

# PROPER PLANTING

## HOW TO PLANT A TREE SO IT LIVES

The level of care makes a difference in how trees will grow and develop. The goal of tree planting is to have a vigorous, healthy tree that lives to the limits of its natural longevity. Achieving this goal begins with careful tree selection. Next, the tree must be handled carefully until it is safely installed in its new home.

### Trees - Handle With Care

Trees are perishable products and must be treated accordingly. Reputable nursery operators know how to protect trees in shipment or while on display, but after that it is up to you.

These two cardinal rules will help keep trees alive until they can be planted.

1. Carry trees carefully. When transporting, load and unload gently, being careful not to break branches. Always provide support beneath balled or potted plants.
2. Keep roots moist! Techniques to prevent drying vary, depending on the trees and how long you must store them before planting. Techniques include re-dampening the packing material around small bare root seedlings, that should be stored and refrigerated between 35 and 40 degrees F. Bare root trees of all sizes may also be stored by placing the roots and their packing material under loose soil in a shallow trench. The garden often is a handy place to do this. While actually planting, continue to protect the roots from wind and sun by wrapping in wet burlap or carrying in a bucket with a mud, moss or sawdust solution (not pure water). Balled and burlapped or potted trees should be checked for dryness by finger-length probing into the soil. Sprinkle or water if necessary. Then store them in a cool garage or shaded area out of the wind.



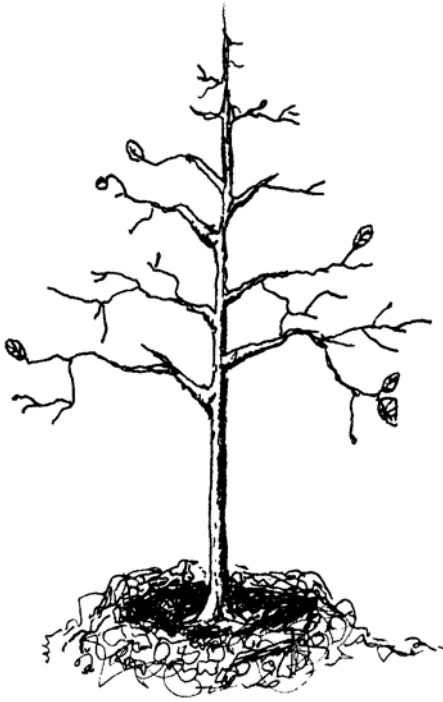
How to properly handle a tree

## Planting Burlapped or Potted Trees

Recommendations for planting have evolved in recent years as more is learned about the nature of roots and urban soils. Local conditions make generalizations difficult, but here are some guidelines that reflect the latest opinions of tree experts:

### The Planting Hole

More than any other change in tree planting procedures is the new focus on the planting hole. It can be summed up by the saying, "Don't plant a \$100 tree in a \$10 hole!" Proper preparation will encourage root growth rather than adding to the difficulties already challenging the young tree. Here's the way to give a tree a boost toward rapid growth and recovery from transplant shock. This method recognizes the fact that most roots spread through the top 12" of soil in a wide periphery around the tree. Therefore, slope the sides of the hole and dig or deeply rototill an area around the hole at least twice the diameter of the ball or container. An area up to five times the diameter is recommended if: (1) the soil is particularly compacted; (2) the roots of other trees will not be damaged; and (3) space and aesthetics allow.



A properly planted tree

### How Deep Should You Plant?

Under normal conditions, root growth is best encouraged by planting even with the surrounding terrain. When wet conditions or heavy soil are problems, raising several inches of the root ball above ground will aid the spread the lateral roots. In arid climates, a basin can be used to collect precious water.

### What About the Wrapping Material?

Research has not yet provided a definite answer about the potential harm of leaving wire baskets in place after planting. However, the most prudent action is to cut and remove the top two tiers of wire after the ball is set in the hole. Problems more serious than wire baskets are treated burlap (feels like plastic) and nylon rope. Both should be completely removed. Other kinds of burlap and twine, even if biodegradable, should be cut away from the upper 1/3 of the ball. Never let remaining pieces protrude above the soil, or they can act as wicks, drying the soil. Trees in pots or cans should be gently removed before planting.

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Cut away the plastic or metal if the root ball does not slide out easily. Paper or plastic trunk wrappers should also be removed. This material was put on the tree to protect it during shipment and will generally do more harm than good if allowed to remain on the tree.

## **Filling the Hole**

Backfill with native soil unless it is clay from basement excavation or other undesirable fill material. In that case, blend together one part washed sand to 4 parts sandy loam, or bring in as much good topsoil as possible. Tamp gently and add water to fill large air spaces and to give the tree its first good drink in its new home. Do not use excessive tamping around tree base: compacted soil may inhibit the spread of roots. Rake a ridge of soil two to four inches high around the margin of the hole (outside the root area) to serve as a reservoir when watering. As the tree grows, water the surrounding soil area to encourage root spread.

## **Following Up After Planting**

### **Watering**

Watering is the key to tree survival. It should be used when filling the planting hole to eliminate large air cavities, firm the soil around fine roots and provide nourishment for the new tree. During planting, bare-root trees can be dipped in water-absorbing polymers. This amazing chemical comes under a variety of brand names and is available from nurseries. Its function is to attract water when abundant and hold it longer in the soil when conditions get dry. It can also be used with balled and burlapped trees, being mixed with the backfill. The effects last for about two years. With or without the aid of polymers, water deeply around your tree once a week during warm, dry spells.

### **Pruning**

Unless directions specify otherwise, it is better not to prune after planting if the tree will be watered regularly. Leaves manufacture the food needed for root growth, so the young tree needs as much of its crown as possible. Exceptions to this rule include trees that will be exposed to strong winds or drought conditions, in which cases early pruning will reduce the demand for water from the roots. Always prune dead or broken branches.

## **WATERING IN HOUSTON**

Watering a tree is crucial for its survival. In Houston, where frequent droughts occur, it is extremely important to properly manage the watering of trees to prevent trees from drying out. Frequent, shallow waterings can encourage root growth at the surface often making the tree vulnerable to drying out during drought periods. Whereas, infrequent deep waterings promote a deeper root system and more drought-hardy trees. By allowing the soil around the tree to dry between waterings, soil structure can be improved. This causes a natural shrinking and swelling effect.

The best time to water a tree is in the early morning. This allows for the least amount of evaporation. It is okay to water a tree in the evening if fungal diseases are not a problem.

Drip irrigation is the most ideal form of watering trees in the Houston area. Drip irrigation causes greater absorption and less evaporation. With drip irrigation, the entire root system expands. Although not the most effective method for watering trees, sprinkler systems are the most popular. When choosing a sprinkler system, it is best to use one that minimizes the amount of water on the foliage.

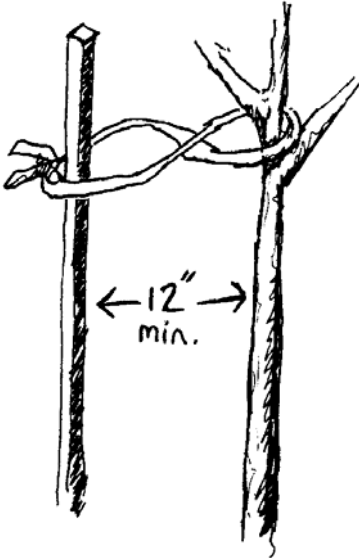
A good rule of thumb is to water an inch a week in the Houston area. It is important to replace water in the soil that has already been used by the tree.

## Fertilizing

Avoid fertilizing shade trees until late spring of the second year following planting. Fertilizers can “burn” roots or stimulate crown growth faster than the roots can supply water.

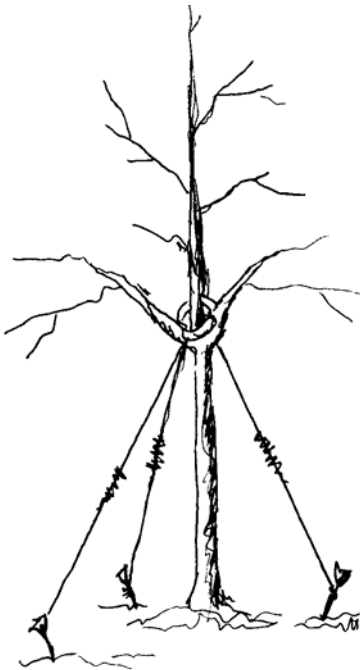
## Staking

Proper Staking Techniques



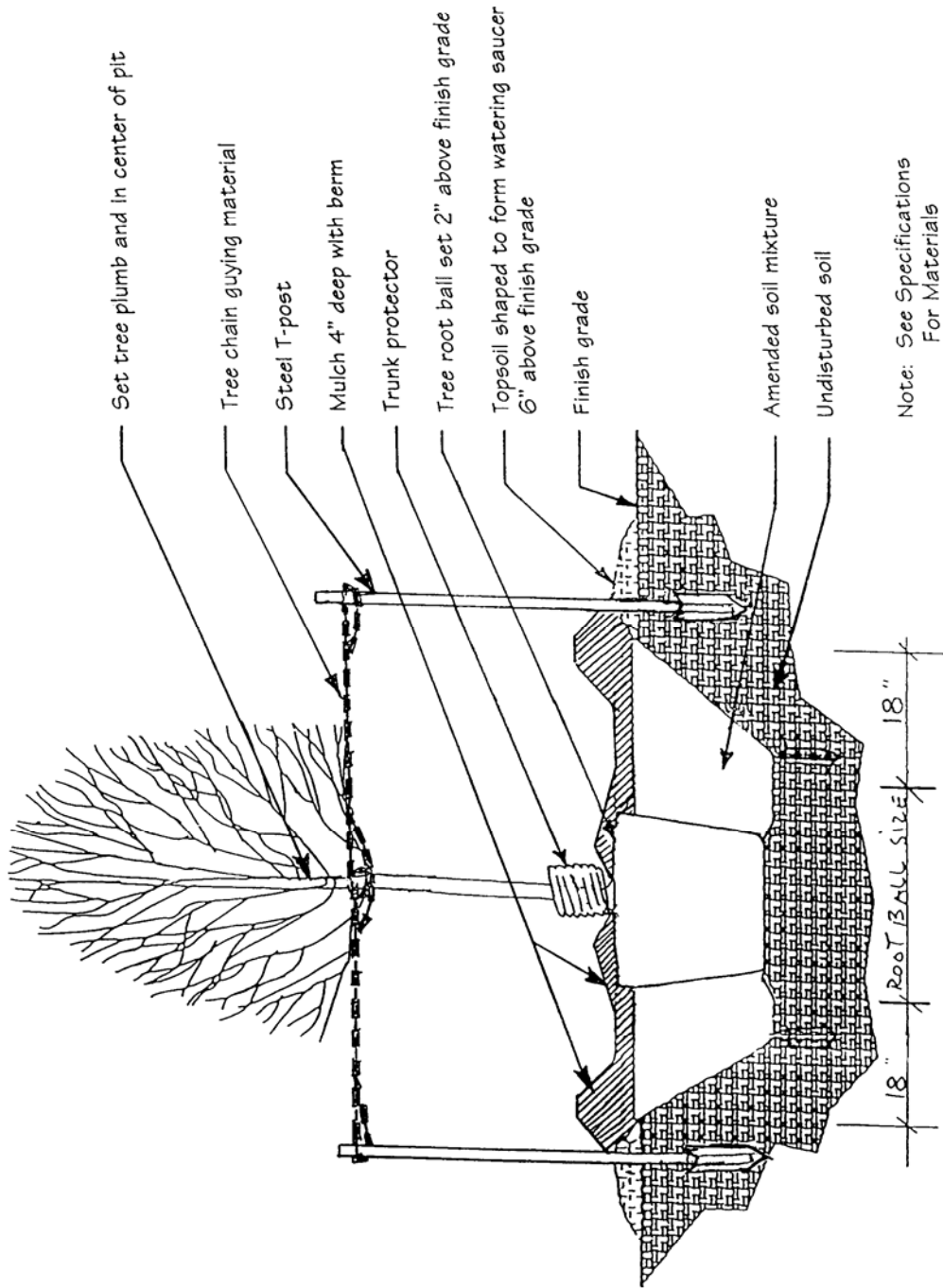
Stakes and guy wires should be used only if support is necessary. When using, avoid common problems by following these guidelines: If the main stem droops, find the best place for support ties by moving your hand up the trunk to locate the point above which the top can stand up on its own. Place the support ties about 6” above that point. Ties can be made many ways, but a loosely-fitted figure 8 tie made of polyethylene, cloth or webbed strap is easy to install, provides good support and cushions the tree from rubbing against the stake. Using two ties will also minimize the chance of bark damage from rubbing. Regardless of the tie used, allow slack for sway. Avoid driving stakes through the root ball, or using stakes with flanges that will break roots when removed. Remove support ties after one or two years.

## Mulch



Mulch is a young tree’s best friend. It holds down competing weeds or grass, retains soil moisture, prevents soil cracking that can damage new roots, protects the trunk from lawnmower damage and helps prevent soil compaction. Organic mulches such as wood chips or pine needles also contribute to better soil structure and aeration as they decompose. Avoid limestone rock and allow no mulch to touch the tree’s trunk or be piled higher than 2 or 3 inches.

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Tree Planting Detail

No Scale

## TREES FOR HOUSTON

Illustration courtesy of Ralph Peña

### TREE PLANTING TIPS

Loosen soil far beyond the dripline of tree.

Brace the tree only if it will not remain upright in a moderate wind.

Brace with broad, belt-like materials that won't injure the bark and remove after one growing season.

Cover root ball with mulch, but keep trunk exposed.

Keep soil moist, but not water-logged.

Remove dead, diseased and damaged branches.

Wait one year to begin structural pruning and fertilizing.

### MISTAKES TO AVOID

Do not plant too deep.

Do not wrap trees.

Do not amend the soil, unless the soil is very poor.

Do not brace so tightly that the tree cannot sway.

Do not leave supports on for more than one growing season.

Do not disturb root ball.

Do not remove branches to balance crown with roots.

### STEPS TO FOLLOW WHEN PLANTING A TREE

1. Do not remove tree from container until you're ready to place into planting hole.
2. Dig a hole 2-3 times wider than the root ball and slightly shallower. The tree should be planted slightly above the original soil level. When the hole is ready, gently remove tree while lightly pressing against sides of container.
3. Set tree gently into hole, lifting by root ball. Tree should be centered and plumb. Cut any circling roots along outer edge of root ball with pruning shears. Hold tree while backfilling around root ball and tamp soil lightly to eliminate air pockets.
4. Remove any grass or weeds within a 3' minimum diameter circle around tree and create watering saucer. Cover with 3-4" mulch composed of bark, woodchips, compost or pine needles, etc. Do not use fresh grass clippings.
5. Adequate water is essential at planting time. Place water hose at base of tree and allow water to slowly trickle until soil is saturated.
6. After watering, add mulch to compensate for any settling. If necessary, stake tree to keep upright. Prune dead, diseased and damaged branches. Research has proven that pruning the crown to "compensate for root loss" actually impedes root regeneration and slows establishment. Structural pruning should be delayed until the second year of growth.

*The following watering schedule may be utilized with adjustments made during prolonged periods of rain or drought:*

Initial watering after planting:

Root zones should be slow-soaked every seven days for four weeks

November-February:

Root zones should be slow-soaked every three weeks

October, March & April:

Root zones should be slow-soaked every two weeks

May-September:

Root zones should be slow-soaked once a week