Trees Are Us

The Tree Planting Program of the Lubbock Memorial Arboretum

By

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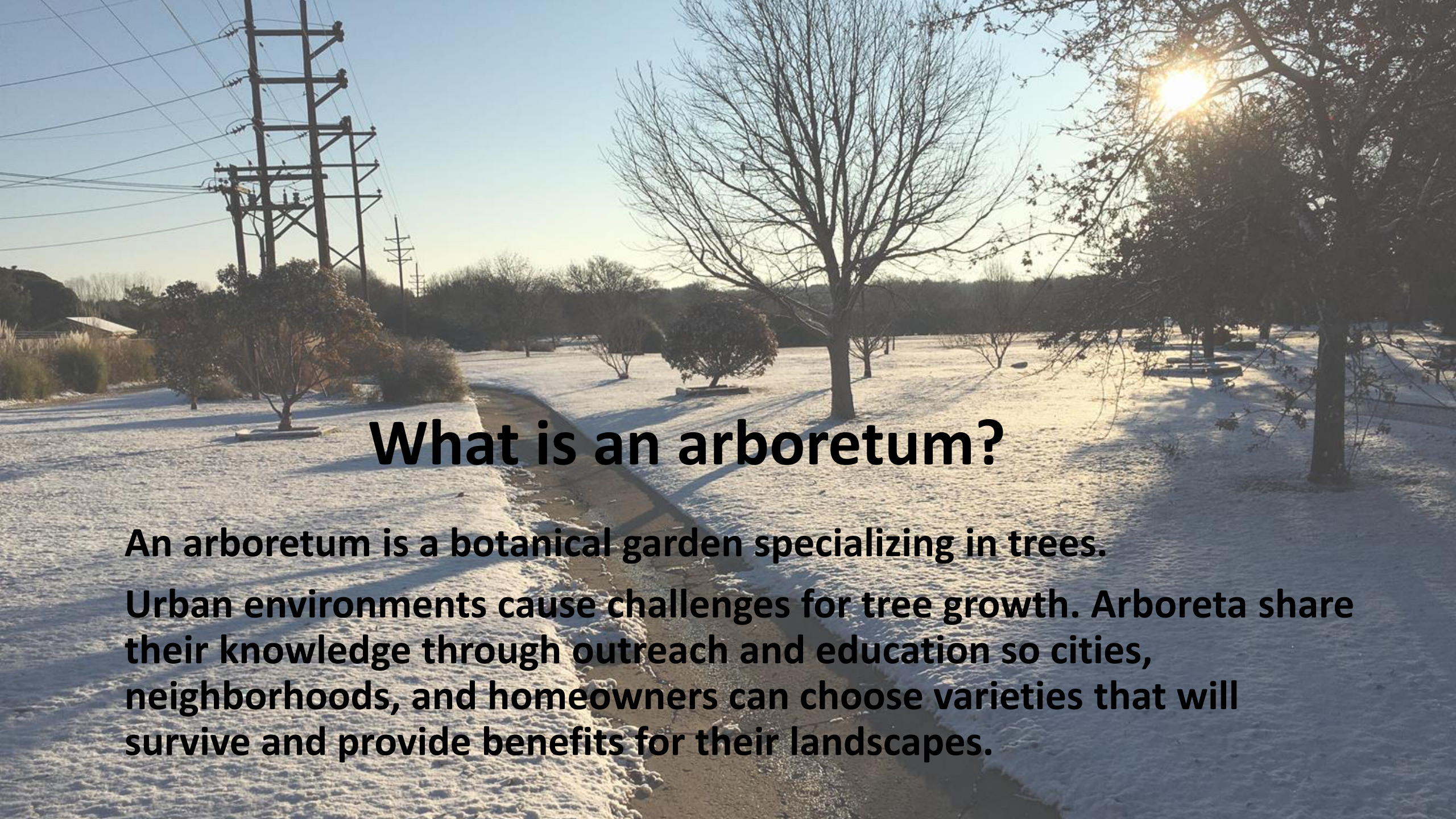

What is an arboretum?

An arboretum is a botanical garden specializing in trees.

Urban environments cause challenges for tree growth. Arboreta share their knowledge through outreach and education so cities, neighborhoods, and homeowners can choose varieties that will survive and provide benefits for their landscapes.

In the six decades since the establishment of the Lubbock Memorial Arboretum, hundreds of trees have been planted to expand the diversity of trees in the Arboretum and to replace trees that died.

Many of these trees were donated by the citizens of Lubbock. Some were planted as memorials to individuals who had passed away. Other trees were purchased through grants from foundations or donated by other organizations.

The Chapman Forestry Foundation of Lubbock has provided annual grants to purchase trees for several years.

There are over 100 types of trees growing today at the Arboretum. The search to find exceptional trees at local nurseries can be a challenge. This was particularly true in 2020 due to the COVID-19 pandemic.

The Arboretum received Chapman grants in 2020 and 2021. These grants are for a maximum of $2500 annually. The funds cannot be spent on irrigation equipment.

The Chapman grant application requires a list of proposed trees with estimated purchase price, a map showing the proposed locations of the trees on the grounds of the Arboretum, and a description of the proposed planting technique and maintenance of the trees.

The Arboretum uses the grant to purchase trees that are not already growing at the Arboretum, to replace trees that have died, and for experimental trees. Experimental trees are varieties planted to see if they can adapt and thrive in the South Plains.

The Arboretum planted 21 trees in 2020. There were 17 trees purchased with Chapman grant funds, one tree was donated, and three trees were purchased as memorial trees.

In 2021, four trees have been planted to date under the Chapman grant.

If the trees can be located there are plans to install six more trees this year under the Chapman grant program.


Trees planted in 2021
Windmill Palm
Pecan (Pawnee)
Eastern Red Cedar
Pecan (Pawnee)
Google Earth
N
200 ft

Tree Selection Criteria

There are several preferences used to select tree species for the Arboretum:

1. Tolerance for alkaline soil
2. Low to moderate water use
3. Drought tolerant
4. Heat tolerant
5. Cold hardy

Other desirable features include attractive blooms, Fall leaf color, interesting bark patterns, and flowers, nuts or seeds, and foliage that attracts wildlife and pollinators.

Tree Planting

Many of the trees obtained by the Arboretum are container trees. These trees are grown in plastic “tubs” or containers. The Arboretum tries to get trees in a minimum size tub of 15 gallons ranging up to 45 gallons.

Container Tree Problems

Quite often container trees have circling roots. These will never “self correct” and will girdle the tree leading to premature death of the tree.

This tree was removed from its container and root washed to examine it for circling roots.

Circling Roots

These circling roots were cut before planting and straightened as much as possible to form a radial horizontal pattern around the tree. Most of the planting medium was removed so the roots would grow into the native soil.

Roots Grow!

Prairie Flame Leaf Sumac in bloom after planting in early April 2020. The tree was root washed, most planting media removed, and circling roots were corrected before planting.

Many gardeners who first see this technique are concerned the roots will be damaged beyond recovery. But roots grow better in an environment that allows them to adapt to the soil.

Ice Damage

Sumac after damage to branches from ice storm in early freeze of October 2020. Ice accumulated on the foliage and the branches split from the main stem.

Unfortunately, the tree was not able to develop the characteristic “flame leaf” Fall color due to leaf freeze damage.

Recovery

The damaged branches were pruned after the freeze. Sumacs are fast growing. Here is the sumac today; it is fully recovered.

‘Hot Wings’ Tatarian Maple

This maple variety is an experimental planting in 2020. HOT WINGS appeared as a seedling found in the Fort Collins Colorado Wholesale Nursery in 1993. This variety is much more tolerant of alkaline soils , avoiding chlorosis, than other cold-hardy ornamental maples.

If successful, the tree could make a good yard tree due to its small mature height and width of 15-18 feet. When established it tolerates low to moderate soil moisture. This was a bare root specimen.

Tatarian Maple

The Tatarian maples have established and are adding foliage. These trees are watered weekly, except when sufficient rainfall is received. A rule of thumb is to supply 10 gallons of water per week either by irrigation or rain.

Digging the Hole

These two Texas Tech student volunteers are digging a planting hole for a honey locust tree in 2020. Current best practice is to dig a hole that is not deeper than the root ball. This will keep the “root flare” of the trunk above the soil. The width of the hole should be at least twice the diameter of the tree root ball.

Planting trees too deep is a common mistake that kills trees after a few years.

Tree planted too deep

Tree planted too deeply as indicated by trunk entering the ground without any visible root flare.

"If a tree resembles a telephone pole going into the ground, then it is planted too deep."

Guide to Abiotic Disorders of Woody Plants in the Landscape

Honey Locust Tree Planted

These Texas Tech student volunteers and Arboretum Board member Casey have completed planting the honey locust. The plastic tree wrap helps shield the tree from sunscald and frost cracks in the winter. It also helps to protect the tree from damage by mowers and weed trimmers.

Honey Locust today

The Honey Locust is part of a trio of locust trees of an existing mature Black Locust, this tree, and a newly planted Purple Robe Locust.

Black Locust ‘Purple Robe’

This tree was planted in 2020 east of an existing locust tree and south of the Honey Locust. This tree will grow in most soils and tolerates alkaline pH. Its drought tolerance is high.

The ‘Purple Robe’ variety blooms in spring with clusters of fragrant, pink blossoms which attract bees.

Removal of Planting Media

The planting media (“potting soil”) is being washed off the root ball of this Chitalpa before planting by TTU student volunteers. This allows the roots to be visually inspected and corrected before planting. You can see a circling root at the bottom of the slide.

Inspection of Tree Root Washing

Arboretum Treasurer Randy and volunteer Rhonda watch the root washing of the Chitalpa tree before planting in 2020.

Tree Staking

Some trees are staked at planting to keep them upright and prevent a “blowout” of the tree by high winds common to Lubbock before root establishment.

The trunk ties are removed after one year. The ties are loose enough to allow the tree to “sway” in the wind which is recommended to promote root growth. These fabric straps with grommets are preferred over lengths of water hose secured with wire.

Afghan Pine

Arboretum member Cal is shown planting an Afghan (eldarica) pine in 2020. This tree can be found planted around Lubbock. There are two mature specimens in the Arboretum. This tree is well adapted to the South Plains.

Afghan Pine 2021

Here is the Afghan pine now. The needle foliage is filling out and the tree has grown quite a bit this year.

It should be noted there are no amendments added at planting or applied subsequently.

Ball and Burlap Tree

B&B trees do not exhibit the circling roots of container trees. They should not be planted in the summer; it's best to plant them in the Fall to allow the truncated roots of the field grown tree to get established before the stress of summer heat and drought.

All packaging materials should be removed at the time of planting, especially wire baskets and nylon twine.

Fabric grow bags degrade slowly in Lubbock soils and should be removed.

This B&B pinion pine was donated to the Arboretum.

Pinion Pine

This is the donated pine after planting in 2020. The leftover soil from the planting hole is used to form a berm around the tree to provide a “well” to retain water from manual watering. The berm is mulched with wood chips, being careful to keep the chips at least 2 or 3 inches away from the trunk to reduce chances of root rot.

Pinions grow slowly but are drought tolerant.

Pinion Pine Today

Pinion exhibiting typical slow growth, but needle tips are showing good development.

Pinion Pine

This B&B Pinion Pine was purchased under the Chapman grant in 2020. It was planted as part of the group of conifers by the Sensory Garden.

Arizona Cypress

This tree was planted in 2020 to replace an Arizona Cypress on the grounds that died. The dead tree was approximately 50 feet tall. It’s hoped this one attains a similar size.

The staking guys were removed after a year.

Arizona Cypress today

The tree was a little slow to establish but is now adding growth.

Chitalpa

This tree, planted in Fall 2020, survived the unusually hard freeze of February 2021 and is growing well.

The tree is cross bred from the desert willow (*Chilopsis linearis*) and the southern catalpa (*Catalpa bignonioides*). The flowers are also sterile, so you will not have seed pods dropping in your yard. The name Chitalpa is simply a combination of the two parent names: Chilopsis and Catalpa.

New Mexico Privet

This tree was planted in Fall 2020. The hard freeze of February 2021 had no visible effect on the tree.

This small tree is native to New Mexico and is very drought and cold tolerant. It can be pruned into a small multi-trunk tree.

Mexican Buckeye

This tree was donated by Dr. Jury, a longtime member of the Arboretum. This Texas native tree is cold hardy to Zone 7 and heat-tolerant, and drought-resistant. In Spring it blooms with pink, highly fragrant flowers. This is an understory tree that grows in bright shade.

Texas Mountain Laurel

This small tree is native to Central Texas. Two specimens were brought to Lubbock by James Tuttle and planted in 2020.

This evergreen small tree is highly drought tolerant after getting established and is cold tolerant. The blooms are dark violet to bluish-lavender to rarely white and are said to waft a powerful, sweet grape fragrance.

Cedar Elm

This cedar elm was planted in 2020 as part of the Chapman grant. This tree is located near two Sweetgum trees that died.

Rocky Mountain Juniper

This tree was planted in 2020. A native of the western states, it's frequently found with pinion pines at lower elevations where it grows well on open, exposed bluffs, ridgetops, on southern exposures and in canyons. It is found between 5,000 and 9,000 feet in elevation.

It is most abundant on calcareous, alkaline soils. It is very drought tolerant.

Eastern Red Cedar

This tree was planted in Spring 2021 as part of this year's Chapman grant. The Eastern Red Cedar grows best in open spaces.

It develops deep roots in most soils, tolerates heat, wind and salt, and grows in a columnar or pyramidal shape.

‘Pawnee’ Pecan

Pecan trees are planted in many yards in Lubbock and are found at the Arboretum. A Western Schley is in front of the building.

The Pawnee variety is recommended by the Texas Agrilife Extension Service for the Lubbock area.

Two of these trees were planted in 2021 as part of the Chapman grant.

‘Pawnee’ Pecan

Pawnee Pecan being planted this Spring near the Audubon Society birdwatching area.

Windmill Palm

The Windmill Palm is one of the most cold tolerant of the palms. It was planted in Spring 2021 by the gazebo to complement the sabal palm that has been growing for several years on the south side of the Arboretum Center building.

It tolerates alkaline soil and has moderate drought tolerance. This is an experimental planting to see how well it survives Lubbock winters.

Windmill Palm Tree Planting Volunteer Crew

Guns up!

One of the many groups from Texas Tech that volunteered at the Arboretum during the last year.

Windmill Palm Today

The Windmill Palm has benefited from the unusual rainfall this summer and is growing well.

Cedar Elm

This is one of a group of three cedar elms that were purchased for a memorial and planted in 2020. These trees were 45-gallon container trees and were somewhat larger than normally planted.

The cedar elm grows in acidic, alkaline, loamy, moist, sandy, well-drained, wet and clay soils. It is very drought-tolerant but can also grow in ground that is periodically saturated.

Memorial Cedar Elms freshly planted


Memorial Cedar Elm Planting Hole
Large hole dug for 45-gallon container tree

The tree planting program of the Arboretum would not be possible without volunteers. Many student groups from Texas Tech and Arboretum Foundation members generously donated their time and labor to plant these trees.

Funds donated by the Chapman Foundation and memorial donors allow the Arboretum to buy trees!

A big Texas-sized thank you to everyone who participated!

Volunteers at the Arboretum

Volunteers at the Arboretum on March 27, 2021; members of Pi Tau Sigma and others.

Be a partner in protecting trees and forests for future generations.

When you visit the Arboretum, you can enjoy trees; learn how to identify, select, and care for them; and support the Lubbock Memorial Arboretum.

Thank you!