprouts on an existing tree, if it is worth saving. If sprouts are on a stump, they may be a means of replacing the tree, if they are managed right.*

*Tree pruning tools depend on the job to be done. Avoid tools that crush or tear bark.*

## ***Criteria for Tool Selection***

- *Clean cuts*
- *Minimize work*
- *Work with a tree's natural defense against decay*
- *Avoid damage to tree, things and people*

*Pruning paint and wound dressings are usually applied because people assume tree wounds should be treated like human wounds.*

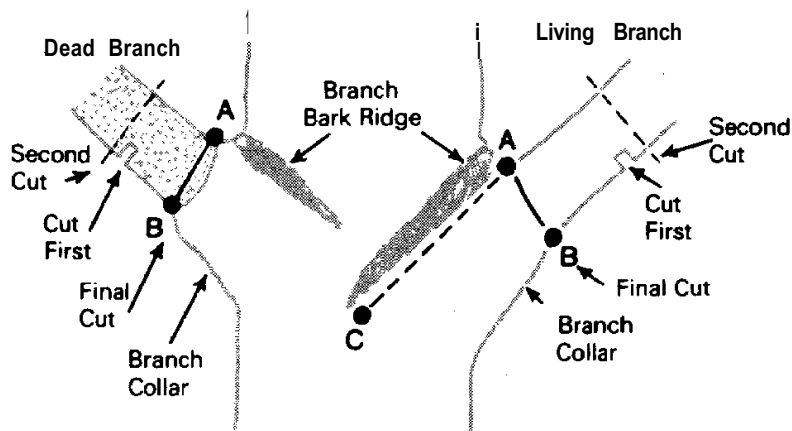
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*Pruning paint won't work against decay. They may actually favor the pathogen that causes decay. Pruning paint is also no guarantee against insect damage. Insects may bore through dressings or enter the bark around the wound. In general, proper pruning, along with watering and fertilization, are the preferred treatment for tree wounds.*

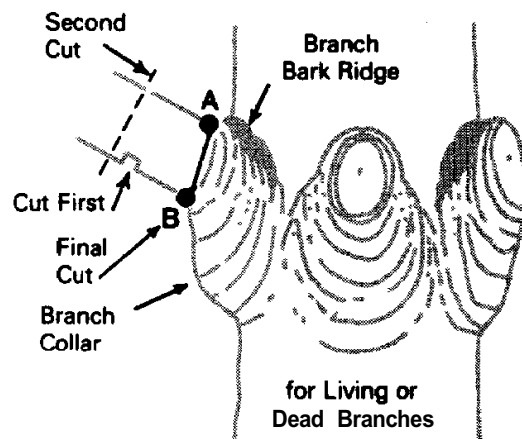
## HARDWOODS

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## CONIFERS

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## PROBLEMS WITH AGING TREES

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*The ideal large or mature tree should be the result of a life long history of preventive care. Tree care practices beginning at an early age will produce a tree that is healthy, safer and less costly to maintain. Yet where abnormal weather conditions occur or where the tree has been neglected, its survival chances can be improved by using an arborist's basic weapons: pruning, cabling, bracing, mulching and lightning protection.*

### ***Circumstances producing hazardous trees:***

- *Former forest trees "released" to allow horizontal growth.*
- *Open grown tree without competition to slow horizontal spread.*
- *Fast growing species.*
- *Suckers growing around "topped" branch stubs.*
- *Root damaged trees.*
- *Trees near people, valuable things and dangerous equipment.*
- *Liquid flowing from wounds or forks.*

*There are several techniques for dealing with a hazard tree:*

- *Cabling should be done only if thorough inspection indicates the tree should not be removed and replaced. The long term power of a cable comes from the tree's closure of sound wood over the hardware.*

- *Lightning protection can be an effective lightning deterrent for important tall trees.*

- *Cavity-filling is a carry over from human dentistry. It is not a good tree care practice. Cavity prevention by proper pruning is the best answer.*

- *New, large growing trees should not be planted under power lines. If already there, proper pruning may take care of the situation. It pays to remove and replace problem trees.*

## TREES AND CONSTRUCTION

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*Controlling construction damage to existing trees is a challenge. When efforts are not taken, construction damage can cut the life of a tree in half and cause the homeowner to pay several times the cost of prevention. Stem and branch damage can be serious, but is easy to avoid if the contractor can be educated. Root damage, however, is a more difficult problem. Trenching, compaction, chemicals, grade changes, and gardening in root zone are careless practices where severe tree damage can occur.*

### ***Planning for tree protection***

- *Consider the potential types of damage.*
- *Consider access for utilities, vehicles, and people.*
- *Anticipate future construction.*
- *Get technical help early during the planning stages.*
- *Include enforceable tree-protection language in construction language.*

*If trees must be removed, limit heavy equipment operation to areas to be totally cleared, otherwise do manually. Where a tree is to be “saved”: then:*

- *exclude people and things during construction.*
- *have tree-damage bond in contract.*
- *give maximum possible protection to “save” tree in construction zone, but don’t try to do the impossible.*

*If you want to protect a tree during construction, leave as much area around the tree undisturbed as possible. If you can’t completely protect it, you could lose it within five to ten years.*

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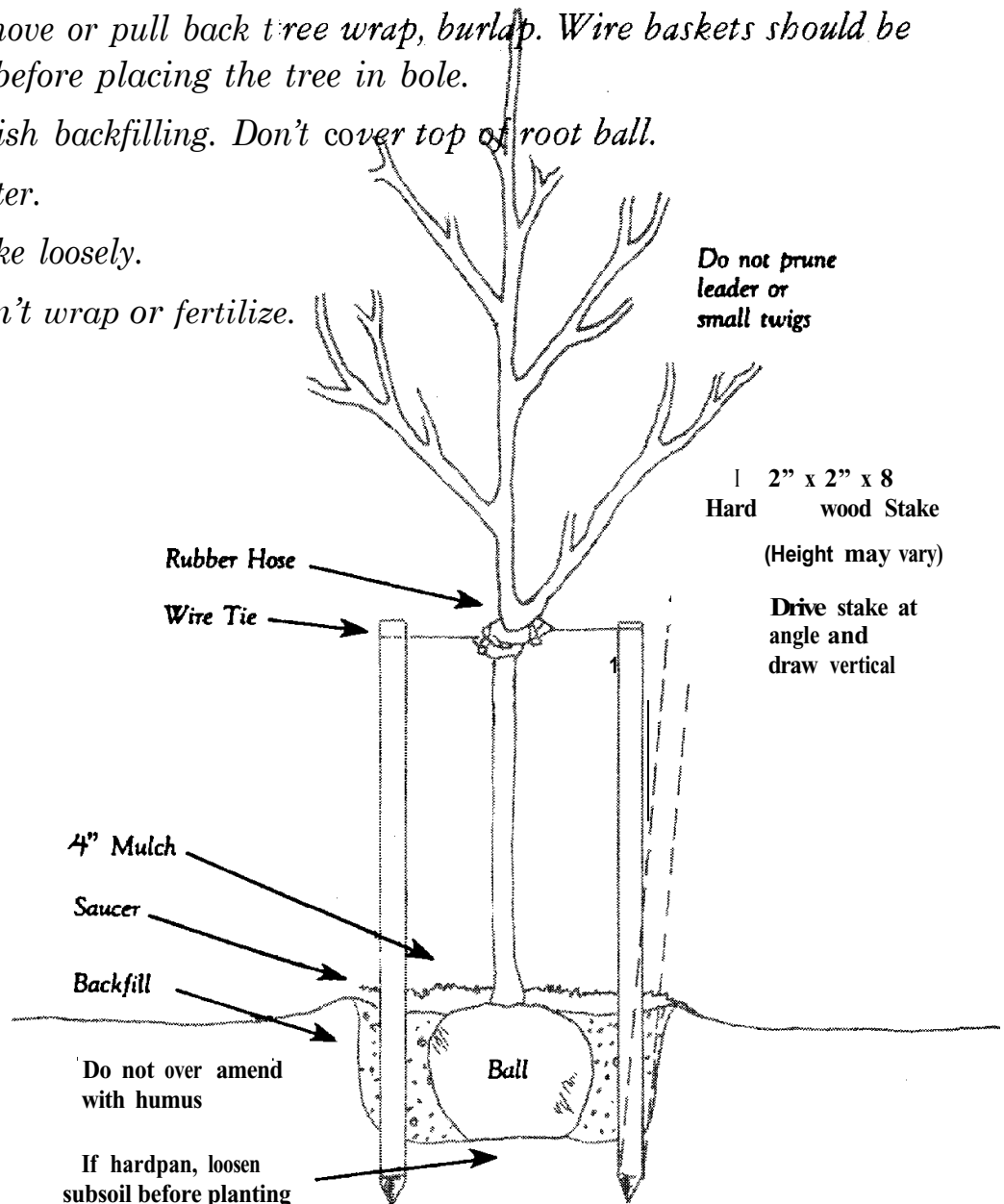


# NEW TREES

Planting is ideal during fall or winter season. Evaluation of site must be done before selection of tree species. Choose tree with proper characteristics to match site and homeowners needs.

## To plant:

- Dig hole about twice the size of the root ball diameter.
- Place tree in hole by lifting root ball.
- Backfill the bole halfway, tamping dirt. Use few or no amendments. Native soil is fine,, if fairly loamy.
- Remove or pull back tree wrap, burlap. Wire baskets should be removed before placing the tree in bole.
- Finish backfilling. Don't cover top of root ball.
- Water.
- Stake loosely.
- Don't wrap or fertilize.



## ***EARLY CARE***

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*Next to proper tree selection and planting, the most important step to a healthy tree is early care. Giving your new tree a good start depends on doing several things early and regularly.*

***MULCH** – Organic mulch should be applied at a depth of 4-6 inches. Leaves and straw are easily available from local groundskeeping duties. Bark, wood chip, and sawdust can also be used but must be composted to reduce nitrogen draft.*

***PRUNING** – Prune only deadwood or damaged branches during planting. As a young tree develops, pruning can be done to encourage or reduce the forming of codominant stems, to control the final height and shape of the tree, and to eliminate limbs with weak attachments.*

***FERTILIZATION**'- A soil test is the only reliable method of learning fertilization needs. Distribute 2-4 Lb/diameter inch evenly. Reduce by half for trees under six inches diameter. Apply every 3-4 years if needed.*

*Don'tover-fertilize!*

***WATERING** – Normal rainfall is the best source of moisture needs. If rainfall is unavailable for over a week's period, then water the new tree. Watering should be slow enough to soak to a depth of four inches. Replenish mulch to conserve moisture.*