

Post Oak Trees

Why this tree is so important to the Southern Cross Timbers, Arlington, Texas and the Dallas Fort Worth Metroplex

Known as the Royal Oak the post oak tree is truly the native and predominate tree of the Southern Cross Timbers, Arlington, Texas and the Dallas Fort Worth Metropolitan Area.

The early European explorers of this region of the country wrote in their journals that the major specie of tree by numbers was the post oak.

A source for such information is in the book – **The Cast Iron Forest** by Richard V. Francaviglia, a former University of Texas at Arlington, history professor.

The post oak tree has been able to survive and thrive in nature with drought conditions, fire and poor, dry, sandy soils in the Southern Cross Timbers and DFW Area.

The specific characteristics of the post oak tree has allowed it to survive particularly harsh weather conditions and poor soils.

Environmental conditions (natural soil quality, temperature and rain fall) in geographical areas assist nature in determining whether there will be trees, a dominate tree specie or whether many different tree species will grow, being supported by their soils proportionately, in a given region.

New England is a location where many different species of trees will grow well. The soils are of good quality, the temperature is more mild and the rainfall greater than the Southern Cross Timbers.

If it hadn't been for the presence of the post oak tree woodlands in the North Central Texas Region over hundreds of years the soils would have been far less suitable for cultivation and propagation.

Scientists inform us that before the post oak tree arrived in the Southern Cross Timbers the soils were semi-arid similar to the soils of New Mexico and Arizona.

The post oak tree amended the soils for the better over time, in what is now the North Central Texas Region, one tree canopy at a time.

The bark of the post oak is particularly thicker, cork like with more insulative characteristics than other species of trees that have grown here over hundreds of years making them more able to survive the heat of lightening strike fire that ignited trees of other species when lightening strike fire did occur.

Post oak tree leaf litter, bark and rotting wood material tend to stay in place as compared to the same material of other trees that can grow in unattended nature areas in the Southern Cross Timbers.

It is the relationship between the decomposing post oak material and the small diameter, diffuse root system of the post oak that allows for this healthy soil matrix accumulation.

This native tree material creates a soil organic matrix that helps to insure not only that the post oak tree roots are protected from the heat of the Texas sun but, also helps to retain water from rain fall refilling local watersheds instead of water runoff and erosion occurring when soils become chronically dry by tree species with high surface root density characteristics.

Post oak trees are able to live 450 years or more in favorable conditions. The condition primarily being that trees of other species are not in the root zone potential of the post oak.

This is because post oak tree roots are slow growing, diffuse and small in diameter. Every other tree species known to grow in this region have faster growing, more aggressive, larger diameter roots that take a disproportionate amount of water and minerals from the soils leaving too little for the post oak tree to survive in the area of the tree of other species.

Trees with high surface root density characteristics have been on the increase in the Southern Cross Timbers since the Anglo and Asian settlements bringing with them their tree and plant seedlings and seeds, since the farmer and rancher no longer manages the land he once did allowing pioneer species trees and shrubs to grow on undeveloped land, since in more recent years policy dictates we suppress and extinguish lightning strike fires even if they are invasive species / junk tree woodlands away from developments and since controlled burn woodland and prairie fires are no longer the norm.

The *crowning achievement* of plant life in the Southern Cross Timbers is the post oak tree and we are losing the post oak at an ever increasing rate because the trees with high surface root density characteristics are evermore being planted or allowed to grow within the root zones of the post oak tree.

If we are ever to gain control of the continued loss of the post oak tree we will have to emulate as closely as possible the way nature held at bay the numbers of invasive species trees (lightning strike fire) before Anglo settlements, utilizing the chainsaw, chipper, forestry mower and lawn mower.

This relationship and incompatibility of these tree species occurs whether in nature areas or areas where irrigated water is available.

The larger the trees the more noticeable the post oak limb die off and discolorations and falling away of bark - white, yellow and brown patches of Hypoxylon canker fungus on the trunk of the tree and sometimes on the bottom side of an affected limb.

Although these dis-ease symptoms occur it takes many decades for the symptoms to manifest yet they are easily avoidable by simply removing the offending tree or aggressive shrub adjacent to the post oak tree.

Post oak tree roots rescind in this environment and there is discussion that there are allelopathic effects on the post oak from the tree roots of other species as well.

When trees become very large a decision must be made as to whether the trees are manageable in close proximity to homes, sidewalks and driveways, etc.

Here it should be noted that the post oak tree, even when it grows very large heaves less on concrete foundations and slabs than any other tree known to grow in this region.

The homeowner and land manager who practices lawn and tree care with knowledge of post oak tree characteristics will find that the post oak tree plays a major role in the most scenic and pleasant environment in the outdoors of the Southern Cross Timbers.

Although the post oak tree does have pollen as any other tree, it's pollen appears to be less aggravating to people compared to the many other tree and shrub species that currently grow in the Southern Cross Timbers.

Property owners fortunate enough to have post oak trees on their property should pay particular attention to these trees, give them plenty of room to grow and spread their roots.

Remember it takes more than a human life span for a post oak tree to grow very large and majestic.

When it is time to fertilize the lawn around post oak trees organic fertilizer is preferred and use of weed killers and pre-emergents are not recommended.

Conventional fertilizers and especially weed killers can be damaging to the small diameter roots of the post oak tree.

Because of the diffuse root system and small diameter roots of the post oak tree - turf grass is allowed favorable conditions for growing thick healthy lawn turf in all areas of the post oak tree root system and all the way up to its tree trunk.

Most other popular tree species growing in the Southern Cross Timbers Region have more of a tendency, when they grow large enough, to have large diameter tree roots growing across the lawn turf creating voids in the turf and because these trees with their large roots take a disproportionate amount of water and minerals from the soils their lawn turf requires more watering creating a tendency to over water resulting in lawn turf fungus susceptibility.

Proper watering practices require oxygen along with water while watering any plants. This includes the post oak tree and it does not like to have its roots flooded.

Repeated heavy spraying of post oak tree trunk bark is also unhealthy for the tree bark and can eventually cause the trunk bark to dis-adhere from the wood of the tree allowing an entry sight for ants and other insects into the tree.

Ants and insects that frequently accumulate underneath bricks and pavers in lawn turf feed on tree roots. Because post oak tree roots are small in diameter these insects underneath brick pavers can do great harm to the post oak tree root system and cause the tree to go into decline.

Lawns with simply post oaks and St. Augustine or Bermuda turf grass are known for requiring less water, less fertilizer, having less issues with lawn turf fungus and because post oaks have very little exterior sap there are usually less biting insects in these naturally nicely arranged areas.

The post oak tree is known for surviving ice and wind storms better than any other species of tree throughout the South. This is because of not only strong wood but, because like its diffuse root system its tree canopy is diffuse as well.

This diffuse canopy allows for wind and ice to more readily pass through its canopy during storms compared to other more dense canopies of other species of trees. As a result of this there is less tree limb breakage from wind or weight from ice of post oak tree limbs during these storms.

Because the post oak tree canopy is diffuse the canopy itself requires much less periodic pruning than other species of trees.

Once the tree has reached the size where its time to prune the lower limbs to enable foot traffic to walk under the tree canopy there is little need to ever prune the remaining canopy.

Pruning cuts on oak trees in Texas and surrounding areas with similar weather patterns need to be sealed with TreeKote Tree Wound Dressing. Plastic roofing cement is also an acceptable wound dressing. Aerosol cans of pruning paint will not allow for a thick enough dressing coat.

Oak tree pruning cuts and wounds should be sealed in Texas because the dry, hot weather creates tree wood shrinkage and cracking at the prune cut sight.

This cracking at the pruning cut sight allows for insects and microbes to enter the sight and tree carbohydrate to exit the tree if not sealed by thick tree wound dressing.

The Texas AgrLife Extension is in concurrence with this subject.

50 years ago or more if a post oak woodland required periodic maintenance or management it usually meant removing green briar and cedar elm trees.

One city that is squarely addressing cedar elm characteristics and issues is Albuquerque, New Mexico. The City of Albuquerque has completely banned planting and growing cedar elm trees on public and private property.

Albuquerque's decision was based on the fact that the pollen of the cedar elm caused too much aggravation of their citizens to have the tree in their city, that the tree spread disease and created chronically dry soils making it difficult for other plants within the vicinity of the tree to survive and thrive.

The cedar elm tree is a thicket forming tree plus it is susceptible to many types of fungus. Many insects and microbes are attracted to the cedar elm tree, for one because of their sap, including the elm bark beetle.

The elm bark beetle and the many other insects that make the cedar elm tree home spread the fungus through the air and root system of the cedar elm tree to soils, native grasses, lawn turf and adjacent trees including the post oak tree.

Because many species of trees and shrubs have been introduced to North America and planted or germinated in the North Central Texas Region there are more invasive species in post oak woodlands today.

Although the cedar elm tree and green briar in the past was the most damaging to the post oak tree, now post oak woodlands have been invaded by Chinese and Japanese privet, cherry laurel, Siberian elms, honey locust trees, hackberry trees and Chinaberry trees. There are a few more that are a problem for post oak woodlands but, to a much less extent.

All of these trees and shrubs invade the root zones of the post oak tree resulting in the post oak trees' roots to rescind. When this happens the post oak eventually goes into decline, periodically and one by one their tree limbs become non-vital and the tree becomes susceptible to Hypoxylon canker fungus.

Local municipalities should showcase nature's capes *not* wildscapes.

A post oak trees' root zone is not interfered by under-story trees for example the dogwood tree or red bud tree. Shrubs and vines that do not grow roots with large diameters are also more acceptable to the roots of the post oak tree.

Forestry mowers make quick work of vegetation management for post oak woodlands in the Southern Cross Timbers. There are local volunteers, college and university students and faculty all across North Central Texas eager to assist with returning post oak woodlands and Savanna's to their pre-settlement condition.

Oak woodland restoration is popular across the country and have changed communities and regions for the better. So far this badly needed and virtuous endeavor has not been recognized and excepted for this region by policymakers in Austin, Texas and the North Central Texas Region.

Arlington, Texas has been an entertainment and host city since the 1960's. In these early years there was little invasive species trees and shrubs in Arlington.

Today Arlington, Texas has an abundance of invasive species trees and shrubs all through its inter-city, its multi-billion dollar entertainment district and in its public parks.

The insect and wildlife population is out of control. Last Summer a well known well thought of Arlington church minister, an Arlington native and SMU School of Divinity graduate died of West Nile Virus. Local domestic pets are being hauled away from their homes and eaten by bobcats, coyotes and other wild animals.

Currently Arlington, Texas as a host city for two world-renowned professional sports franchises, Six Flags Over Texas, a convention center, a world class university and much more while it has one of the filthiest, invasive species, pollen aggravating list of plants growing on public property of any city in the U.S.

Weeds can germinate in post oak woodlands if improper mowing has occurred in the past. Cutting the post oak woodland floor too close to the ground, which is *modus operandi* for the Arlington, Texas Parks Department, results in dead prairie grass, dead post oak trees and a displaced insulative organic layer necessary for the post oak tree roots to remain healthy.

Post oak woodlands should be mowed infrequently and when they are mowed, mowed just before or just after a rain (within a day or two), at the end of the day so the sun does not dry out the cut grass blade tip, using the smallest mowing equipment that will do the job, with a sharp cutting blade and using the highest mower deck setting.

Texas native woodlands, Savanna's and prairies should be mowed using our highest sensibility yet often enough so area citizens can walk and pass through these natural areas and enjoy them.

This sound effort, when done correctly, is good for the native post oak tree, prairie and woodland floor reducing matting and fungus growth that can occur when these areas are hardly ever mowed.

In most cases even in hot Summer months prairie grass will remain green if these guidelines are followed.

Note: Weeds are more prevalent in poor, dry soils. Because post oak tree roots are small in diameter, diffuse and slow growing whether in nature preserves or a lawn, and because the trees leaves and rotting organic material help build the organic soil matrix, weeds overall are less prevalent around post oak trees in the hot, dry Southern Cross Timbers especially using proper mowing technique.

Skill and care need to be applied to the propagation and transplanting post oak trees.

Post oak trees that get a good start typically begin in RootMaker Air Pruning Propagation Trays and Pots or a similar brand of air pruning product.

Tree seedlings grown make more roots from the start using this method allowing the post oak tree to be transplantable and grow faster.

Post oak trees, even though slow growing, make an excellent tree for urban areas, downtown's, restaurants, around schools and sports fields.

When we teach school children about trees and shrubs the best and most native trees should be first on the curriculum.

What stands in the way of convincing city, county, and state governments, the Texas Parks and Wildlife Department and the Texas Department of Transportation Department to plant post oaks?

In modern day America structures are built and torn down faster than the life expectancy of the post oak tree.

Because of this an added option is to make available post oak trees that are in very large pots or containers that can be lowered in the ground with a tractor in urban areas and moved when they grow too large for their current space to a location where there is more room – for instance a park, a school, a boulevard or along a highway.

This is a much better option than planting disposable (street trees that are supposedly less expensive) for instance cedar elm trees because they dirty the air with the most irritating pollen in the Southern Cross Timbers, heave and crack curbs and sidewalks causing pedestrians to trip and fall and make it almost impossible to grow lawn turf in close proximity to them.

Post oak trees have been transplantable since the development of RootMaker Trays and Pots in 1968. Municipalities and Independent school districts have had 40 years to take advantage of this proven tree growing system for their communities and school grounds while growing the most appropriate tree species of the Southern Cross Timbers the post oak tree.

At the municipal level community groups, for example the Arlington Conservation Council in Arlington, Texas are fairly limited to what they are allowed to do on the subject of returning a municipal or taxpayer owned post oak woodland to its pre-settlement condition.

The ACC is allowed a small 2 acre patch of a large park where they can showcase small native plants and flowers; this area being partially surrounded by cedar elm trees, and other junk trees and Chinese privet causing its area post oaks to go into decline from Hypoxylon canker fungus infestation.

The Wildscape at it is called does sell to the public these native plants, that do germinate and grow in nature on their own if the Savanna's, prairies and woodlands are managed correctly.

This selling of these plants does put back money into the accounts from an otherwise publicly funded effort.

By and large no community effort in the major cities in the Dallas Fort Worth Metroplex is allowed to restore a publicly owned post oak woodland even though these overgrown areas with too many mosquitoes and wild animals are a danger to adjacent neighborhoods and their city's population as a whole.

These unnatural overgrowth's are encouraged by policymakers and followers because the more tree inventory, canopy and ground cover in a city the more there is the opportunity for public money from outside sources for the city.

There's nothing wrong with more greenery, that's a good thing but, cities plant lists need to be amended to put the post oak tree at the top of the list with no close second and the junk trees, street trees, trees with high surface root density characteristics need to be all but removed from the tree plant list.

This revised tree list would be congruent to the tree list that nature gave Arlington, Texas, the Dallas Fort Worth Area and the Southern Cross Timbers over hundreds if not thousands of years ago.

It's never a pleasure for notable people with sensibility and decency to remind policymakers of their misjudgment. It is a responsibility.

As it stands now we have the Texas Parks and Wildlife Department through their Master Naturalist Program encouraging their students and followers that every plant, insect and animal (including invasive species) that grows has great virtue.

If this were the case nature would have provided all the invasive species plants, insects and wild animals in the Southern Cross Timbers before the Anglo's ever came to settle the region.

Nature did it correctly before the Anglo came and artificially changed the outdoors of the Southern Cross Timbers.

We can have more greenery but, we need the native, right kind of greenery.

What we have now and what our policies are now is not sustainability.

What we have now is mongrelism.

Article 4, Section 4 of the U.S. Constitution guarantees its citizens a Republican (representative) Form of Government yet on the subject of vegetation management for the long term well-being of the flora and fauna of local, taxpayer owned, nature preserves and the native post oak trees; homeowners adjacent to these what are now wildlands go unrepresented.

In this day and time in major cities in the Dallas Fort Worth Metroplex multiple, thoughtful citizen petitions with well over 100 area residence signatures go ignored by Parks Administration, City Hall and City Council.

If the citizens of the larger cities in the DFW Metroplex continue to go unrepresented on this local issue the soils in this region will revert back to the semi-arid condition they were hundreds of years ago before the post oak tree changed the local soils and Eco-system for the better.

The only known way to change the community culture in this day and time is by attending, in large numbers - park board meetings, city council meetings and school board meetings repeatedly all with the same voice repeatedly.

