

# In the Shade



**NEWSLETTER OF THE  
ISA TEXAS CHAPTER  
OCTOBER, 2019**



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## President's Letter



Greetings Texas Arborists, Foresters, and Friends,

As I exit the role of Chapter President, I look back over the last year with pride and optimism for the future of the Chapter. We have come a long way! Our organization is healthy, we have implemented the first year of our strategic plan, and we've increased our organization's capacity.

I have many thanks to the dedicated volunteers who propel ISA Texas forward - it takes a village and so many people give their time year after year. Special thanks to those that serve on the Board of Directors, you guys have shown grace, humor, and professionalism.

ISA Texas staff has grown - we have an amazing team with John Giedraitis, Misti Perez, and Gene Gehring. Our membership is lucky to have you on our team!

I'm looking forward to seeing how we continue to grow in the upcoming year.

Cheers, y'all.  
Emily King  
Past ISAT President

## In the Shade

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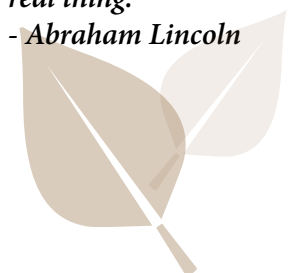
## NEW MEMBERS

Kip Boydston..... Arlington  
Jonathan Bradley ..... Missouri City  
Benjamin Clark.....Austin  
Tiana George..... Cedar Hill  
Hale Hawkins.....Round Rock  
Kyle Kilgore.....Stafford  
Jayson Kisselburg..... Burnet  
Jarrett Latta..... Liberty Hill  
Leslie Lilly.....Austin  
Anna Martinez..... San Antonio  
James Meadows..... Katy  
Edward Ortiz.....Austin  
Mary Kay Pope..... Lakeway  
Christina Rancilio .....Dallas  
Rebecca Reed ..... Belton  
Susan Rossbach..... Plano  
Naomi Rotramel .....Austin  
Rick Sanderson ..... Arlington  
Wesley Schoppe .....Stafford  
Clint Small.....Austin

## ON THE COVER

Structural pruning helps trees develop good form as they grow and reduces the need for costly pruning and cabling later, see story on page 17.  
*Photo by Paul Johnson.*

*Character is like a tree and  
reputation like a shadow.  
The shadow is what we  
think of it; the tree is the  
real thing.*  
- Abraham Lincoln







## Incoming President

Jason Alfaro

Hello ISAT Members!

I would like to express my genuine appreciation for allowing me the opportunity to serve the members of ISA Texas. My predecessor, Emily King, will be a tough act to follow but I will try my best. A huge thank you is in order to the entire board and volunteers who have helped with our programs/events and to Emily for leading the board over this past year – Thank you all!

With that said, I hope everyone enjoyed the Texas Tree Conference this past month. What a great way to celebrate our profession and network with so many like-minded individuals. The Texas Tree Conference committee worked tirelessly to bring you another great event and we could not have done it without them. This year we were able to bring a new element to the conference, the utility academy workshop. We also revived the poker room on Thursday night and had a great time.

This was the first year that we had our Educational Program Manager and our Member Services Specialist in place and both continue to help the chapter grow and run smoothly. With over two dozen programs, classes, or events taking place that ISA Texas is heavily involved with we definitely needed to broaden our capacity. We continue to increase efforts to expand our programs throughout the state, and we will maintain those efforts moving forward.

During our annual retreat, we will discuss our work plan and pursue an implementation strategy and action plan. The board will discuss many other items one of which will include our yearly budget. If you have any questions, suggestions, or comments you would like for us to consider please do not hesitate to contact me at [jalfaro@jerseyvillagetx.com](mailto:jalfaro@jerseyvillagetx.com).

Again, my hat goes off to all of the board and committee members, our volunteers, staff, and of course our outstanding Executive Director, John Giedraitis.

Sincerely,

Jason Alfaro



## Editor's Note

Rebecca Johnson

I hope everyone had a great time at the Texas Tree Conference. It's no secret that I really like conferences - I enjoy the chance to network with arborists from around the state and exchange ideas and learn new things. The "conference season" for me starts with the ISA International Conference; you can read a great summary of that on page 12. Not mentioned in that summary is that Texas' (and my) own Paul Johnson took the gavel as ISA President for 2019-2020. In Texas, we're honored to have two ISA Board Members as our own - Paul and Dana Karcher.

I hope you all enjoyed the awards banquet at the Tree Conference. I was so happy to see such worthy folks recognized. I know the awards committee has a really hard time choosing and I'm told that this year there were many great nominations. We really appreciate that our members had such a great response when we put out the call.

With the coming of the new year, we have several committees that will need volunteers. Volunteering with a committee is a great way to help the chapter grow and improve. If you've ever said "why doesn't the chapter do \_\_\_\_?" now's your chance to try to make it happen. We're relying on you. Just ask one of the board members how you can be involved.



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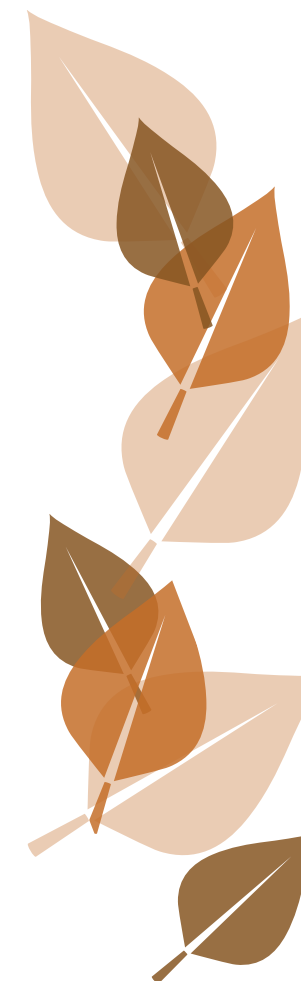
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Bacterial Leaf Scorch Photo: William M. Ciesla, Forest Health Management International, Bugwood.org

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## Upcoming Events:

### Webinars

**October 9, 2019, 12:00-1:00 pm**

#### **Oak decline in the United States**

This webinar will provide a general overview of symptoms, range, impact and possible management strategies for oak decline in the U.S.

<http://bit.ly/2jXe0yF>

**October 10, 2019, 5:00-7:00 pm**

#### **Preparing for Fall with Albert Cooper**

More details coming soon.

[https://www.facebook.com/](https://www.facebook.com/events/2176160895822947/)

[events/2176160895822947/](https://www.facebook.com/events/2176160895822947/)

**November 6, 2019, 12:00-1:00 pm**

#### **Treating Live Trees for Formosan Termites**

This webinar will cover the biology, identification and management of formosan termites in the southeastern U.S.

<http://bit.ly/2kg4GpS>

**November 19, 2019, 1:00-2:00 pm**

#### **Health Benefits of City Trees: Research Evidence & Economic Values**

<https://treefund.org/webinars>

### Workshops

**October 4, 2019, 7:30 am-4:00 pm**

#### **ASTI Spanish Aerial Rescue Workshop**

Dallas - TCIA's aerial rescue training program helps you protect your workers and meet the aerial rescue training requirements mandated by ANSI Z-133.1 and OSHA. This Spanish language workshop is being taught by Erick Palacios, CTSP. Trina Andres, Burn Outreach Injury Prevention Nurse Educator, will present 20 minutes on electrical injury burns that are common to tree workers.

<http://bit.ly/2ksdGbc>

**October 25, 2019, 8:00 am-4:00 pm**

#### **Structural Pruning for Tree Workers (Spanish/English)**

Ft Worth - This bilingual workshop will give workers a better understanding of the why and how of correct tree pruning. The morning will begin with indoor presentations in both Spanish and English on tree biology, reasons for pruning, and how to do structural pruning.

<https://conta.cc/2IUIFx3>

**November 15, 2019, 8:00 am-3:30 pm**

#### **Houston Urban Tree Conference**

Weekley Community Center, Cypress - Join your peers for great day of learning about using growth regulators, dealing with irrigation concerns, greening the Houston region, Emerald Ash Borer, and looking into the future of arboriculture.

<https://hutc2019.eventbrite.com/>









# Teacher Conservation Institute: Urban Connections

April Rose + Aimee Aubin, City of Austin

This June, the City of Austin partnered with Texas A&M Forest Service and Texas Forestry Association to offer Teacher Conservation Institute: Urban Connections. The three-day training was adapted from a five-day residential training offered in East Texas for over 25 years. The program sought to support educators in integrating nature-based learning throughout their programs and to deepen urban forest stewardship across our communities. Austin-area educators immersed themselves in the world of urban forestry and discovered how urban forests are integral to the well-being of our communities. Through field trips, presentations, and hands-on learning, participants discovered the value of urban forests and ways to use the environment as a teaching tool.



Twenty-five educators participated in the inaugural program representing regional school districts, non-profits, and state and city government. Participants gained confidence in teaching environmental concepts, strengthened their knowledge of the importance of trees in our communities, and deepened their understanding of the lasting impacts of inequitable access to nature. Each attendee walked away certified in the multi-disciplinary Project Learning Tree PreK-8 curriculum. The program was well-received and several attendees are already applying Project Learning Tree lessons into their work. As one participant wrote in their closing evaluation, “This was an outstanding training that I will recommend to fellow educators. I love getting students outside and you have provided amazing ideas, lessons, and experiences to help me with this! Thank you so very much!”



“I love getting students outside and you have provided amazing ideas, lessons, and experiences to help me with this!”



# Classrooms Without Walls

## Learning re-imagined

John Warner and Nancy Brown



Virtually Wild! Texas (VW!T) is a nature program designed for schools, hospitals and other institutions that serve students and young people with limited access to nature’s natural resources. The goal of the virtual field trips is to provide TEKS correlated and site-based nature-related activities that educators access from the classroom or other indoor settings.



The virtual experience brings to life tree, nature and wildlife stories from the Houston region. Approximately 7,000 students from more than 30 classrooms, home schools, and medical facilities across the state of Texas have been reached since the program’s inception in 2016.

Using an iPhone and teleconferencing technology, participants virtually travel in real time to forests, urban pocket forests and prairies, coastal wetlands, pollinator gardens and other locations where they can learn about different species and experience nature. Students and teachers are able to text the VW!T’s program host questions. They are also able to get a close look at a diversity of wildlife species, including alligators, snakes,

monarch butterflies, and crawfish. They virtually participate in activities such as dip netting for invertebrates or climbing a tree to check for nesting red-cockaded woodpeckers.

Based out of Houston, Texas, VW!T highlights the important work done by a diversity of partners, including federal, state, city and non-profit partners such as National Wildlife Refuge System U.S. Fish, Texas A&M Forest Service, The Nature Conservancy, Region 4 Educational Service Center, Houston, and Katy Prairie Conservancy.

Education materials cover nature-related topics, ranging from monarch migration to reptile adaptations to forest

management both large and urban in scale. All programs highlight careers in natural resources, arborists, including wildland firefighters, wildlife rehabilitators, biologists, special agents, environmental educators, and geospatial analysts. A priority is to expose young people to the diversity of professional and career opportunities, as well as the skills required, in natural resources.

John Warner is a Certified Arborist and Urban Forester with Texas A&M Forest Service and Nancy Brown is a Public Outreach Specialist with USFWS.

“A priority is to expose young people to the diversity of professional and career opportunities, as well as the skills required, in natural resources.”







# ITC 2019 Knoxville, TN

David M Vaughan

new findings on cabling a limb. Research is not complete on this one, but he thinks the recommended attachment point on the limb will be center of balance rather than 2/3 length. He thinks it will end up being 1/3 to 2/3 length. Our climbers routinely guess at this point every time they remove a branch, so it should not be too difficult to determine the attachment point.

I was disappointed with the other talks I chose to attend on Monday. I missed most of Linda Chalker-Scott's talk because I could not figure out what room she was in. I'm sure her presentation was a good one. Tuesday was a much better day for me. It started with Glynn Percival and if you have read much of what I have written lately, you know I like what he is doing in Great Britain.

Dr. Percival, Head of Research at the Bartlett Tree Research Laboratory in Reading England, presented a study he is doing at Heathrow Airport using vertical mulching to help correct severe compaction on selected trees. Yes, one of Linda Chalker-Scott's myths of arboriculture now has a study that shows it is effective. The airport area is so large they had to be very selective about where they could try to correct the compaction and how much it cost, so they chose vertical mulching on selected trees. They

Tennessee is a beautiful state with a lot of forest cover. We spent a few days in a cabin in Gatlinburg in the Smoky Mountains before the conference and had a great time with the grandkids in Dollywood and Anakeesta. I was reluctant to go to Dollywood, but was very impressed with the park and surprised by very reasonable prices. Our kids and grandkids had a great time (as did the grandparents).

Monday at the conference was almost a bust for me, mostly because I did a poor job of choosing what talks to attend. The keynote speech was terrible. Steve Curwood of NPR tried to do his talk like a radio show interview, and it did not work. So he got us off to a bad start.

I enjoyed the talk on tree watering by Darrell Downey, Chief Engineering Officer, PQ Partners, LLC. He is an engineer and approached watering from a science/math/engineer point of view. He used the formula of  $Volume = \pi \times r^2 \times depth$  to show that a quarter inch rain on a 15 inch tree with a branch spread of 15 feet (radius) would provide 200 gallons of usable water to the area under the branch spread of the tree. A newly planted tree with a root ball of 24 inches (a generous size) would only get 2 gallons of water

from the same rain. His take-away was we are watering wrong when we plant a tree. He recommended frequent, shallow watering every day for the first month and every two days for the next month. (In San Antonio we have been recommending 3 times a week for the first month and

Take away for me was that we now have some science to back up our use of vertical mulching.

wetting the trunk and branches every time you pass by with the water hose). It is more important to get roots to grow out from the tree to increase the amount of water they can access while improving stability than to get roots to grow deep. For every foot of root growth outward, you increase usable water volume by  $r^2$ .

Tom Smiley, Plant Pathologist and Soil Scientist at the Bartlett Research Laboratory, gave a talk on cabling and bracing. He had nothing good to say about the dynamic systems due to issues with girdling. He recommended thru bolts for flex cables and discouraged the use of lag screws and J-hooks. They have

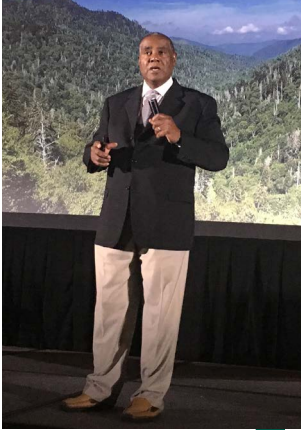
installed augured or blown holes on center every 1 meter under the branch spread of the selected trees. In the holes they put a compost mix that included biochar. They also applied worms to the compost mix. They selected two species of commercially available worms: one that tended to tunnel vertically and another that tended to tunnel horizontally. Not only was this procedure effective in reducing compaction in the entire treated area, but the worms were also moving into the adjacent untreated areas and beginning to loosen the soil in the untreated areas. Take away for me was that we now have some science to back up our use of

vertical mulching, a procedure I have used very successfully for years despite it falling out of favor and making the myth list.

Dr. Percival did a second talk on induced resistance (IR) also known as systemically induced resistance (SIR). He is "vaccinating" trees with products containing salicylic acid, trichoderma, and potassium phosphate to get an IR response in the tree. Unlike vaccines for us, that need to be specific for a certain organism, the IR response in a tree is effective against almost any pathogenic organism or pest that would attack a tree. It causes the tree to devote more resources for defense which will sacrifice some growth. Products containing salicylic acid are not readily available in the US. He recommends using mulch from Salix or Populus species for salicylic acid. The mulch needs to be fresh. He has been very successful using trichoderma to suppress armillaria and phytophthora.

Dr. Joe Boggs, Assistant Professor Ohio State University Extension, gave two talks. He is very funny and fast and keeps you laughing while he pounds good information into your head. He spoke on being very selective about what pests you choose to treat and only managing pests that matter. He suggested we manage or suppress pests that will cause serious harm or death to the tree and quit treating cosmetic issues. He recommended dropping clients that insist on treating every bug and spot. Like fertilization, sprays are very profitable and it will be hard for our industry to manage just for the benefit of the tree.

Dr. Boggs gave a second talk on diversity, pollinators, and pest management. While Hymenoptera are the leading pollinators, flies (Diptera) are second and butterflies and moths (Lepidoptera) are fourth. His humorous suggestion was that



rather than putting up signage for butterfly gardens, we should advertise fly gardens. He had second thoughts about that one. The sign in my garden says pollinator garden.

Christopher W Fields-Johnson is the technical advisor for the Davey Institute and his presentation reinforced much of what I have been writing about these past few years (so his presentation was brilliant :) ). He talked about the relation a forest tree has with soil and microbes and how that relation does not exist with urban trees. We can reestablish those relations with practices that loosen the soil and add organic matter. He presented studies using topdressing, incorporation with air tools, vertical mulching, liquid injection, and backfilling to loosen the soil. He recommends the use of composts, mulches, biosolids, and biochars to add organic matter to the soil.

There was a very encouraging presentation on Emerald Ash Borer management by Frederic Miller, Senior Scientist at the Morton Arboretum. They have gone to China and found three parasitoids that are helping with management of this pest. One is an egg parasite that they cannot confirm is able to establish. It is just so very small that they cannot find it after release.

The other two lay their eggs on the larvae and both seem

to be able to establish. One does better in cold areas; the other does better in warmer areas. It takes about 4-5 years for them to establish and effect suppression. They seem compatible with the insecticide injections so the idea is to inject for those 4-5 years while establishing the parasitoids and then let the parasitoids along with woodpeckers suppress the pest. Their current studies show that once the parasitoids are established, tree loss is the same as you get with insecticide injections, about 8% loss per year. He also mentioned a fungus disease that was helping.



April Rose, Urban Forest Health Coordinator for Austin, did us proud with a nice presentation on the Oak Wilt Management Program in Austin. She had more to say than time allowed and did a very nice job presenting her message and story. She deserves an “Atta girl”! Well done, April!

I had decided not to attend any more International conferences and then they went and chose Albuquerque for 2020. My wife Berti let me know in



no uncertain terms that we are definitely going. Doing a road trip with stops in El Paso to see Oscar and Gail, a cousin near Tucson, good friends in Cornville (near Sedona), Bryce Canyon, The Arches, Zion, Canyon Lands, Bears Ear, Great Salt Lake (the only place I have ever been able to float), and then back by Colorado to visit Mark Duff and Beth (and fish), and finally a cousin in Palestine. Now that is what I call a good conference. Hope to see you in 2020 in New Mexico.





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# Trichoderma and Hypoxylon Canker

by  
David Vaughan



The June 2019 issue of In the Shade mentioned that we were playing with cornmeal water on trees infected with hypoxylon canker (*Biscogniauxia atropunctatum*) aka. (*Hypoxylon atropunctatum*). Some preliminary results are in. First, some background.

Sheila McBride and David Appel in their article on hypoxylon canker for AgriLife Extension state that once hypoxylon canker is evident, it is usually too late to save the tree. The Arborological Services website says that it is extremely rare to see hypoxylon canker on the trunk of a tree and have the tree recover or survive. The hypoxylon canker article on the Texas A&M Forest Service website is even more dire. It says that once the tree is actively infected, the tree will die. It also says that there is no known cure.

In the spring of 2011 during that record Texas drought, we removed two large branches from a large red oak (*Quercus shumardii*) on a client's property in Grey Forest, Texas. The client is a landscape architect and a winner of ISA Texas' Best Development of the Year award many years ago. One of the two branches had hypoxylon cankers on it and the other was dead, but had no cankers. One of the cankers on the live branch was closer than 12 inches from the main trunk and we were hoping to remove the branch before the disease reached the main trunk. During the next inspection of the tree we became aware that we had not been successful as a canker had developed just below the branch cut on the main trunk. We did a drench with cornmeal water applied at the base of the tree. Our mix was one



oaks on a property in Boerne, Texas for oak wilt. The clients were both dentists and were raising horses trained for barrel racing for their daughters' racing team. Trees with no diagnostic oak wilt symptoms were flagged with blue, trees with symptoms were flagged with yellow, and two live oaks with hypoxylon canker were flagged with red and were not injected. The two oaks with hypoxylon canker did receive a cornmeal water drench as did all of the trees that were injected with Alamo. All of the treated trees had also been drenched with cornmeal water by the client several weeks before we did the

cup stone ground cornmeal per gallon of water and we let it soak for several hours. We applied about 15 gallons of the cornmeal water at the base of the tree.

The client took over with the treatments, applying a drench annually. A few years later we did an oak wilt injection on several live oaks on the property and we did a cornmeal drench on the red oak at the same time. We also removed several large dead branches from the red oak that did not have any disease cankers present. The client's opinion of this red oak in June 2019 from the point of view of a landscape architect is "the tree looks great." That is survival and recovery. Two years ago in 2017 we injected a large number of live

injections and our cornmeal water drench. An inspection in 2018 revealed that three of the yellow flagged trees did not survive. All of the surviving trees were drenched in 2018 by the client and they plan on drenching again this year. All of the blue flagged trees have survived two years, the remaining yellow flagged trees have survived, and the two red flagged trees have survived. The two hypoxylon canker infected trees not only survived, they look better this year than they did when they were first treated in 2017 (in my opinion). That's survival. The jury is still out on recovery.

Systemically Induced Resistance (SIR) or Induced Resistance (IR) using



trichoderma obtained from soaking whole ground or stone ground cornmeal in water is showing promise for treating tree diseases. This is not peer reviewed research. It is just me playing with an idea based in science on a problem that is considered lethal with no treatment, no cure. It is anecdotal, but it is working. I'm 3 for 3. Actually, I'm 4 for 4. We treated another red oak with cornmeal water at the South West School of Art that survived a year plus. It looked great when it was removed for a building expansion. I will probably soon make Dr. Linda Chalker-Scott's list of Myths in Arboriculture.

Hopefully others will start playing with SIR or IR so we can see if I'm just lucky or we have something here that will help us with our care of trees. Trichoderma is not our only SIR weapon, but it is easy to use, very low risk, and inexpensive. Finding a tree infected with hypoxylon canker that you do not need to remove is rare. Give it a try when you find that rare tree that is worth the effort. Try it on some of the other diseases you encounter that are difficult to manage and see if it helps. Trichoderma is reported to be effective against phytophthora and armillaria.

David M. Vaughan  
Certified Arborist TX 0118  
ArborVaughan Consult, LLC



Tree two years after treatment

# Why Aren't You Doing Structural Pruning?

By Keith Babberney,  
City of Austin  
Forester



Folks, we do not talk enough about structural pruning. Even ISA's literature on pruning barely mentioned it for many years. The Certification Study Guide added a section on it in 2010, but it still seems to be a strange concept to many arborists. If you took the certification exam, you learned that there are various types of pruning: crown cleaning, crown raising, crown reduction, crown thinning, and restoration (along with specialized types like pollarding and espalier). These are useful terms and techniques to help us focus our efforts on the intended goal, and I don't dispute them (though I hate the term "thinning" because of how often it translates to "stripping out"). But I contend that every one of these categories should include some level of structural pruning.

Our customers rely on us to help them make informed decisions about how to manage their trees. Our textbooks offer us a range of solutions for tree problems, including cabling, bracing, propping, and guying. Though I think it is our job to let people know these options exist, and at times will be the best solution to a given problem, I contend that supplemental support should be extremely rare. When we add hardware, the tree becomes dependent on the support, so we must maintain it indefinitely. As the tree grows, we may have to replace it or add more to it. When properties are sold, the history of the tree may be lost and maintenance will cease. On the other hand, when we manage defects through pruning, the benefits remain whether anyone realizes it or not. Though there will always be good arguments for adding hardware to certain trees, we can vastly reduce the need for it if we routinely and systematically improve the structure of the trees we prune.

Dr. Ed Gilman at the University of Florida has compiled volumes of research on storm-damaged trees to learn what characteristics make a tree better able to withstand extreme weather ([bit.ly/gilmanpruning](http://bit.ly/gilmanpruning)). He then developed pruning strategies to enhance these characteristics. We can often meet the strict requirements of a work order with a few raising cuts and some dead wood, but this can leave behind problems that will only become more expensive to resolve over time (not to mention more risky). In contrast, structural pruning can help develop a tree that will need little ongoing maintenance as it matures. A few quick cuts to subordinate any codominant

leaders can eliminate problems that might become hugely expensive--and possibly dangerous--if left to develop over the life of the tree.

The process is fairly simple, but it is still unfamiliar to a lot of arborists. The first step is a careful analysis of the tree with an eye to locating weak points. For example, we know wide, U-shaped crotches are stronger than tight vees. We know a tight vee is stronger than a tight vee with included bark. We know a branch that is smaller than its parent is stronger than two parallel limbs of similar size. And, of course, we know a visible defect like a crack, cavity, or unexplained bulge is a sign of weakness.

There's not time or space here to go into depth about these concepts. I encourage everyone to visit Dr. Gilman's site at the University of Florida ([bit.ly/gilmanpruning](http://bit.ly/gilmanpruning)) for fuller explanations with illustrations, but here is his summary of the process:

There are six main strategies in executing a structural pruning program. These include the following:

- Develop or maintain a dominant leader..
- Identify lowest branch in the permanent canopy.
- Prevent branches below the permanent canopy from growing upright or too large.
- Space main branches along a dominant trunk.
- Keep all branches less than one-half the trunk diameter.
- Suppress growth on branches with bark inclusions.

You may be wondering, how do we suppress growth and keep branch diameters low? You probably know the answer, even if you don't realize it. To slow branch growth, we reduce the branch. Instead of taking sprouts out of the middle of the crown (which leads to weaker branches), we take off the ends of branches off at a viable lateral (still making proper branch collar cuts). Even just pinching the terminal bud breaks apical dominance and diffuses the branch's resources across many subordinate buds, but to significantly slow growth rates, we should aim for reducing the branch by 1/3 to 1/2 whenever possible. If trees have extremely poor structure or are under severe stress, we might have to settle for less now and come back to continue the process after the tree has had some time to recover.

Structural pruning is easiest and most effective when the tree is young, but we can also reduce the impact of defects in mature trees. When I climb a big tree, I always look for clues to determine the weak points, then try to find a pruning solution to reduce or eliminate the problem. I am rarely as aggressive when I prune a mature tree, though. The acceptable pruning dose for a large, mature tree is much lower than that of a young, vigorous transplant. We also must consider the size of wounds

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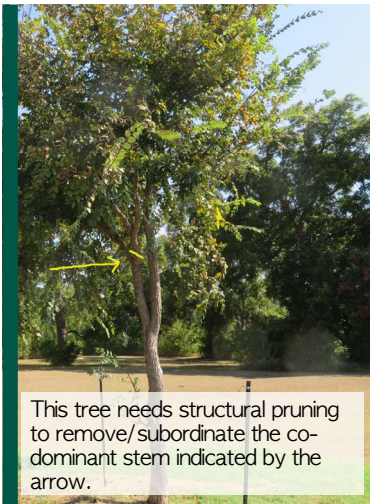


we make, which will tend to be bigger on a mature tree. I will often choose a central leader and make a few subordination cuts on surrounding branches, but a hard reduction on an old tree might just be the final stress it can (or can't) tolerate. This is exacerbated when the trees developed in a dense forest or were excessively raised over their lifetimes, since there is less foliage to work with and each live branch is that much more important to the tree's survival.

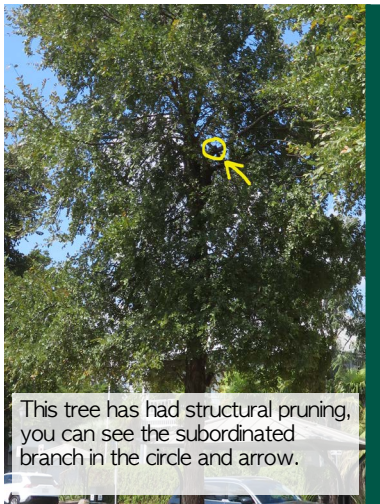
For very small trees, we may not yet have any permanent branches (remember, trees get longer from the tips, but a branch always stays at the height where it originally grew). In this case, we probably won't have much to do, but this is the best time to snip off a codominant leader if one exists. This will seem extreme (we might be losing half the tree!) but young trees can tolerate much higher doses, and are easy to remove and replace if they die. Of course, if we know we will be back often, we can reduce one side gradually over time. Unfortunately, we can't always count on returning for a few years, so it makes more sense to rip off the bandage, as it were.

Structural pruning is not very complicated or difficult, but it requires us to spend a few more minutes thinking about the tree before we pull out the saw and to make a few more cuts than the job might strictly demand. Depending on how severe the problem and how aggressive our response, it can cause significant changes in the tree's appearance, which can be a problem for some customers. Some of you might even be thinking this sounds like more work for less money, followed by fewer return calls because we don't get to clean up after storms. So why should anyone voluntarily do it?

First, I would argue that the customers who only call when their trees break in a storm are not our best customers. The people who value their trees and want them to survive will recognize your efforts, call you back when they need more pruning, and recommend you to their neighbors. Second, those



This tree needs structural pruning to remove/subordinate the co-dominant stem indicated by the arrow.



This tree has had structural pruning, you can see the subordinated branch in the circle and arrow.

of us who are Certified Arborists signed an oath to do what is best for trees. Third, trees are one of our best defenses against the effects of global climate change, and it is in all our interest to make them as strong and long-lived as possible. We might have to spend a little extra time with customers to determine how willing they are to accept a less attractive tree in the short term, but in my experience most will listen to good advice and accept the changes. For those who resist, this might actually be an opportunity to come back sooner, since we can offer to use a much more gradual process at shorter intervals.

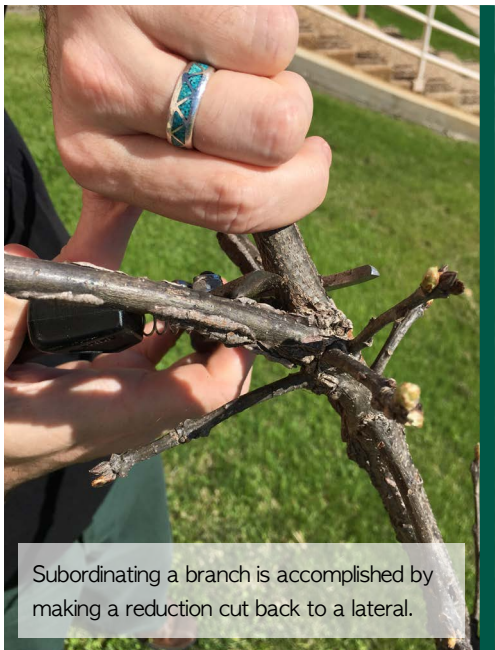
Structural pruning is not a perfect solution to tree problems. There will always be times when we need to remove trees or support them with supplemental hardware. But if we systematically approach every tree as a candidate for structural pruning, the result will be stronger trees that require little ongoing maintenance. Happy trees mean happy customers, which leads to repeat business and referrals. I encourage everyone to make structural pruning a routine part of every job. Our urban forests and all of us who live among them will be better off for it.



Right: We see a tree that's been structurally pruned over 3 years, in the beginning the choice was made to subordinate the longer branch in favor of the one that was more upright.



Left: Each year, the branch was subordinated, until now the aspect ratio is approaching 2:1 and the branch can be removed at the next pruning,



Subordinating a branch is accomplished by making a reduction cut back to a lateral.



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## WHAT'S THE BIG IDEA?



### CAN YOU IDENTIFY THIS TEXAS TREE?

If you know this tree, look for the photo on our Facebook page and correctly identify it in the comment section under the photo, using the full scientific name and one or more common names. If you don't know it, check the page for an answer in a few days. The winner gets bragging rights and the chance to submit a tree to stump fellow arborists in the next issue.

*Hint: Be sure to use your brain and don't eat this fruit.*

### LAST ISSUE'S TREE ID



Last issue's winner was Andrew Cooper Sr., Groundman/Climber at Lone Star Arborists. He correctly identified Corkscrew hazel aka Harry Lauders walking stick, *Corylus avellana* var *Contorta*. He also provided this issue's challenge.