

A GUIDE TO GROWING HEALTHY
TREES
IN THE LOWER RIO GRANDE VALLEY



***PLANT A MEMORY, PLANT A TREE. DO IT TODAY! FOR TOMORROW.
PLANTA UN RECUERDO. PLANTA UN ARBOL. HAZLO HOY! PARA EL MAÑANA.***

Think Trees...

\$2.00

T REES

*I think that I shall never see
A poem lovely as a tree;
A tree whose hungry mouth is prest
Against the earth's sweet flowing breast;
A tree that looks at God all day,
And lifts her leafy arms to pray;
A tree that may in summer wear
A nest of robins in her hair;
Upon whose bosom snow has lain;
Who intimately lives with rain.
Poems are made by fools like me,
But only God can make a tree.*

- Joyce Kilmer

INTRODUCTION

This brochure was produced by the Valley Proud Environmental Council in cooperation with the Texas Forest Service. This publication is made possible with a grant from the 1993 Urban and Community Forestry Challenge Grant Program.

TABLE OF CONTENTS

Page 3 - Benefits of Trees
Page 5 - What To Plant
Page 8 - How To Plant
Page 9 - Tree Planting Diagram
Page 10 - How To Plant A Palm Tree
Page 11 - Pictures of: Live Oak, Texas Mountain Laurel, and Golden Raintree
Page 12 - Pictures of: Bur Oak, Texas Persimmon, and Desert Willow
Page 13 - Pictures of: Sycamore and White Mulberry
Page 14 - Recommended Trees For The Lower Rio Grande Valley
Page 16 - Pictures of: Pecan, Afghan Pine, and Western Soapberry
Page 17 - Pictures of: Montezuma Baldcypress, Texas Sabal, and Cedar Elm
Page 18 - Pictures of: Rio Grande Ash, Mesquite, and Southern Magnolia
Page 19 - Pictures of: Anaqua, Wild Olive, and Ebony
Page 20 - Additional Trees found in the Lower Rio Grande Valley
Page 21 - How To Care For Established Trees
Page 22 - Tree Pruning
Page 24 - Reasons Not To Top Your Tree
Page 25 - Texas Big Tree Registry for the Rio Grande Valley
Page 27 - Don't Bag It Program, Native Plant Project, and List of Nurseries
Page 28 - Acknowledgement, Reference, Valley Proud Environmental Council

The Lower Rio Grande Valley provides a challenge to the homeowner when it comes to planting and maintaining trees. Some of the adverse factors that we face are sandy or heavy clay soil, saline soil, little or too much precipitation, strong winds, pests, high temperature or a sudden drop in temperature. All combinations of these factors may make it very difficult to grow a tree. This brochure recommends the trees that will fit your specific area depending on soil type, wind, and moisture.

BENEFITS OF TREES

Trees provide us with economic, health, and aesthetic benefits as outlined below.

REDUCE AIR POLLUTION

Trees remove carbon from carbon dioxide, which is harmful to humans, and replenish the atmosphere with oxygen for us to breathe through a process called photosynthesis. In this process, carbon is stored in the trunk and sugars are manufactured through the use of energy provided by sunlight. The tree uses the sugar as its source of energy. An average tree can absorb 26 pounds of CO₂ per year.

Leaves help to trap and hold particulate pollutants (dust, ash, pollen, and smoke) that can damage human lungs.

REDUCE SOIL AND WIND EROSION, CONSERVE WATER

Trees reduce surface runoff by contributing organic matter to the soil surface which allows the water to soak in and not run off. They break the impact of falling rain and the roots help hold soil and increase the ability of soil to absorb water. With increased absorption of water, less irrigation is needed.

Trees make excellent windbreaks, slowing the wind speed, thus reducing erosion and human aggravation created by constant, strong wind.

SAVE ENERGY

Trees produce shade which can reduce air conditioning cost up to 30 percent when strategically placed on the west and south sides of a building.

Use evergreen trees on the north side to intercept and slow winter winds. This will save from 10 to 50 percent in energy used for heating.

By conserving energy, less electricity for heating and cooling is required to be generated. With lower demand for electricity, burning of fossil fuels which releases CO₂ into the atmosphere will decrease.

INCREASE PROPERTY VALUE

A well planned landscape including healthy trees, shrubs, groundcovers, and flowers can increase residential property value up to 15 percent. A well-landscaped house will attract more potential home buyers and may be easier to sell because of its increased beauty.

WILDLIFE – FOOD AND HABITAT

Trees provide shelter for birds and small mammals and food like nectar, pollen, berries, seeds, leaves, twigs, and bark for wildlife.

CONSERVATION OF RARE SPECIES

Rare trees planted in landscaped areas help conserve rare species and provide seed sources for revegetation efforts.

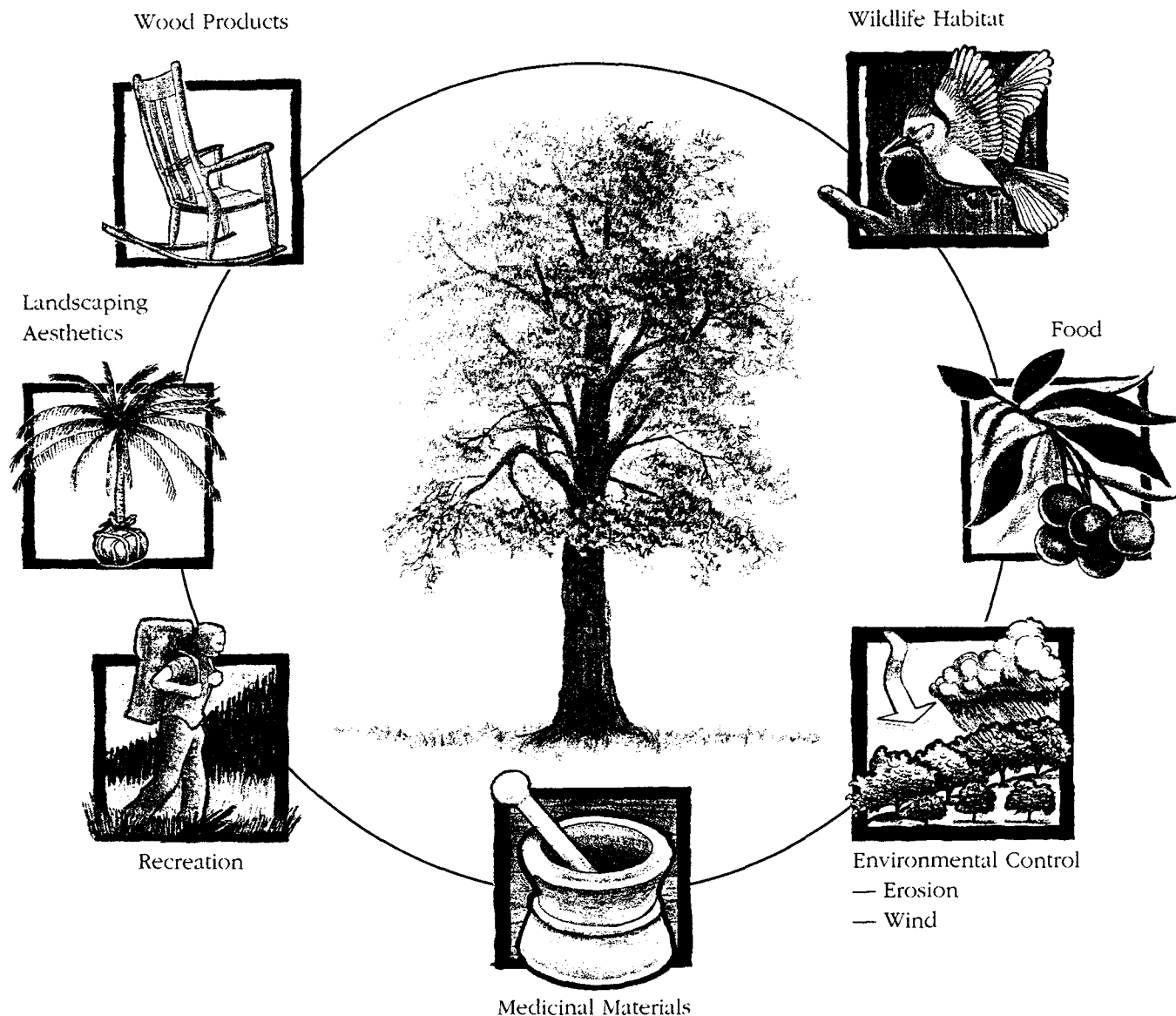
MODIFY LOCAL CLIMATE

Vast amounts of concrete, steel, asphalt, and glass in cities increase air temperature several degrees compared to the surrounding countryside. Trees lower air temperature through shade and leaf transpiration, reduce glare on sunny days, and reduce wind speed, creating a more pleasant surrounding.

INCREASE ECONOMIC STABILITY

Research has shown that trees and green spaces have a positive psychological impact on humans living in our urban society. A well-forested community is a more inviting place to live, work, and shop.

Studies show that people linger and shop longer along tree-lined streets.



WHAT TO PLANT

The type of tree to plant depends on environmental factors, the tree's purpose, location, and space available. Before choosing a tree, the planting area needs to be evaluated and the following criteria considered. Use the list of trees and their characteristics along with the evaluation of the planting area to choose the trees that will grow the best. Trees native to the Lower Rio Grande Valley are adapted to the environmental factors of this area and tend to survive longer.

ENVIRONMENTAL FACTORS

Minimum Temperature - Every tree will survive down to a certain minimum temperature. In the Lower Rio Grande Valley, the minimum temperature is usually about 25 - 35 degrees. However, our greatest concern is when the temperature falls rapidly and the trees do not have enough time to adapt. The trees that have been the most severely damaged by the past hard freezes are ebony, tepeguaje, citrus, and several palms like Cocus.

Moisture - Species native to this area will survive with little or no additional watering. Introduced species will require additional watering during the hot, dry summer months. Trees requiring high moisture need plenty of additional watering and usually show signs of stress by dropping their leaves in the summer. These trees include cottonwood, Montezuma baldcypress, and sycamore.

Light - Most trees need an open, sunny space to reach their mature size. If your planting area is shaded by other trees or buildings then select a smaller, shade loving tree.

Pests - Insects and disease can be a nuisance to the homeowner if not identified and treated properly as soon as possible. Select species that are relatively free of pests. Newer varieties of some species have been bred for resistance to certain diseases.

Rio Grande ash, pecan, Afghan pine, and mulberry have the most insect and disease problems.

Soil - The soil type in this area will range from very sandy soil to a heavy clay. The pH will range from 7.0 to 8.5, which is alkaline. Trees planted in a sandy soil will need additional water, whereas in heavy clay soil they will need less water. Incorporating organic material into sandy soil will help retain moisture and into a heavy clay soil will improve drainage.

A TREE'S PURPOSE

What benefits do you want from your tree? Trees can provide shade, color from spring and/or summer flowers, fruit, seed pods, and fall foliage, windbreaks, attract wildlife, or be used as boundary markers.

Each tree species varies from others in form or shape, size, growth rate, color, leaves, flowers, fruit, and texture. Select a tree or trees that will best satisfy the benefits you desire.

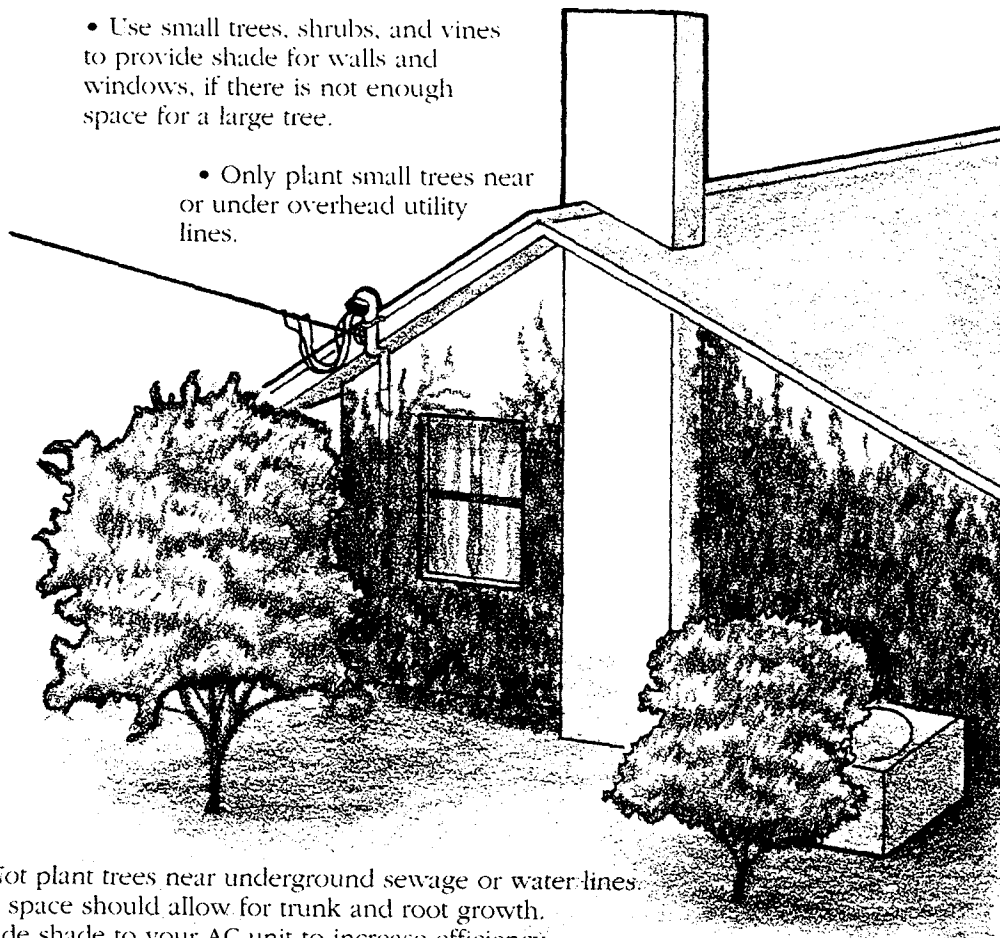
LOCATION AND SPACE AVAILABLE

Before planting, know what the size of the tree will be as it nears maturity. Trees vary in crown spread, height, and branching pattern. Large trees should not be planted under utility lines or near underground water or sewage pipes, close to rooflines, restricted by sidewalks or driveways or near other large

trees. Small trees are good for limited space as long as visibility to streets or driveways is not hindered. Planting several large trees in a limited space to provide immediate shade will cause problems when the trees mature. The goal is to plant a tree in a space that will not require any major pruning when it matures.

- Use small trees, shrubs, and vines to provide shade for walls and windows, if there is not enough space for a large tree.

- Only plant small trees near or under overhead utility lines.



- Do Not plant trees near underground sewage or water lines.
- Plant space should allow for trunk and root growth.
- Provide shade to your AC unit to increase efficiency.

TREE SPACING GUIDE FOR YOUR LANDSCAPE

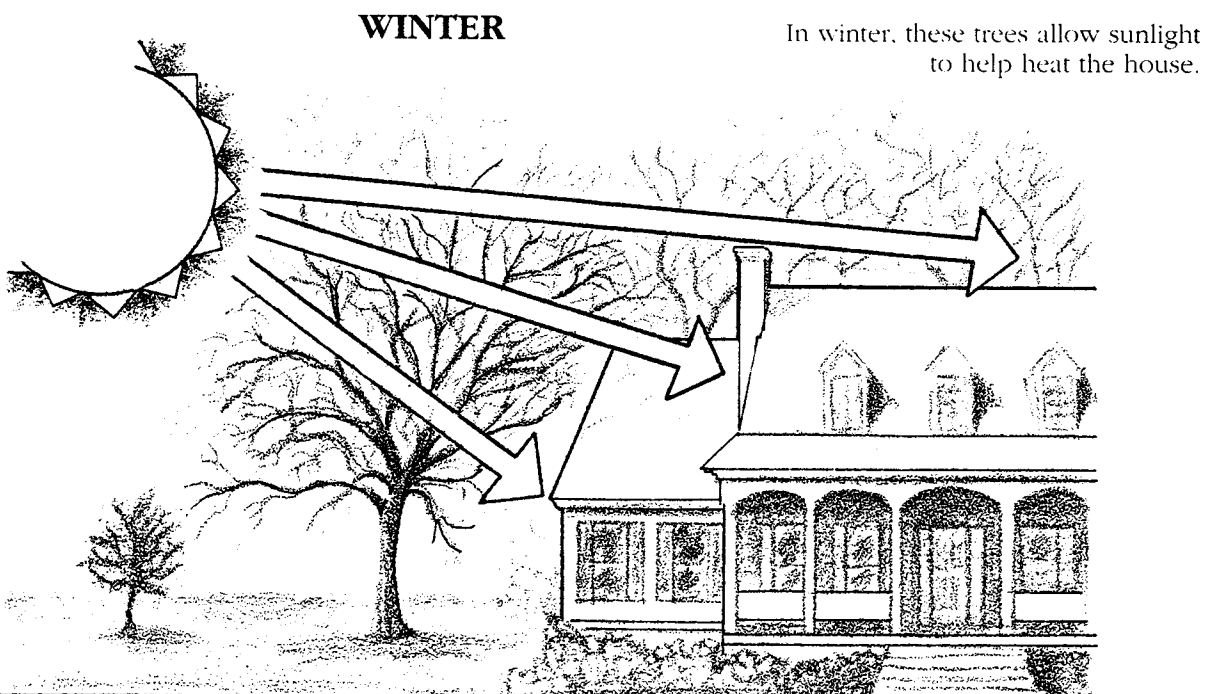
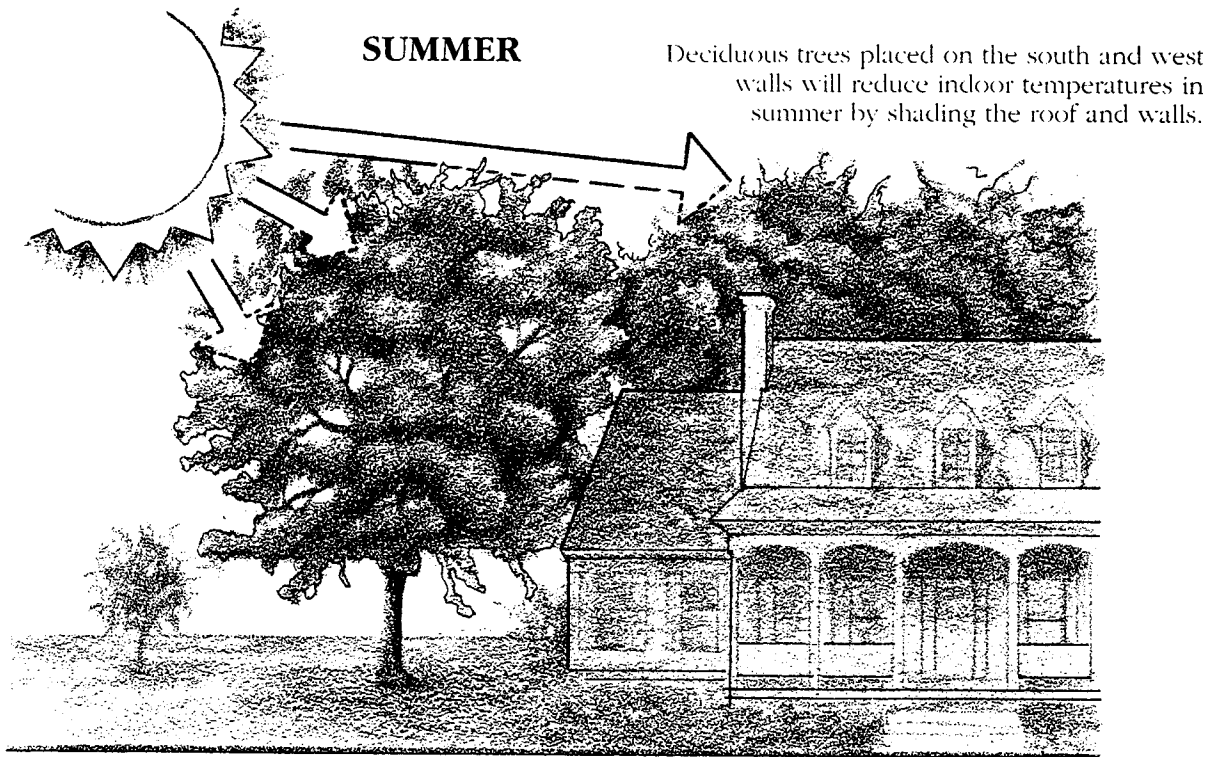
Tree Height	Minimum Spacing From Wall	Minimum Spacing From Building Corner
Up to 25'	10'	10'
25-50'	15'	15'
50'+	20'	15'

NOTE: These are general guidelines only:

- Check each tree's mature spread when placing trees so you do not crowd them.
- Leave half of this spread between the tree and building, utility lines, or existing mature trees.
- When planting several new trees, remember to space them so all will have room for their mature spread.
- When planting near street corners in residential areas, do not place trees or shrubs that would block a driver's view of the sign, signal, or intersecting street.

Plant evergreen trees, which retain their leaves or needles year round, on the north and west sides of your home. When planted in two staggered rows they intercept and slow winter winds.

Plant deciduous trees, which shed their leaves during the winter, on the west and south side of your home. They will shade your home in the summer and allow sunlight to warm your house in the winter.



HOW TO PLANT

The new idea in tree planting is that "It's better to put a \$50 tree in a \$100 hole than a \$100 tree in a \$50 hole." Planting a tree in the right location, using the proper technique will give your tree a better chance of reaching maturity and providing the benefits that you desire.

Follow the 3 R's - Right tree, Right place....., planted the Right way.

SELECTING A HEALTHY TREE

After determining the species of tree to plant, you're ready to select a tree from your local nursery. Choose a tree that has a straight, single central trunk, and no damage to the bark or broken or dead limbs. Do not select a tree that has been topped, has more than one side voided of branches, or a tree that grows straight up and has very little crown spread.

CARE OF TREES BEFORE PLANTING

Always lift the tree up by the root ball or container and not by the trunk.

When removing the tree from a container be careful not to break the root ball. It is important that the root ball is not broken when moving the tree.

Keep the roots moist. If the tree can't be planted immediately, store it in a shaded area out of the wind. Do not remove from container until hole is dug and ready for planting.

Be careful not to break branches or scrape the trunk of the tree.

PLANTING SEASON

Fall is for planting. Planting in late fall through early spring allows trees to establish new roots before the spring rains and summer heat stimulates new growth. The tree needs an established root system to keep up with the higher water demand in the summer. During the winter dormant season the roots will continue to grow while the top remains inactive.

Container grown trees can be planted during the summer with additional watering because no roots are lost.

Balled and burlap trees tend to go into shock and lose their leaves when planted in the summer. To prevent this the leaves should be stripped before transporting the tree. They will re-leaf, but it will take more time for the tree to regain its natural look.

Palm and citrus trees should be planted in late spring or early summer.

PLANTING TECHNIQUE

The following steps should be followed to ensure the proper planting of your tree. *Before digging be sure you have located all underground utilities.*

1. Examine the tree and prune only broken, low hanging branches and crossing branches. Wait one year to do any corrective pruning.

2. Dig a wide planting hole. It should be two to three times wider than the root ball. This will allow the roots room to spread and take hold. If a heavy clay type soil is not loosened up, then the roots will have a harder time of growing into the existing soil.

3. To create a favorable growing zone for the roots, loosen an area of soil two to five times wider than the diameter of the root ball and eight inches deep. Mulch this area to a depth of two to four inches after removing all vegetation and rocks. Maintain this area by adding mulch as needed for approximately two years.

4. Place the root ball in the hole at the proper height. **The top of the root ball should be level with the existing soil line.** The hole should be dug only as deep as the root ball to ensure that the tree is planted at its original

growing level. If planted too deep roots may suffocate or if too shallow, roots may dry in the air and sun. Plant trees a little higher in heavy clay soil to provide additional drainage.

5. If necessary rotate the tree so the most desirable side is facing a highly visible area. Add soil around the base of the root ball to stabilize it in the hole. Remove any string, wire, or burlap from the top of the root ball. Step back from the tree and make sure it is standing straight from all directions.

6. Finish adding the soil while gently packing it until the soil is level with the existing soil line. While adding soil start watering the tree to help eliminate air pockets in the soil. Do not tamp the soil in with your feet because this will compact the soil and may inhibit the spread of the roots.

7. Create a watering basin around the tree with existing soil to serve as a reservoir when watering. This dam should extend a couple of inches past root ball and be about four inches high. Knock down dam after one year.

8. A slow release fertilizer may be added to top layer of soil around root ball. Consult your local nursery person for type and amount. Adding too much fertilizer may burn new roots and slow growth of your tree.

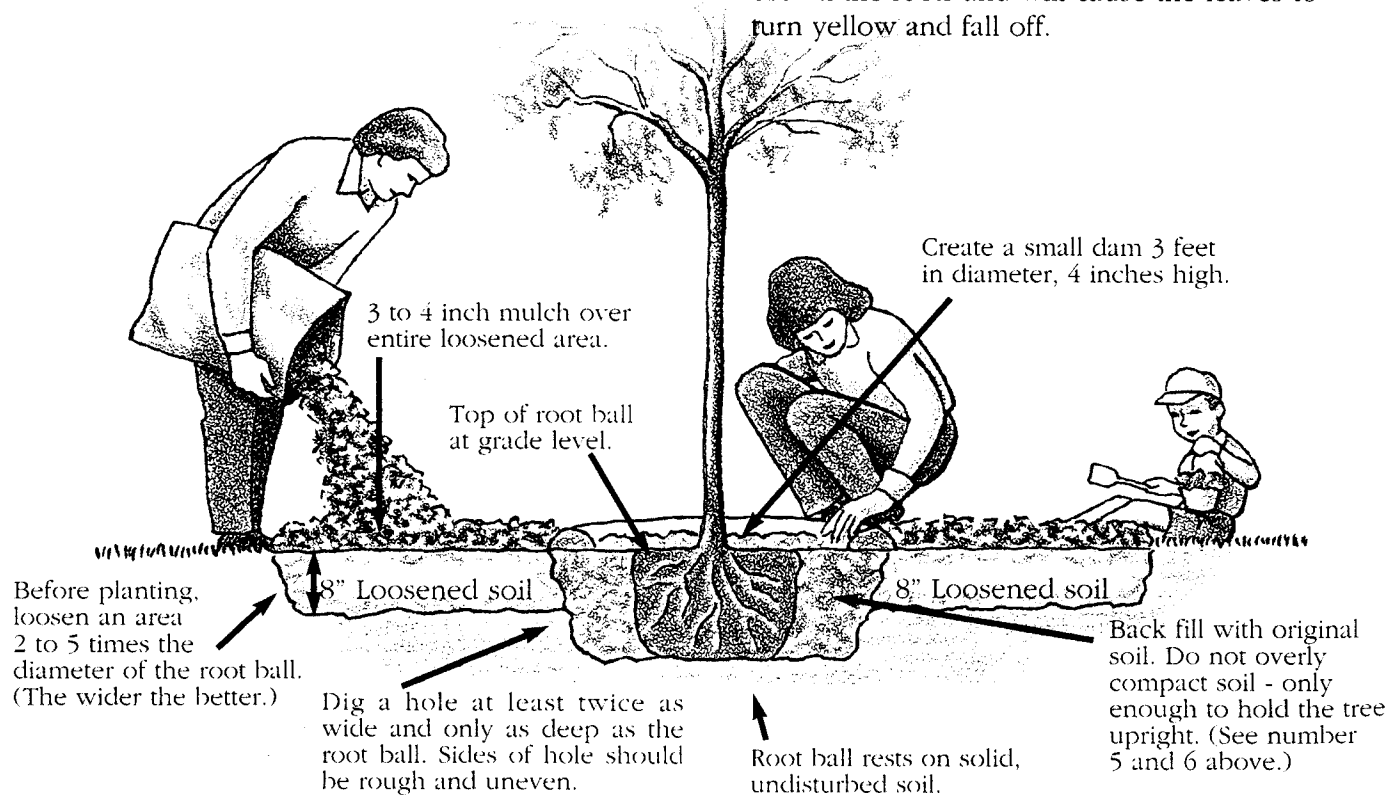
9. Use organic material such as leaf litter, shredded bark or bark chips, two to four inches deep, to mulch the watering basin, but keep away from the trunk of the tree.

Mulching holds down competing weeds and grass, retains soil moisture, prevents soil compaction, and keeps the root system cooler. It also eliminates the danger of lawn equipment being used too near the trunk of the tree.

10. Use a tree guard around base of tree to protect bark from mowers and weedeaters once watering basin is removed.

11. Staking should only be done if support is necessary. If the tree does not stand up straight or if it is top heavy then stake the tree. Protect the tree by running the supporting wire or rope through a piece of old garden hose where it is placed around the tree. Remove the stakes and ties after the tree has firmly rooted or after one year. Palm trees may take slightly longer.

12. Water when necessary. Always check the soil moisture and water when it's dry down to about six inches. Slow, deep watering and less frequent will encourage the roots to grow deeper and protect it from drought. In very sandy soil you will need to water more frequent. Keeping the soil constantly soaked will drown the roots and will cause the leaves to turn yellow and fall off.





PALM TREES

Think Trees...

WHEN TO PLANT

Best time to plant is during the growing season when the soil is warm, late spring through early fall. Severed roots must be replaced by new roots if the plant is to survive. Warm soil temperatures are needed to encourage this new growth or the plant may rot before growth begins.

HOW TO PLANT

When moving a palm, the crown (the growing tip of the palm) must be protected. Tie the fronds together at the top and brace with a length of a 2x4 tied to the trunk. After planting remove the 2x4, leaving the fronds tied together for several months, until new fronds grow out.

To assure a higher survival rate of planting, the palms should be kept in a shady area and the root ball moist. The failure of transplanted palms can often be attributed to unprotected root balls drying out for several days in full sun before being planted.

Palms should be planted in well-drained soil, rich in organic material and with adequate water and nutrient-holding capacity. Loams and clays with good subsoil drainage are preferred over sands or soils with impervious pans or parent material.

In general, plant palms at the same level as the level as the palms are in the pot or grown in the nursery. In sandy soil the palm may be planted about six inches deeper than their original depths. However, if the soil has a high clay content, do not plant deeper because they won't have adequate drainage.

Stake the palm to prevent movement of the soil ball.

Water the palm well and regularly until winter, then water less frequently.

PRUNING

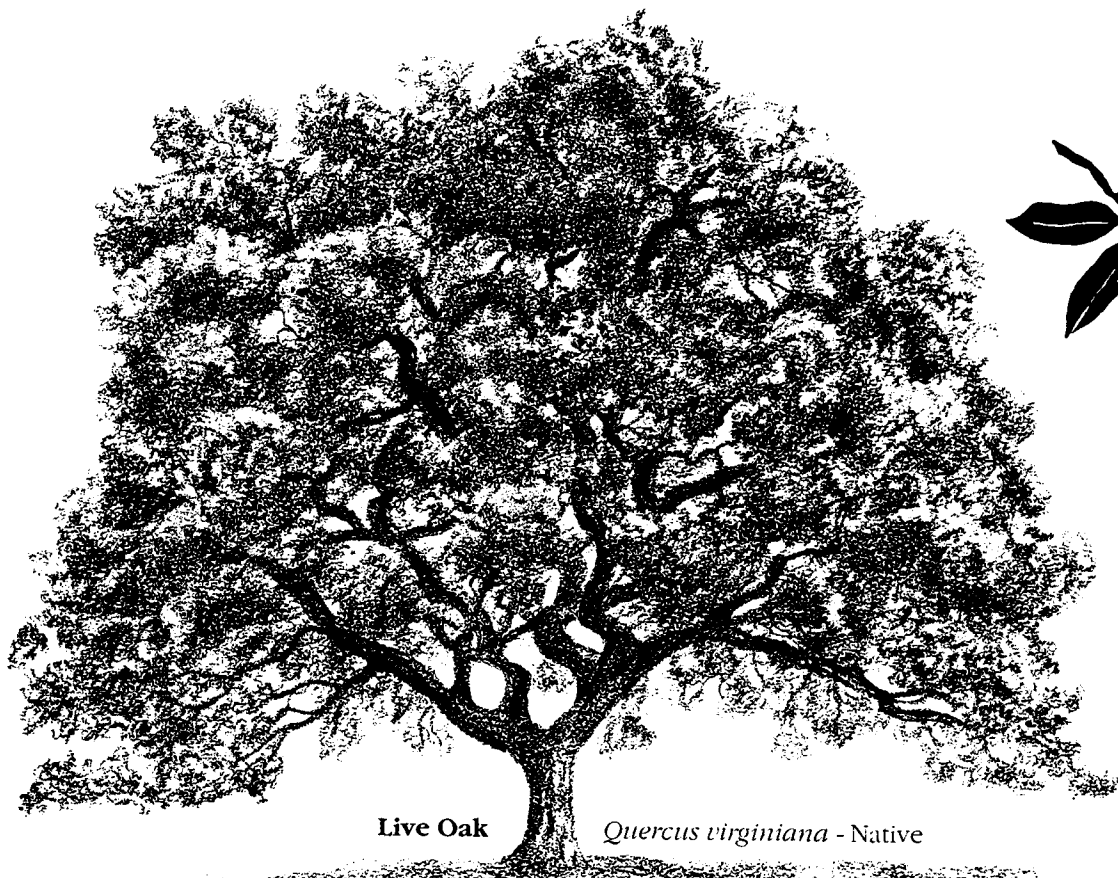
Best time to prune is in the spring, removing only unwanted brown fronds.

Trimming off green fronds reduces the palms ability to produce food.

Excessive trimming, particularly in late summer and fall, lessens the palm's ability to withstand cold and drought.

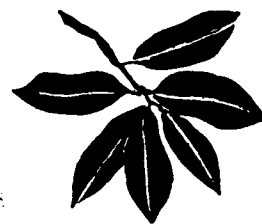
FERTILIZATION

To determine the fertilization need, take a soil test of the fill material. The required formulation should be applied lightly every 90 days rather than once a year (one-fourth of the recommended amount quarterly throughout the year).



Live Oak

Quercus virginiana - Native

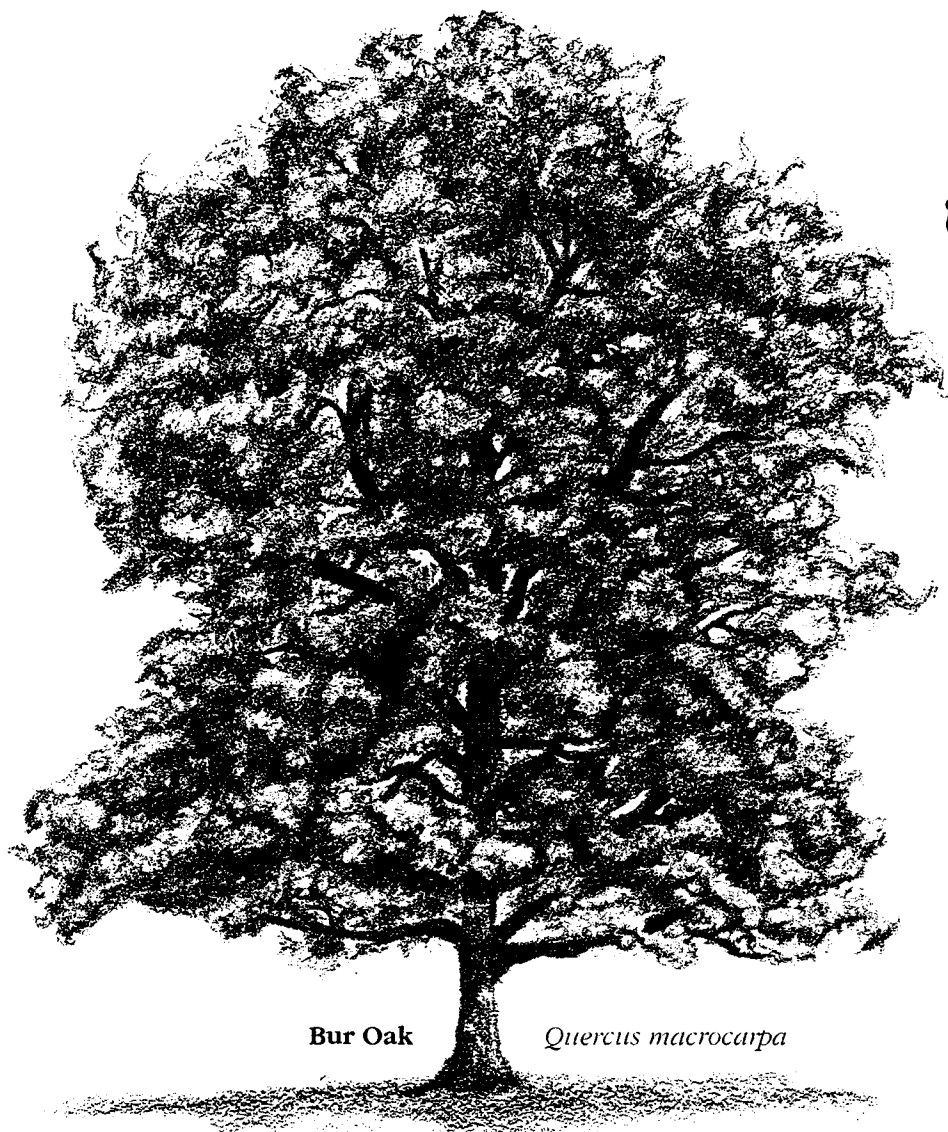


Texas Mountain Laurel – *Sophora secundiflora* - Native



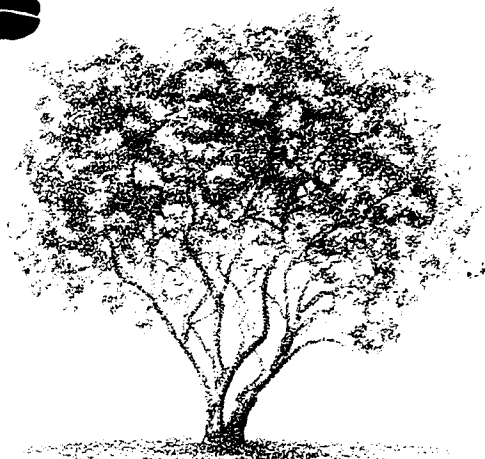
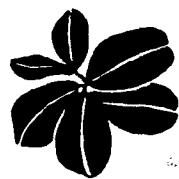
Golden Raintree – *Koelreuteria bipinnata*





Bur Oak

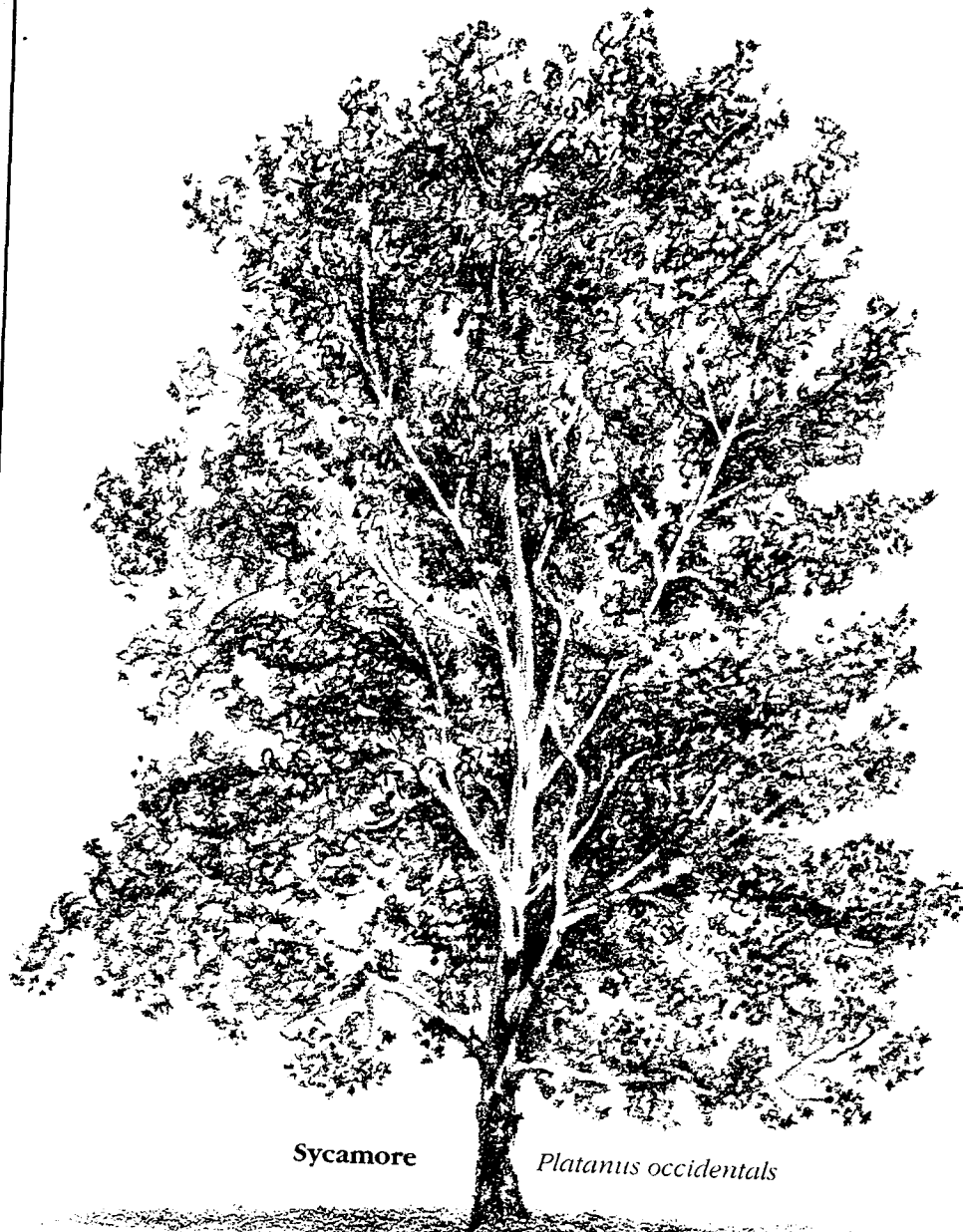
Quercus macrocarpa



Texas Persimmon – *Diospyros texana* - Native

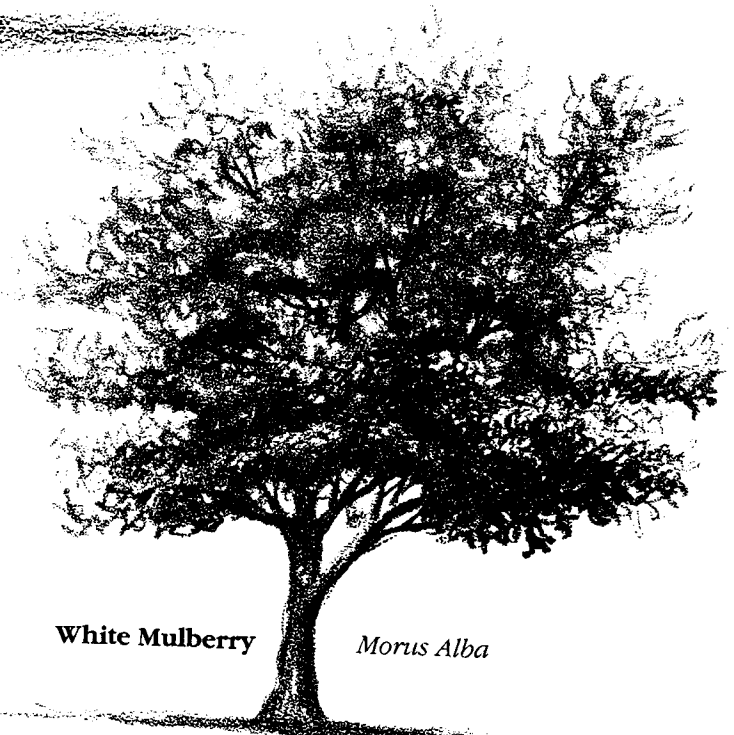


Desert Willow – *Chilopsis linearis*



Sycamore

Platanus occidentalis



White Mulberry

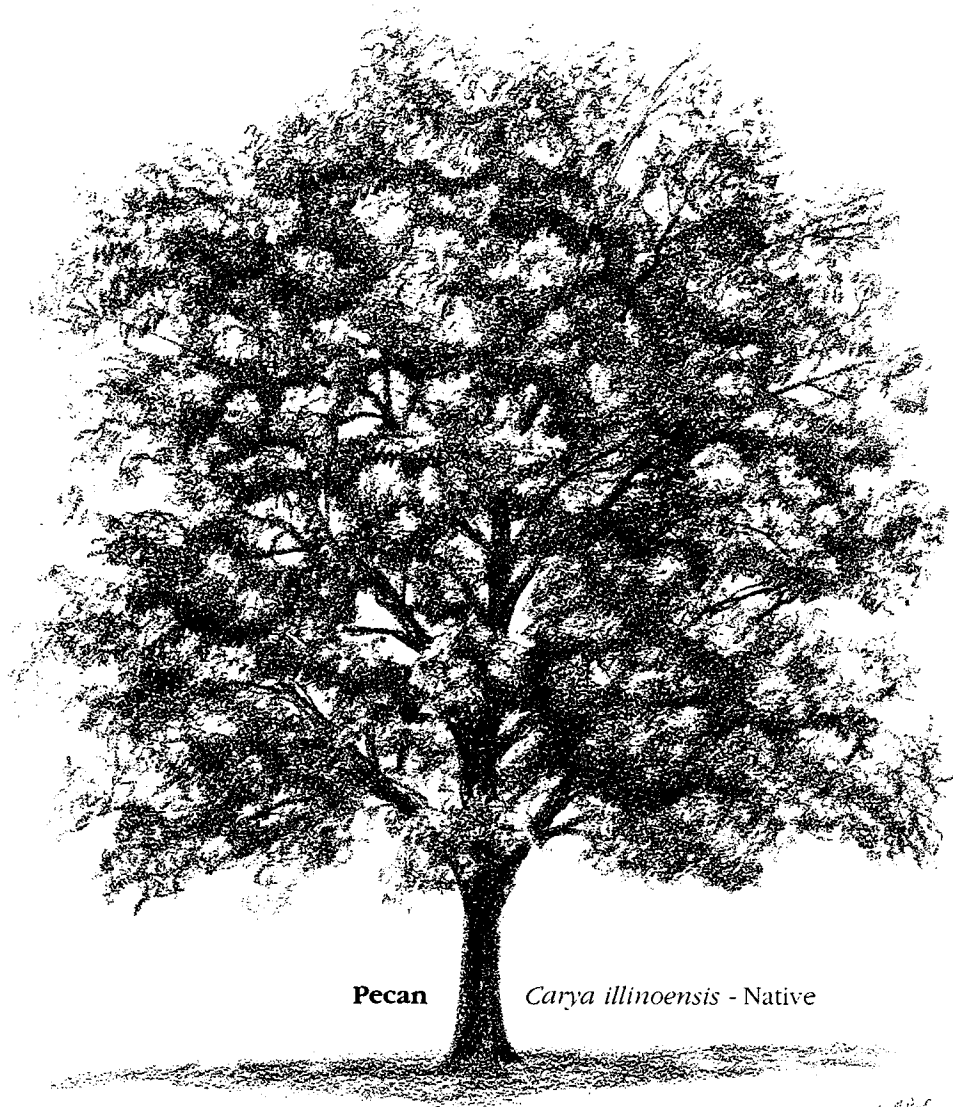
Morus Alba

RECOMMENDED TREES FOR THE LOWER RIO GRANDE VALLEY

COMMON NAME	BOTANICAL NAME	TREE TYPE	MATURE SIZE	GROWTH RATE	MOISTURE CONDITION	LIFE-SPAN
Anaqua - <i>Ehretia anacua</i> - N		E	40'	Slow	Low	50+
Ash, Rio Grande or Fresno - <i>Fraxinus berlandieriana</i> - N		D	45'	Fast	Moderate	30-45
Avocado - <i>Persea americana</i>		E	50'	Med.	Moderate	30-45
Baldcypress, Montezuma or Ahuehuete - <i>Taxodium mucronatum</i> - N		E	50'	Med.	Mod. to High	50+
Brasil or Bluewood - <i>Condalia hookeri</i> - N		E	30'	Slow	Low	50+
Coma del Sur or Saffron Plum - <i>Bumelia celastrina</i> - N		E	25'	Med.	Low	30-45
Cottonwood, Cottonless - var. <i>Alamo</i> - <i>Populus deltoides</i>		D	60'	Fast	High	To 30
Desert Willow or Flor de Mimbres - <i>Chilopsis linearis</i> - N		D	50'	Med.	Mod. to High	50+
Ebony, Texas or Ebano - <i>Pithecellobium ebano</i> - N		E	40'	Slow	Low	50+
Elm, Cedar or Olmo - <i>Ulmus crassifolia</i> - N		D	50'	Med.	Low to Mod.	50+
Goldenrain Tree or Lluvia de Oro - <i>Koeleruteria paniculata</i>		D	40'	Med.	Moderate	30-50
Guajillo - <i>Acacia berlandieri</i> - N		D	15'	Med.	Low	30-50
Guayacan or Soapbush - <i>Guaiaacum angustifolium</i> - N		E	15'	Slow	Low	30-50
Hackberry, Spiny or Granjeno - <i>Celtis pallida</i> - N		D	15'	Med.	Low	30-50
Hackberry, Sugar or Palo Blanco - <i>Celtis laevigata</i> - N		D	50'	Fast	Low	To 30
Huisache, Texas or Espino Blanco - <i>Acacia smallii</i> - N		D	25'	Fast	Low to Mod.	30-50
Magnolia, Southern - <i>Magnolia grandiflora</i>		E	40'	Med.	Mod. to High	50+
Mesquite, Honey - <i>Prosopis glandulosa</i> - N		D	25'	Med.	Low to Mod.	50+
Mulberry, White or Mora - <i>Morus alba</i>		D	35'	Fast	Moderate	To 30
Oak, Bur - <i>Quercus macrocarpa</i>		D	50'	Med.	Moderate	50+
Oak, Live or Encino - <i>Quercus virginiana</i> - N		E	50'	Med.	Moderate	50+
Paloverde, Texas - <i>Cercidium texanum</i> - N		E	15'	Med.	Low	30-50
Pecan or Nogal Morado - <i>Carya illinoensis</i> - N		D	55'	Med.	Moderate	50+
Persimmon, Texas or Chapote - <i>Diospyros texana</i> - N		D	20'	Slow	Low	30-50
Pine, Afghan - <i>Pinus eldarica</i>		E	35'	Fast	Low	50+
Pine, Aleppo - <i>Pinus halepensis</i>		E	35'	Med.	Moderate	50+
Retama - <i>Parkinsonia aculeata</i> - N		D	25'	Fast	Low to Mod.	To 30
Soapberry, Western or Jaboncillo - <i>Sapindus drummondii</i> - N		D	50'	Fast	Low	30-50
Sycamore - <i>Platanus occidentalis</i>		D	60'	Fast	High	30-50
Tenaza - <i>Pithecellobium pallens</i> - N		D	15'	Slow	Low	30-50
Tepeguaje or Great Lead-tree - <i>Leucaena pulverulenta</i> - N		D	40'	Fast	Moderate	30-50
Texas Mountain Laurel or Frijolillo - <i>Sophora secundiflora</i> - N		E	25'	Slow	Low	To 30
Wild Olive or Anacahuita - <i>Cordia boissieri</i> - N		E	20'	Slow	Low	30-50
Willow, Black or Sauz - <i>Salix nigra</i> - N		E	60'	Fast	High	30-50
Wright's Catclaw or Uña De Gato - <i>Acacia wrightii</i> - N		E	20'	Med.	Low	30-50
Palm, Chinese Fan or Palma China - <i>Livistona chinensis</i>		E	25'	Slow	Low	50+
Palm, California Fan or Palma California - <i>Washingtonia filifera</i>		E	40'	Slow	Low	50+
Palm, Mexican Fan or Palma Alta - <i>Washingtonia robusta</i>		E	60'	Slow	Low	50+
Palm, Texas Sabal or Palma De Micharos - <i>Sabal texana</i> - N		E	50'	Slow	Low	50+

Legend - N - Native, E - Evergreen, D - Deciduous

BENEFITS	POSSIBLE PROBLEMS	COMMENTS
Wildlife, White flowers, Orange fruit	Fruit drop	Drought tolerant, Gnarled trunk, Rough leaves
Shade	Webworms, Seed Drop	Limb decay from over pruning
Edible fruit		Used as an ornamental tree
Valuable wood, nesting sites		Thrives in wet soil
Black fruit are edible - sweet	Spines	Provides food and habitat for wildlife
Black fruit are edible - sweet	Spines	Provides food and habitat for wildlife
Shade	Twig & leaf drop, shallow roots	Tolerates beach, coastal conditions, select cottonless var.
Lavender trumpet-shaped flowers		
Wildlife, wood used for crafts	Freeze damage	Handsome dark foliage, white spring flowers
Wildlife, Fall color	Spider Mite, Elm leaf beetle	Drought tolerant
Attractive yellow flower, pink seedpod	Freeze damage, seed drop or seedlings	Rounded shape
Wildlife, wood used for tool handles	Spines	Fragrant white flowers
Wildlife - food	Spines	Blue to purple flowers
Wildlife	Spines	Browsed by deer
Shade, Wildlife	Shallow roots, limb decay	Fast grower
Fragrant Yellow Blooms - Spring	Spiny twigs, twig girdlers	Late freeze may eliminate blooms
Large fragrant white flowers - Spring	Chlorosis, messy, shallow roots	Leave lower limbs & add mulch to keep soil damp & cool
Strong wood, Fragrant blooms, light shade	Borers, Thorny branches, twig girdler	Adaptable to many conditions, good yard tree - light shade
Wildlife	Webworm	Fruitless variety available
Shade, Wildlife	Leaf diseases & insects	Very large leaves & acorns
Shade, Wildlife	Heavy acorn drop some years	Large spreading tree, dense shade
Wildlife	Spines	Yellow flowers
Edible nuts, Shade	Insects, Disease, Weak wood	Plant in well-drain soil, use for shade
Edible fruit, nesting sites		Wood for furniture
Wildlife, Windbreak	Pine tip moth	Tolerates alkaline soil, plant in well-drained soil
		Used as an ornamental tree
Food for wildlife	Prolific seeder, Thorny	Drought tolerant, yellow flowers - summer
Wildlife, fruit eaten by birds	Suckers first few years	Highly adapted for shade
Shade	Leaf drop in summer	
Wildlife, nesting sites	Spines	White, puffy, fragrant flowers
Wildlife, nesting sites		White balled-shaped flowers
Purple fragrant flowers - Spring	Poisonous seeds	Small ornamental tree, freeze tolerant
Wildlife, White flower & fruit	Freeze damage	Bold leaves contrast large flowers
Wildlife, nesting sites for birds	Weak, soft wood	Found along streams and ponds
Wildlife, nesting sites	Spines	Creamy, Yellow flowers
		Highly ornamental, refined look
		Trunk swollen at base
	Damage below 15 degrees	Long tapered trunk
Wildlife		Only Palm tree native to Texas, Cold tolerant

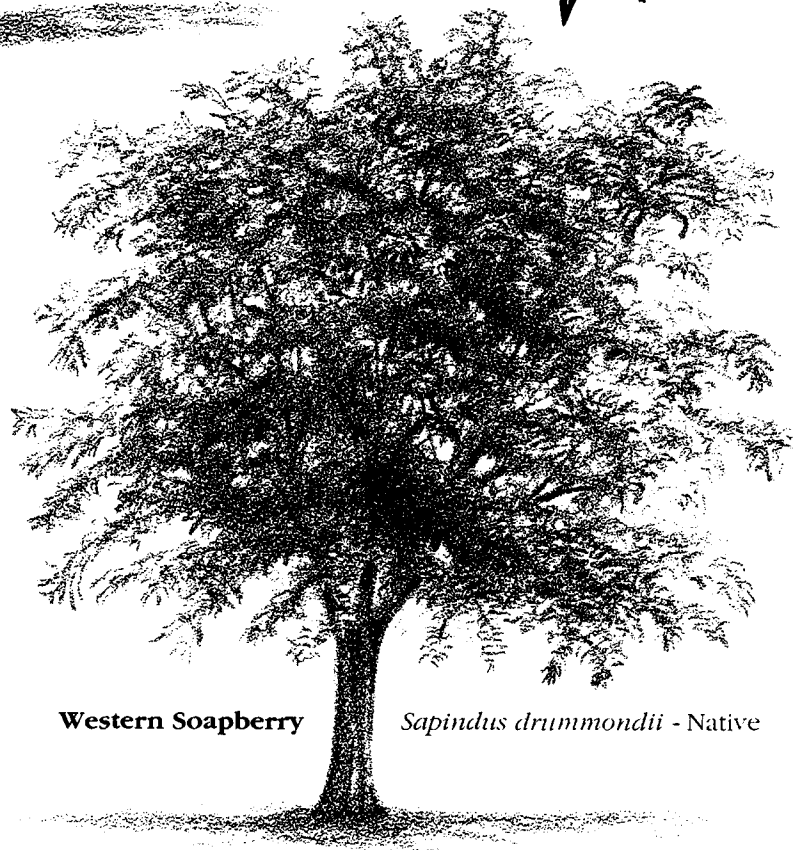


Pecan

Carya illinoensis - Native



Afghan Pine - *Pinus eldarica*



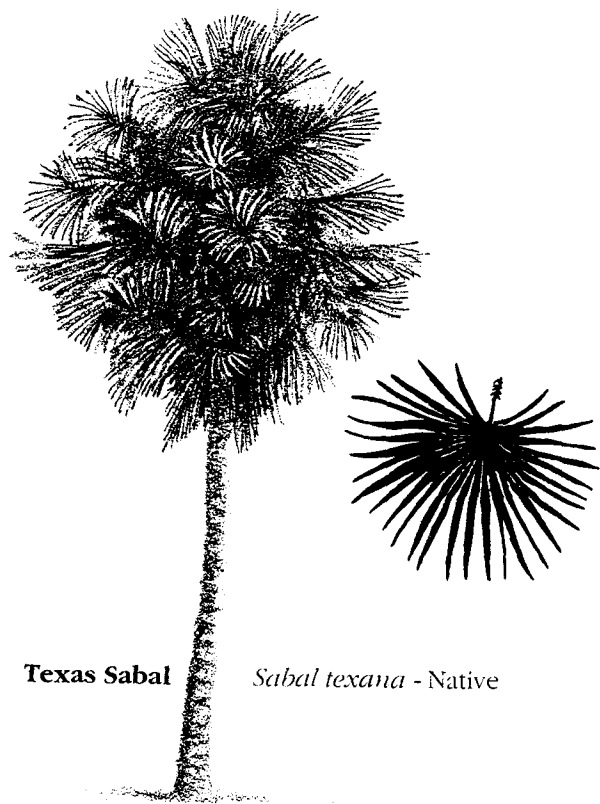
Western Soapberry

Sapindus drummondii - Native



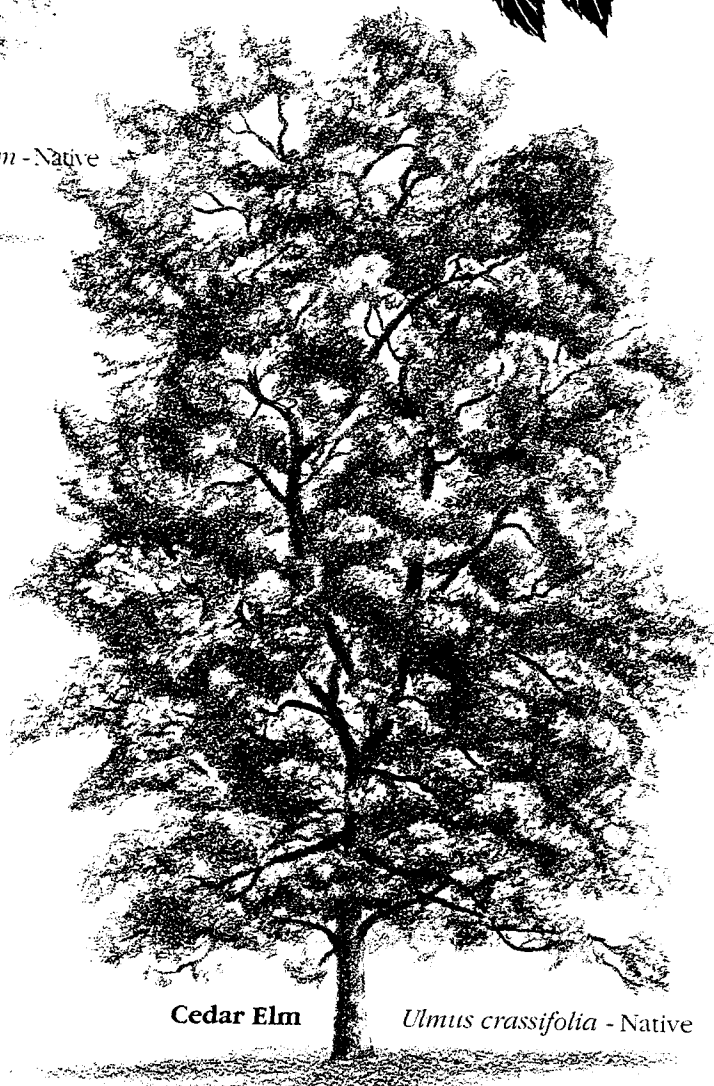
Montezuma Baldcypress

Taxodium mucronatum - Native



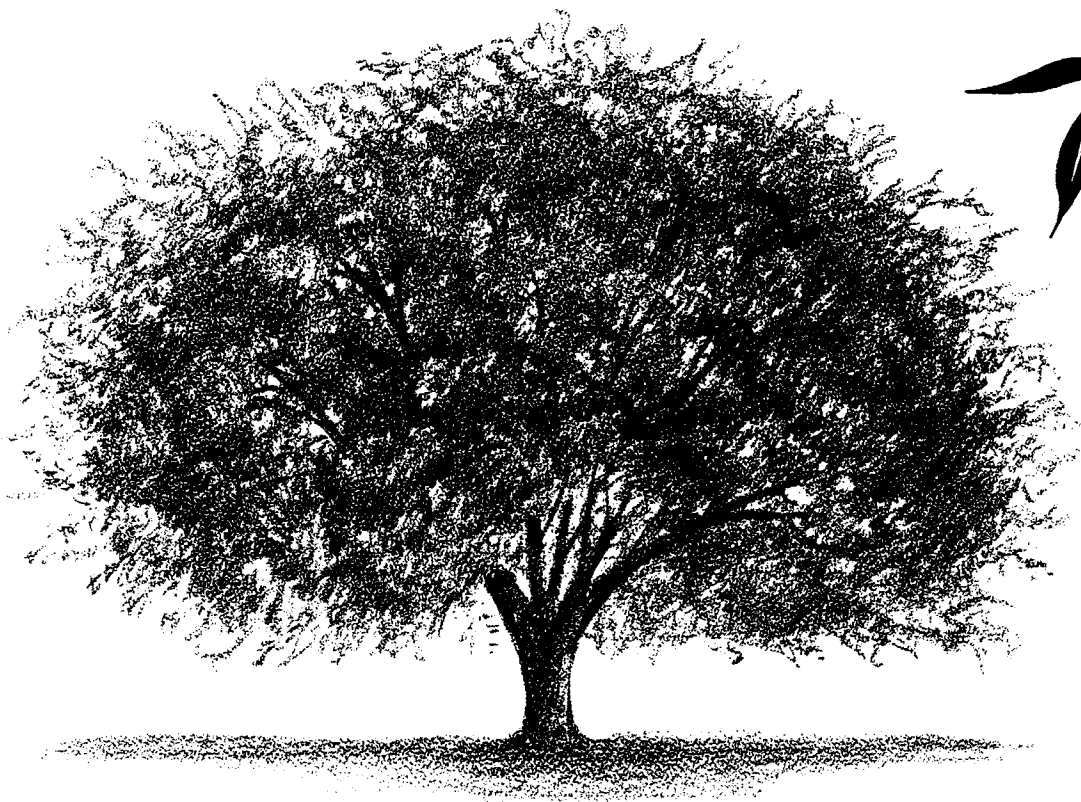
Texas Sabal

Sabal texana - Native



Cedar Elm

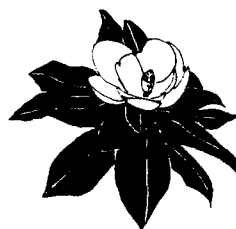
Ulmus crassifolia - Native



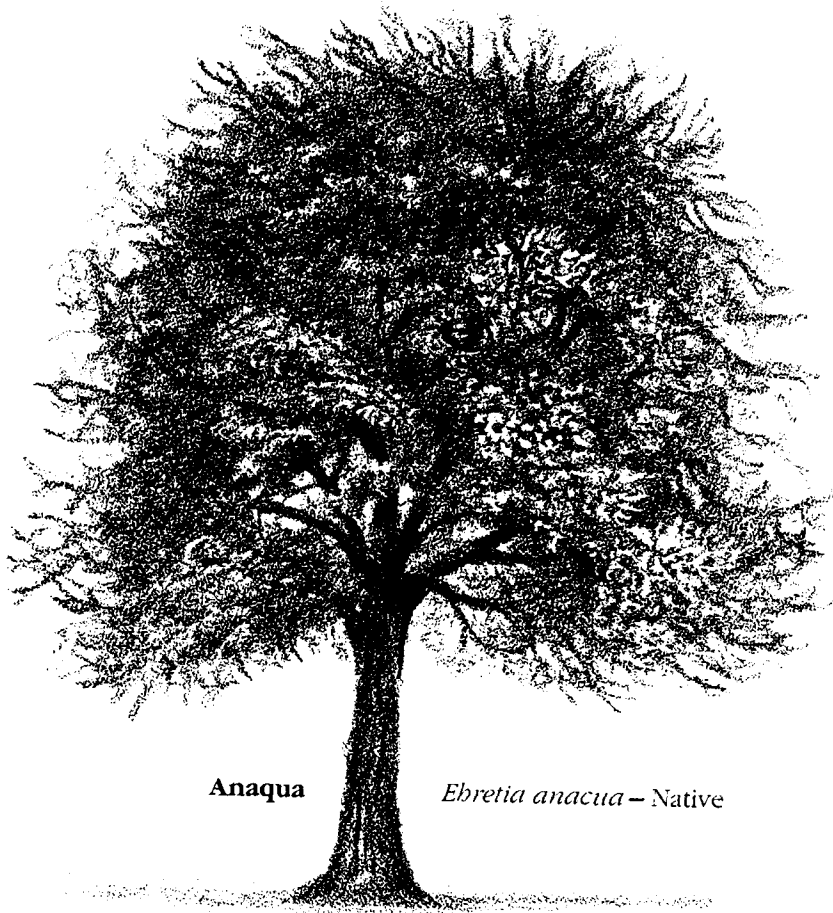
Rio Grande Ash – *Fraxinus berlandieriana* - Native



Honey Mesquite – *Prosopis glandulosa* - Native

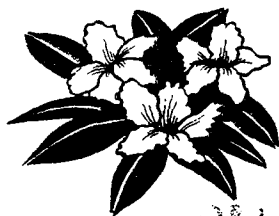
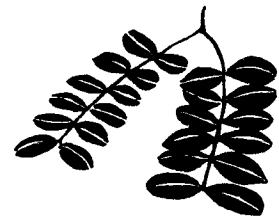


Southern Magnolia – *Magnolia grandiflora*

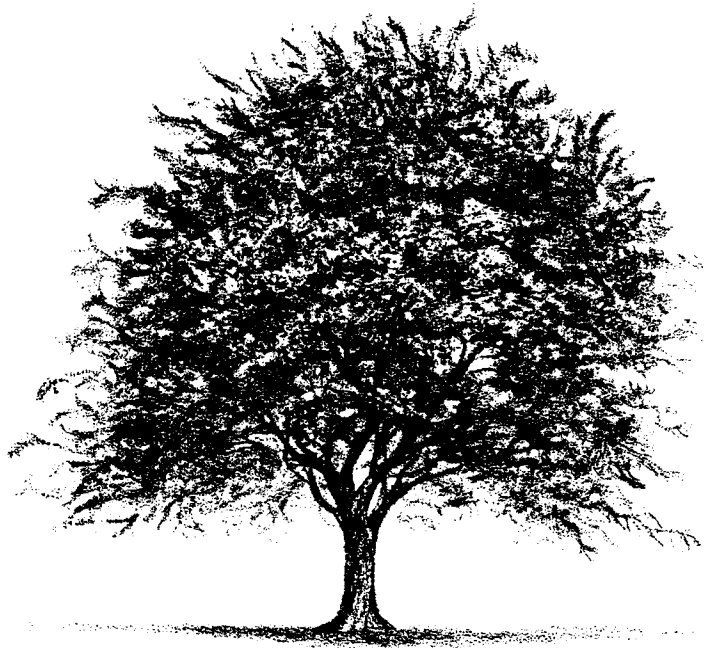


Anaqua

Ebretia anacua – Native



Wild Olive – *Cordia boissieri* – Native



Ebony – *Pithecellobium ebano* – Native

ADDITIONAL TREES FOUND IN THE LOWER RIO GRANDE VALLEY

These trees are planted in the Lower Rio Grande Valley but are not highly recommended or are in short supply in the nurseries. These trees may have several problems that won't make them desirable trees or cause them to be short lived. One can choose to plant them if you can tolerate their problems or are willing to provide additional maintenance.

Chinaberry or Canelon - *Melia azedarach* - Highly invasive and difficult to eradicate, fruit drop, weak wood, fruit intoxicating to birds under certain conditions.

Chinese Tallow - *Sapium sebiferum* - Highly invasive and difficult to eradicate, iron chlorosis, damage from freeze leads to early decline.

Colima or Lime Pricklyash - *Zanthoxylum fagara* - A LRGV native citrus which provides good cover and fruit for wildlife. Its catclaw-like prickles on twigs and trunk, reduce its desirability in landscaping unless planted where contact is minimal.

Jopoy - *Esenbeckia berlandieri* - Small tree, about 8' tall with whitish bark and a rounded top. Flowers summer through fall with creamy white flowers. Very few trees in the wild, but planted at several residences in the Valley.

Spanish Dagger or Palma pita - *Yucca treculeana* - N - One of the first plants to bloom in the spring. Flowers are creamy white and with reddish brown seed capsule. Slow growing, usually only about 10' tall. Hard to find in the nurseries.

Canary Island Date Palm - *Phoenix canariensis* - Subject to being killed by lethal yellowing; also invasive.

Windmill Palm - *Trachycarpus fortunei* - Does well only in colder climate than LRGV's subtropical climate; here very short lived, less than 5 years.

Queen Palm - *Arecastrum romanzoffianum* "Cocos Plumosa" - With attractive, dropping leaflets; variable freeze tolerance: most freeze north and west of Weslaco, may survive from Weslaco east and south.

There are several other specimens in the Valley, but that doesn't mean that they can be grown throughout the Valley. Consult your local nurseryperson and discuss with them your planting area and soil conditions. Just because some trees are not recommended does not mean that they won't survive in this area. We are just pointing out potential problems that may arise.

CITRUS

Citrus - Planted for several reasons; dark green leaves, fragrant blossoms, and colorful, delicious fruit. The following are some of the common varieties that will do well in the Valley.

Grapefruit - Ruby Red, Star Ruby, Rio Red, Henderson and Ray Ruby.

Oranges - Marrs, Navel, Valencia, and Hamlin.

Tangerine - No specific variety.

Tangelo - Cross between a grapefruit and tangerine. No specific variety.

Lemon - Eureka, Elizabeth, and Ponderosa.

H

OW TO CARE FOR ESTABLISHED TREES

INSPECTION

Before investing time and money in your tree, perform a thorough inspection to determine the health of the tree. If a tree is in poor health, with dying and decaying branches or trunk, it's probably wiser to remove the tree and plant a young, healthy tree. It will cost less to prevent a problem than to cure one, so treat any problems when they first occur. Contact your local arborist or tree care professional if you are uncertain about what should be done.

Stem decay and crown dieback are symptoms of poor health and indicate problems that began several years before. Also, smaller leaf size and reduction in the extension of shoots are signs that the tree's health has recently changed.

MULCHING

Using an organic mulch around the base of your tree is probably one the best things that you can do for the tree. Some of the benefits of mulch are:

- * Stabilizes soil temperatures and retains soil moisture which reduces soil cracking that can damage small roots.
 - * Reduces competition from grasses and weeds which rob water and nutrients from the tree.
 - * Improves soil fertility as the organic mulch decomposes.
 - * Helps prevent soil compaction and improves the soil structure.
- Increases aeration and improves temperature and moisture condition.
- * Eliminates the use of lawn mowers and weedeaters around the base of the tree. This equipment will damage the trunk and can kill the tree.

Organic mulches include shredded leaves and twigs, decomposed grass, or composted wood chips.

The mulch should be two to four inches thick and should extend out past the edge of branches for smaller trees. For newly planted trees extend at least two feet from the base of the tree.

FERTILIZING

Do not use weed and feed fertilizer near trees.

Fertilizers provide three major nutrients: nitrogen, phosphorous, and potassium, and other minor nutrients.

- A. Nitrogen - most critical, maintains the green color in the leaves and promotes normal twig growth.
- B. Phosphorous - assists in the maturation of tissues and stimulates root growth. Particularly important in flower, fruit, and seed production.
- C. Potassium - assists in the manufacturing of sugars and starches, helps tissues mature properly, and heightens the color of flowers.

Apply in the late fall through early spring. Choosing a fertilizer depends on soil pH, organic matter content, and soil composition. Consult your local garden center for a fertilizer blended for this area, preferably a slow release type.

Younger trees, less than five inches in diameter, should be fertilized yearly. Older trees usually don't need additional fertilizer because of their extensive root system.

WATERING

Proper watering is one of the most important factors in producing top quality plants. Check the soil and only water if dry. Improper watering may consist of too little, too much, the wrong method, or incorrect timing.

Trees should be watered, around the drip line, slowly to allow the water to soak in. Watering to a depth of 10" to 16" deep will allow the roots to penetrate deeper into the soil.

Trees lose water through a process called transpiration. If roots don't absorb water as rapidly as the leaves transpire, the plant wilts. Transpiration rate will be greater with higher wind speed, low humidity, and warmer temperatures.



TREE PRUNING

Trees should be pruned sparingly and only for a specific reason. Don't prune just to prune or because your neighbor is pruning his tree. Over pruning will reduce the value of your tree and your house. So when, why, and how to prune are outlined below.

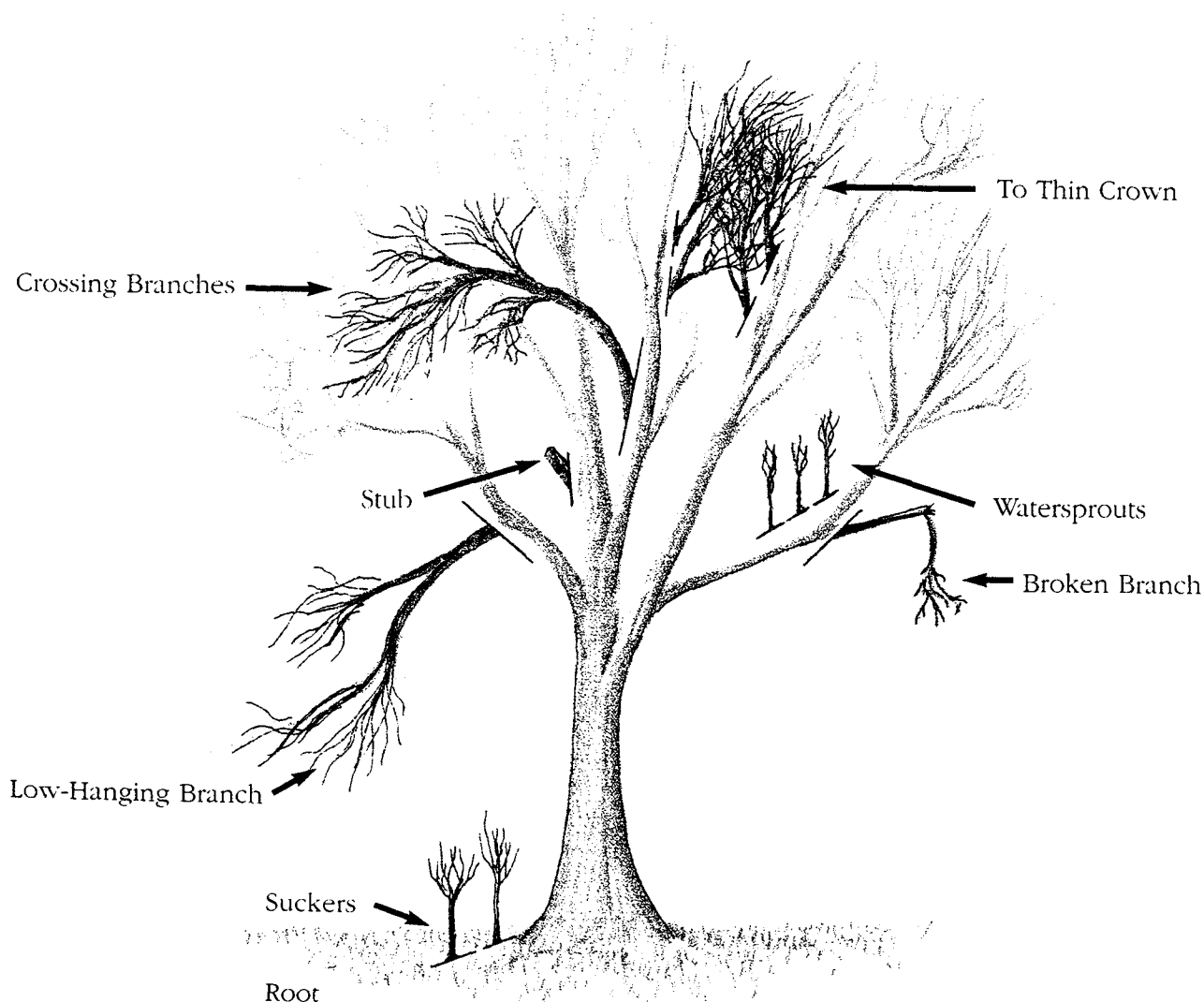
WHY PRUNE?

A. Remove dense growth by thinning the crown. This reduces wind resistance and the chance of branches and the trunk breaking in high winds.

B. Remove watersprouts and suckers. They are unsightly and rob water and nutrients from the rest of the tree.

C. Remove crossing branches before they start rubbing against each other. The rubbing will create a wound and give insects or disease place for entry into the tree.

D. Remove dead or broken branches when they occur. If left, insects and disease may enter the tree.



E. To direct or control growth. Remove low branches over a sidewalk or driveway or branches growing against a building. Prune back to a lateral bud or branch that points upward or away from the building.

WHEN TO PRUNE?

A. Light pruning and removing dead branches can be done at any time.

B. Winter is the best time because there will be less sap flow, and will result in a vigorous burst of new growth in the spring.

C. Prune spring flowering trees after they bloom (redbud and flowering fruit trees). Prune summer and fall flowering trees (crape-myrtle) in the winter.

D. The best time to prune live oaks is in late June through September and January through

early February. Pruning live oaks during the rest of the year will make them more susceptible to the oak wilt disease.

HOW TO PRUNE?

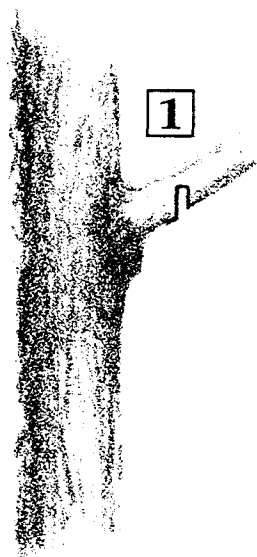
A. Inspect the tree first and determine what needs to be pruned.

B. Be careful never leave a stub. Always prune back to the branch collar or ridge or to a lateral bud. When removing a branch always prune back to the main trunk or the next largest branch. Don't cut into the branch collar.

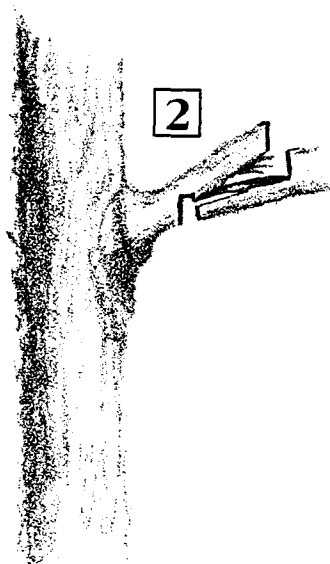
C. Always make a clean cut and never jagged. A smooth cut will heal the quickest.

D. On large branches use the three cut method as illustrated below.

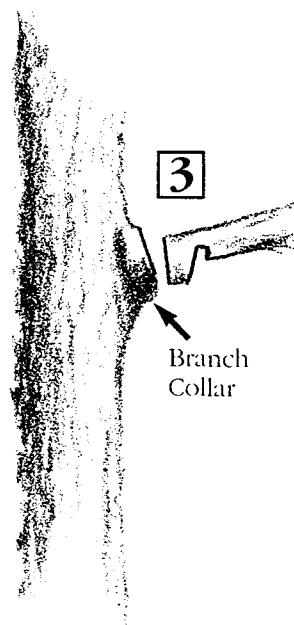
Use this method to remove a limb with a saw, so that the limb does not "tear" down the remaining branch or trunk. Lopping shears should be used on branches smaller than 3/4" in diameter. Remove branches larger than 3/4" (with hand or chain saw) using the following three-cut method:



1. Undercut 12"-24" up from the branch collar. This stops the bark from tearing.



2. Make the second cut from the top all the way through the branch, 2" to 3" above cut 1.



3. The final cut should be just beyond the branch collar. Support the stub so it does not tear the bark.

NEVER TOP A TREE

Topping is an improper pruning technique which removes large branches and leaves short stubs off the main trunk. Topping is the worst thing you can do to the health of your tree. If a tree gets too large or is growing into utility lines it can be pruned properly to reduce its size, yet retains its value. Topped tree will be in greater danger in a hurricane, slowly begin to die and lose its value immediately. Claims by professional tree toppers that topped trees will provide more shade and live longer are false.

REASONS NOT TO TOP YOUR TREE.

- A.** Removes too much leaf surface which the tree needs to produce food.
- B.** Remaining branches may get sunscald.
- C.** Large stubs can't heal properly and invite insects and decay.
- D.** New branches form weaker branch angles and break more easily in strong winds.
- E.** The tree will produce rapid new growth and form a denser crown. The tree will tend to be more susceptible to damage from high winds.
- F.** Some older trees won't re-leaf after a severe pruning and then will die sooner than normal.
- G.** Topping a tree destroys its natural shape and beauty.
- H.** It will reduce the value of the tree and the property, add expense to remove the tree and replace it when it dies, increase liability from weakened branches, and increase future maintenance.

REMEMBER TO BE SAFE.

- A.** Keep your tools sharp.
- B.** Wear safety boots, safety goggles and leather gloves.
- C.** Never use a chainsaw while on a ladder.
- D.** Leave major tree pruning to a professional arborist.
- E.** Take care to avoid electrical lines.

PROPER PRUNING TOOLS.

- A.** Pruners - use on twigs and smaller branches up to about 1/2".
- B.** Loppers - use on branches from 1/2" to about 1 1/2".
- C.** Hand saw - use on larger branches.
- D.** Pole saw or pruner - use on high branches.
- E.** Chain saw - Use on largest limbs.

T EXAS BIG TREE REGISTRY

Partial Listing Of Trees

(Only From Cameron, Hidalgo, Starr, & Willacy Counties)

Like the national big tree program, the Texas big tree program, which is coordinated by the Texas Forest Service, has grown considerably over the years. Trees within five points of each other are listed as national co-champions. Trees marked with an (*) are national champions.

For more information on Texas champion trees and nomination procedures, contact: Urban Forester, Texas Forest Service, 633 Walnut Street, Abilene, Texas 79604-0060, phone 915-676-5827.

For more information on the Texas Forest Service Contact:

Forest Resource Development Department
College Station, Texas 77843-2136
phone: 409-845-2641

TEXAS FOREST SERVICE - A part of the Texas A&M University System
An Equal Opportunity Employer

NAME	cir.	ht.	cr. spr.	index	date
* ACACIA, BLACKBRUSH <i>Acacia rigidula</i> - Hidalgo county Owner: Santa Ana National Wildlife Refuge Nominator: Joe Ideker	9"	20'	18'	34	1995
* GUAJILLO <i>Acacia berlandieri</i> - Starr county Owner: Albert Schwartz Ranch Nominator: Fleet S. Lentz	18"	15'	12'	36	1989
* HUISACHILLO <i>Acacia schaffneri</i> - Hidalgo County Owner: John & Audrey Martin Nominator: Joe Ideker	9"	14'	21'	28	1995
ALLTHORN <i>Koeberlinia spinosa</i> - Starr county Owner: Mauricio Garza III Nominator: Fleet S. Lentz	26"	11'	14'	41	1989
* ANACAHUITE <i>Cordia boissieri</i> - Hidalgo county Owner: A.S. Farrell Nominator: William McWhorter	74"	25'	33'	107	1995
* ASH, BERLANDIER <i>Fraxinus berlandierana</i> - Cameron county Owner: Martha Duncan Nominator: Brian Sichel	234"	65'	78'	319	1995
* AVOCADO <i>Persea americana</i> - Hidalgo County Owner: William MacWhorter Nominator: Joe Ideker	45"	21'	18'	71	1992
* BALDCYPRESS, MONTEZUMA <i>Taxodium mucronatum</i> Cameron county Owner: Thomas H. Watkins Nominator: Sue Griffin	268"	85'	87'	375	1995
* BARRETA <i>Helietta parvifolia</i> - Hidalgo county Owner: Lower Rio Grande Valley National Wildlife Refuge Nominator: Terry Rossinol	18"	34'	25'	58	1988
* BLACKBEAD, EBONY <i>Pithecellobium flexicaule</i> - Hidalgo county Owner: Dr. Raul Villanueva Nominator: Joe Ideker	173"	53'	60'	241	1990

NAME	cir.	ht.	cr. spr.	index	date
*BLUEWOOD <i>Condalia hookeri</i> - Hidalgo county Owner: Hidalgo County Irrigation District #2 Nominator: Joe Ideker	77"	30'	26'	114	1989
*SAFFRON-PLUM <i>Bumelia celastrina</i> - Hidalgo county Owner: Lower Rio Grande Valley National Wildlife Refuge Nominator: William MacWhorter	55"	30'	32'	93	1991
*CAESALPINIA, MEXICAN <i>Caesalpinia mexicana</i> - Hidalgo county Owner: City of Weslaco Nominator: Joe Ideker	25"	27'	19'	57	1995
CAMPHOR-TREE <i>Cinnamomum camphora</i> - Hidalgo county Owner: Hinojosa Development Co. Nominator: Mrs. Merie Emerson Melcher	186"	67'	45'	264	1982
*ESENBECKIA, RUNYON'S <i>Esenbeckia runyonii</i> - Cameron county Owner: Elias Cavazos Nominator: Brownsville Beautification Commission	41"	24'	21'	70	1995
*HUAJILLO <i>Pithecellobium pallens</i> - Hidalgo county Owner: Santa Ana National Wildlife Refuge Nominator: Joe Ideker	8"	21'	13'	32	1991
JERUSALEM-THORN <i>Parkinsonia aculeata</i> - Hidalgo county Owner: Santa Ana National Wildlife Refuge Nominator: Joe Ideker	17"	31'	25'	66	1992
*LEUCAENA, GREAT or TEPEGUAJE <i>Leucaena pulverulanta</i> Cameron county Owner: Audubon Sabal Palm Grove Sanctuary Nominator: Joe Ideker	33"	27'	26'	67	1995
*LIGNUMVITAE, TEXAS <i>Guaiacum angustifolium</i> - Hidalgo county Owner: Santa Ana National Wildlife Refuge Nominator: Terry Fears	32"	26'	22'	64	1975
LOTEBUSH <i>Ziziphus obtusifolia</i> - Hidalgo county Owner: Mrs. Fleet S. Lentz Nominator: Fleet S. Lentz	14"	14'	9'	30	1989
PALMETTO, CABBAGE <i>Sabal palmetto</i> - Hidalgo county Owner: Alamo Bank of Texas Nominator: Joe Ideker	30"	25'	11'	58	1989
**TEXAS SABAL <i>Sabal texana</i> - Hidalgo county Owner: James & Dorothy Robinson Nominator: Joe Ideker and Bill MacWhorter	61"	50'	15'	115	1989
**TEXAS SABAL <i>Sabal texana</i> - Cameron county Owner: Thomas H. Watkins Nominator: Sue Griffin	61"	45'	20'	111	1995
*PALOVERDE, TEXAS <i>Cercidium texanum</i> - Hidalgo county Owner: Las Palomas Wildlife Management Area Nominator: Joe Ideker	37"	34'	34'	80	1995
WILLOW, SANDBAR or COYOTE <i>Salix exigua</i> - Hidalgo county Owner: Lower Rio Grande Valley National Wildlife Refuge Nominator: Joe Ideker	19"	39'	16'	62	1995
*YUCCA, TRECUL <i>Yucca treculeana</i> - Cameron county Owner: Lower Rio Grande Valley National Wildlife Refuge Nominator: William MacWhorter	24"	30'	9'	56	1990

DON'T BAG IT PROGRAM

This program was started by The Texas Agricultural Extension Service as an environmental action that could not only: 1) save the Valley money by significantly reducing the volume of waste material hauled to its sanitary land fill, but also 2) reclaim organic matter for use by anyone engaged in horticultural activities. The program specifically targets the wanton discarding of grass clippings and tree leaves from the residential yard.

These materials are so easy to compost that the program has a great deal of logic to support it. As an enhancement to its credibility, part of the program sponsored selected individuals in a year-long program of home lawn care whereby special watering, mowing, and fertilizing techniques proved to develop a better lawn at less cost and decreased the clippings handled or discarded.

Although this program has had difficulty in being accepted by a large enough segment

of the community, there is no question as to its merit to both the municipality and the individuals who participate in it.

Contact your local Extension office for your county.

Cameron County
650 E. Highway 77
San Benito, Texas
78586

Hidalgo County
Box 600
Edinburg, Texas
78540

ADDITIONAL INFORMATION ON NATIVE PLANTS:

**NATIVE PLANT PROJECT - P.O. Box 1433,
Edinburg, Texas 78540-1433**

Dedicated to promoting the use of Lower Rio Grande Valley native plants in landscaping and protecting LRGV native plants, natural habitats, and environment. Publications available on LRGV native plants.

LIST OF NURSERIES

Mission

Eggers Acres
581-7783

McAllen

Barrera's Nursery
686-1706

Valley Garden Center
682-9411

C.S. Waugh's Nursery
686-5591

Grand Oak Junction Nursery
631-6686

Edinburg

Reyes Nursery
380-1528

Heep's Nursery
381-8813

Harlingen

Stuart Place Nursery
428-4439

Grimsell Seed Company
423-0370

Ned's Plant Market
425-8733

Weslaco

Ballard's Nursery
565-4820

La Feria

Bence Nursery
797-2021

Texas Native Nursery
797-2102

Olmito

Jordan Nursery
350-4387

San Benito

Garden City
399-3999

We do not represent this to be a complete list of nurseries and refer interested parties to their local nurseries and the Yellow Pages for more information.

ACKNOWLEDGEMENT

Written by Brian G. Sichel, Urban Forester - Texas Forest Service

With special thanks to Joe Ideker - Native Plant Project, Steve Benn - Texas Parks and Wildlife, Beau Hollingsworth - Lonestar Growers, Mario Perches - Texas Agricultural Extension Service, Chris Best - Lower Rio Grande Valley National Wildlife Refuge, Steve Thompson - Laguna Atascosa National Wildlife Refuge, Bob Lonard - UTPA, Rose Farmer - Sabal Palm Grove Sanctuary, John Fucik, James Matz, and many others.

Brochure Illustration: Robert O'Brien Design

Graphic Design: Barbara McDowell

REFERENCES

A Field Guide To Texas Trees. Benny J. Simpson. 1988. Texas Monthly Press, Austin.

Checklist of woody plants native to the Lower Rio Grande Valley of Texas. Joe Ideker. 1994 revision.

Native Texas Plants. Landscaping Region by Region. Sally Wasowski with Andy Wasowski. 1988. Texas Monthly Press. Austin

Native Trees of the Lower Rio Grande Valley. 1994. Native Plant Project, Edinburg.

Texas Trees: A Friendly Guide. Paul W. Cox and Patty Leslie. 1988. Corona Publishing, San Antonio, Texas.

Tree City USA Bulletins. The National Arbor Day Foundation. 100 Arbor Avenue, Nebraska City, Nebraska. 68410. Bulletins are available by sending \$10 dues to join the Friends of Tree City USA.

Trees, Shrubs, and Cacti of South Texas. James H. Everitt and D. Lynn Drawe. 1993. Texas Tech Press, Lubbock.

Trees, Shrubs, and Woody Vines of the Southwest. Robert A. Vines. 1960. University of Texas Press, Austin, Texas.

VALLEY PROUD ENVIRONMENTAL COUNCIL

MISSION STATEMENT

The mission of the Valley Proud Environmental Council, a non-profit 501(C-3) organization, is to preserve the natural beauty and environment of the Lower Rio Grande Valley of Texas and Mexico, by forging partnerships between grassroots volunteer organizations and the public and private sectors to improve the quality of life, to enhance economic development and tourism, and to conserve public and natural resources through education and public awareness activities, including those that encourage proper tree planting and maintenance, solid waste management and responsible behavior by all those who live and visit here.

We greatly appreciate your support to make the
LOWER RIO GRANDE VALLEY
a better place to live, work and raise our children.

To become a member, please call or write:

Valley Proud Environmental Council

513 East Jackson Street, Suite 304

Harlingen, Texas 78550

Telephone - 210-412-8004



PLANT TREES !!!