

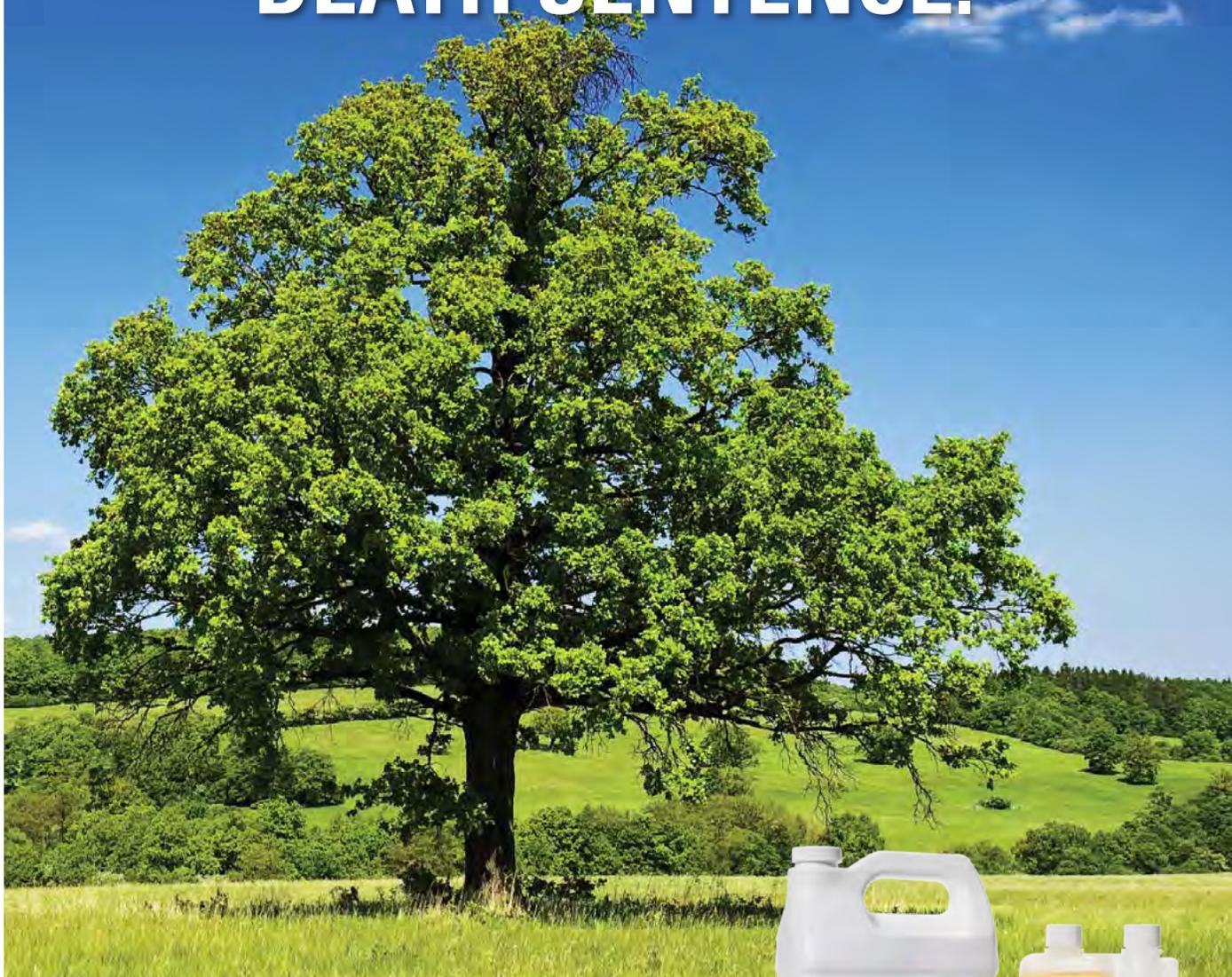
In the shade

Vol. 39, No. 1
May, 2015



NEWSLETTER OF THE ISA TEXAS CHAPTER

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ON THE COVER

Joe Pase took this picture of a pawpaw bloom last month at the Native Plant Center in Nacogdoches. Joe says, "I doubt that many people are familiar with the flower of this tree. To me it has an unusual texture and color. The leaves were just beginning to develop. It is the host plant for the zebra swallowtail butterfly."

NEW MEMBERS

Andreina Alexatos		Austin
Matthew Asplundh	Asplundh Tree Expert Co.	Willow Grove, PA
Bradley Bailey		Heath
Brad Bentsen	City of McAllen	Mission
Rex Bergstrom	Somerset Landscape LLC	Trophy Club
Kedrick Bryant	Texas-New Mexico Power	Dickinson
Marshall Duncan	City of Austin	Austin
Allison Headley		Dallas
Rodney Keith	Cross Texas Transmission	Amarillo
Michael Macias		Grand Prairie
Susan McCrum, BLA		Dallas
Eric Morales	ACRT, Inc.	Ennis
Melinda Moritz	City of Leon Valley	Leon Valley
Daniel Pacatte		Cedar Creek
Mike Park	The Hartford	Hartford
Jeremy Sanchez	Sanchez & Sons Services	Austin
Matthew Simmons		Frisco
Suzanne Walker	Azimuth Forestry Services, Inc	Shelbyville
Carl Wiggins	City of Austin	Austin
Sean Williams		Bastrop

ISAT membership is growing, and the number of Certified Arborists is increasing too. To find out more, see "Arboricultural Education Around Texas" on page 4.

CERTIFICATION EXAM DATES

Exams	Location	Date
Certified Arborist, Municipal, Utility	Houston <i>First time in over a decade!</i>	May 22
Certified Arborist, Municipal, Utility	Dallas	August 15
Certified Arborist, Municipal, Utility, Certified Tree Worker	Waco	October 2

Learn more about your certification exam options, including how to take computer-based exams, at

<http://www.isa-arbor.com/certification/becomeCertified/index.aspx>

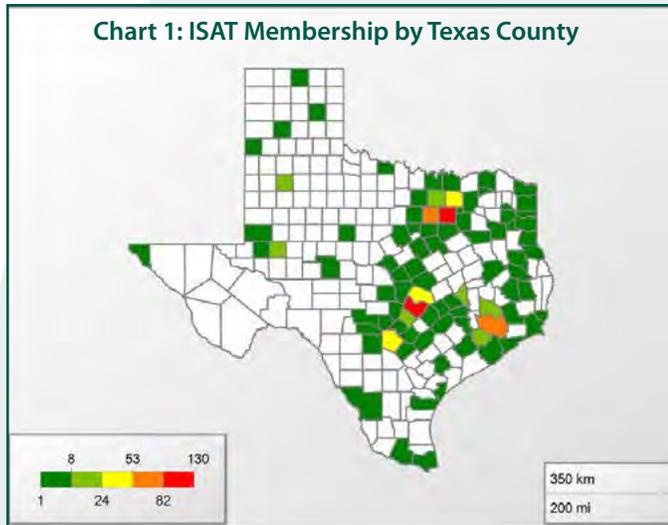
Application handbooks, application forms, and online registration are all available at that site.

For details on Texas exams contact Misti (Beirne) Perez, 512-965-1076.

ARBORICULTURAL EDUCATION AROUND TEXAS

by Micah Pace, Urban Forestry Specialist, Preservation Tree

The International Society of Arboriculture Texas Chapter has been advancing the educational prowess of the state's tree professionals since its inception in 1978. Growing like never before, ISAT has approximately 900 members across our great and diverse state. Chart 1 is a membership map which illustrates ISAT membership by county across the state.



Developing right along with the growth of ISAT membership is its educational outreach, fulfilling our number one mission of educating the state's professional arborists. Writing this article is a nice way to be reminded of what a great profession we have all dedicated our lives to. We truly are a knowledge-thirsty group of colleagues who continually seek a deeper understanding of the wonderful resource we are entrusted to care for and manage.

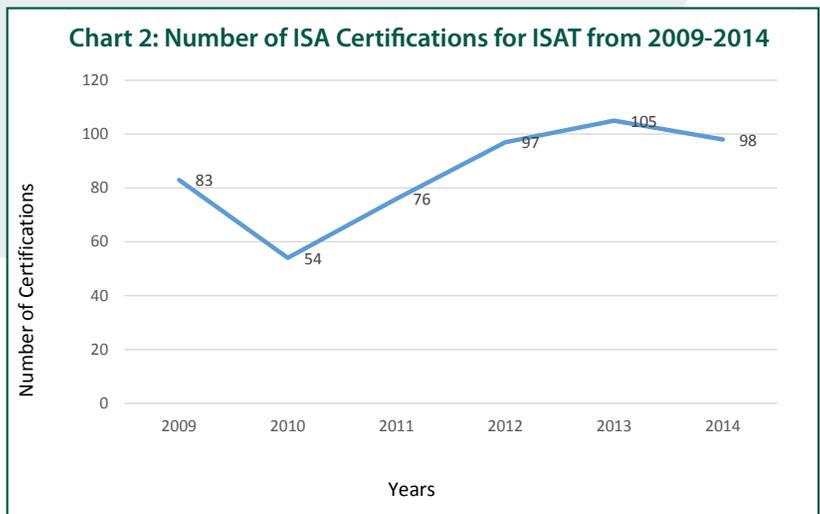
In the recent past, ISAT has made tremendous increases in educational outreach to its members and beyond. (Not all attendees of our various educational events are in fact members...though we sure welcome them to join and participate!) For example, according to data provided by ISAT's Certification Liaison, Misti Perez, ISAT held 83% more CEU-approved events from 2012–Q1 2015 as compared to 2009–2011, with 119 events and 65 events, respectively. While no empirical evidence exists to demonstrate causation between the number of educational events held and the number of arborist certifications earned, anecdotally it may be assumed that increased efforts to provide educational opportunities for ISAT members (and non-members) leads to more certified arborists. In fact, there was an increase of 41% for overall certifications between ranges of time very similar to the ones

mentioned above. (The overall time periods were slightly different.) (See Chart 2.) The certifications included all available certification types, e.g. CA, BCMA, CTW-CS, and CTW-AS.

A continued increase in education by our members is something that benefits the entire industry and the properties and communities in which they serve. This year looks to be no different. We have held and/or supported eight educational events since January this year. A few of these events include: Arboriculture 101 in College Station in January, Emerald Ash Borer Workshop in Houston in February, Tree Worker Safety Workshop in Edinburg also in February, and Certified Tree Worker Course/Test in Austin in March.

The three most recently delivered events were two TRAQ Courses held last month (one in Fort Worth and one in San Antonio) and a Tree Worker Safety Workshop sponsored by Trinity Blacklands Urban Forestry Council (TBUFC) held in Frisco on April 2. There were a total of 34 participants in the TRAQ courses combined with a total pass percentage of 97%, resulting in 33 newly ISA Qualified Tree Risk Assessors in Texas! The TBUFC Tree Worker Safety Workshop included 120 attendees from multiple north Texas municipalities and commercial companies. Take a moment to review the calendar at isatexas.com for an upcoming event that may interest you or a colleague.

Be assured that ISAT will continue to be committed to providing meaningful educational content and opportunities, in order to advance the industry and the professionals within. We still have a variety of events planned for 2015, including, but not limited to the 2015 Texas Tree Conference (TTC) in Waco September 30-October 2. As we quickly approach the halfway mark for yet another year, our eyes are already set on the 2016 International ISA Conference in Fort Worth. As always, we plan to do education Texas style . . . Bigger and Better! ■



EVENTS

6th Annual Bilingual Tree Worker Workshop

Come learn from industry leaders **May 13** at Schertz Civic Center in Schertz. Topics include professionalism, tree identification, accident prevention and oak wilt. There will be demonstrations of an air spade, chainsaw safety, electrical safety, and tree pruning. Space is limited; last year was a sellout. Information and registration for both English and Spanish sessions at isatexas.com.

TCIA Chipper Safety Classes

Accidents involving brush chippers are a significant concern for tree care and landscape employers, the employees who operate the equipment, and manufacturers. This course covers hazard awareness and procedures for hooking up, transporting, setting up, operating and maintaining a chipper, and includes classroom as well as hands-on training. Two versions will be given: **May 15** in Pearland (English) and **June 26** in Irving (Spanish). ISA CEUs available. For more information and to register, go to <http://streamsidegreen.com/upcoming-classes>

2015 Texas Tree Climbing Championship

It's time to register for the 2015 Texas Tree Climbing Championship **June 12-13** in Trinity Park, Fort Worth. The top finisher will represent the Texas Chapter at the 2016 International Tree Climbing Championship, to be held in San Antonio in April, 2016! To register, sign up as an exhibitor, or just learn more about this exciting event, go to: isatexas.com/members/TTCC/2015_TTCC.htm.

Register for ISA Conference & Trade Show

ISA's Annual International Conference and Trade Show **August 8-12** in Orlando, Florida, is the world's premier gathering of arboricultural professionals. Practicing arborists and urban foresters come together with top researchers and educators to learn the latest in research, technology, and innovations in arboriculture and urban forestry. **Early Bird registration is open until June 12.** For more information and to register, go to www.isa-arbor.com/events/reg/event.aspx?EventID=167

The World Comes to Texas!!

The 2016 International Tree Climbing Competition will be held **April 2-3, 2016** in Brackenridge Park, San Antonio. In addition to the competition, next year's ITCC will offer demonstrations of safety and best practices, industry vendors, and many activities to engage the public. More at www.isa-arbor.com/events/eventsCalendar/index.aspx?ID=2425

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Prepping for Envirothon

On a sunny, cold March 6, students from Conroe area high schools prepped for the Texas Envirothon with the help of experts from Texas A&M Forest Service, Texas Parks and Wildlife, and Natural Resource Conservation Service. John Warner, urban district forester with Texas A&M Forest Service, organized the event at the William Goodrich Jones State Forest.

Teams from Conroe ISD's Academy of Science & Technology, The Woodlands College Park High School and John Cooper School participated. In 2014, Academy of Science & Technology placed first in Texas and first at National Envirothon.

Classroom sessions were followed by field trial stations covering forestry, soils, aquatics, wildlife, and issues related to urban and community forestry. Warner and colleague Dawn Vollmer-McCook—both foresters, certified arborists and ISAT members—covered urban and community forestry topics, tree care and maintenance, and technical forestry subjects. According to Warner, “This is some of these students’ first time working one-on-one with experts. What better way to represent the arboriculture profession and the science and technology.”

Envirothon is North America’s largest and most academically challenging high school environmental competition. The goal of Envirothon is to enhance students’ environmental literacy and enable them to make informed decisions regarding the environment.



Anthracnose in East Texas?

by Joe Pase, forester and entomologist

It's early to say too much, but there may be an outbreak of various leaf fungi (like anthracnose) this spring in the eastern part of Texas due to the abundance of moisture. I am already seeing anthracnose on ash leaves at my house in Lufkin (see photo) .

Here is an excerpt from an article in *SF Gate*:

Anthracnose. Anthracnose is a fungal disease that affects many plants. Some plants, such as ash trees (*Fraxinus* spp.), are pathogen-specific hosts for individual anthracnose fungal strains. *Gnomoniella fraxini* is the fungus that attacks ash trees. Cool and wet spring weather promotes fungal growth and causes leaf and shoot blight. Necrotic leaves fall prematurely from ash trees, which causes some trees to lose all their leaves. The University of California notes that current-season anthracnose treatment is ineffective after symptoms develop. Preventive cultural and chemical pest-management treatments may inhibit the development or spread of the disease.



Preventive Treatment. Fungal infections continue unabated when infected leaves drop and remain on the ground under ash trees. Rake up fallen leaves from under trees to help break the life cycle of ash anthracnose. Drought-stressed and under-fertilized trees are more susceptible to infection. Watering trees during periods of low rainfall and fertilizing them to improve plant vigor strengthens them against infection. Watering with 1 inch of water per week, around a tree's drip line, and fertilizing according to label directions will help keep ash trees healthy and more able to fight off disease.

Read the whole article at <http://homeguides.sfgate.com/treat-ash-anthracnose-32032.html>

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Trees in Drought

by Dennis Swartzell, Arid Plant Solutions,
Board Certified Master Arborist. Reprinted
with permission from Arid Zone Trees.

Hardly a week passes without some comment in the media regarding the prolonged drought in the Southwest. News of receding reservoirs, wells going dry, and the plight of farmers working to keep their crops alive are constant reminders that water remains one of our most precious resources.

Those of us in the landscape industry have been keenly aware that restrictions on water use have created some difficult challenges. In the most severely impacted regions of the west there are often debates as to whether landscapes are even necessary. Unquestionably lawns are the first to be considered expendable when it comes to rationing irrigation water. Trees located in turf often suffer as a result and may exhibit diminished health, loss of limbs, and premature death if left unchecked.

Most of the tree species in urban landscapes require a considerable amount of water to stay alive. In fact the *Desert Southwest Community Tree Guide* indicates that mature desert trees require up to 4,000 gallons of water per year to remain healthy. Imagine the amount of



water that more mesic species such as ash and mulberry require each year.

During the hottest months, the majority of the water absorbed by tree roots is used to keep the upper canopy cool. More than 90 percent of the water taken up by a tree during the summer months is lost to transpiration. Water is also necessary to keep soft tissues firm (turgid). The moisture inside of plant cells provides the necessary support to keep leaves and soft stems from wilting. Only a small fraction of the water absorbed is utilized in photosynthesis.

From a botanical perspective trees react to water deprivation in a variety of ways. The initial symptoms are typically difficult to recognize. Broad-leaf trees may wilt during the heat of day yet recover quickly in the evening. Temporary wilting is followed by leaves turning off-color. Sunscald may occur on leaves facing southern and western exposures.

In long-term drought marginal leaf necrosis, often referred to as leaf scorch, may be observed on broad-leaf species. If the soil and/or the water sources are high in salinity the edges of leaves may burn more readily. The leaf margins are lined with microscopic pores, called hydathodes, which function as relief valves for the leaf tissue so that any excess water taken in by the leaf does not cause cell walls to rupture. In the event of high salinity the excess water exuded in a process known as guttation may cause leaf burn along the margin. Often the necrotic line will become more prominent as the summer progresses.

In advanced drought conditions the damage becomes more severe. Symptoms include stunted growth, reduced leaf size, and more severe sunscald on the foliage and exposed bark tissue. If the deprivation continues most trees begin to exhibit branch dieback and limb shedding. For susceptible species attacks by flat-headed borers may be initiated. Sunscald on bark tissue is a prime point of entry for borers.

Trees native to arid regions have evolved to deal with drought in different ways. Many of our desert trees have diminutive leaf area which helps to reduce transpirational water loss. Silvery or gray leaf color helps to reflect sunlight and keep leaves cooler. To conserve water many desert trees often have diminished canopy size producing wide, squat forms with drooping limbs that help to shade the soil surface. During severe drought most of our tree species are capable of shedding leaves to enter a brief “summer dormancy” between rain events.



Photo courtesy of Ten Eyck Landscape Architects, Inc.

Some environmentalists are now saying that clean water is the “new oil.” As we look for reliable sources of fresh water such as drilling more and deeper wells there are concerns that a water crisis will

Trees in Drought continued



- The irrigation system should be designed to account for the mature size of the tree and proportional root system. Rarely do we see the original irrigation system expanded as trees mature which often results in stunted growth, crown decline, and increased risk of wind throw.

occur sooner than later. Efforts to conserve water, especially in the landscape, should become a priority for our landscape designers and managers. Most of us will agree that trees make up the backbone of the landscape and for that reason they should be the primary recipients of our irrigation. From a maintenance standpoint there are several things that we can do.

- Water infrequently and deeply. Deep irrigation cycles will help to push excess salts, a process known as leaching, out of the root zone. It takes a considerable amount of water to flush salinity in the soil. For example, it takes six inches of good quality water to reduce the salinity level of one foot of soil by 50%.
- Minimize compaction. Root depth is predicated on the availability of oxygen in the soil. Soil compaction reduces air exchange with the atmosphere and limits the ability of trees to produce deeper root systems. Heavy equipment, vehicular and pedestrian traffic should be limited near established trees.
- Infrequent irrigation cycles will encourage deeper rooting, but we must provide supplemental water when necessary. During the hottest months without significant rainfall we should consider deep soaks. The use of a deep water probe will provide multiple benefits: a deep irrigation cycle, leaching of excess salts and an opening for the introduction of oxygen. In fact, the vertical holes created by the probe may be backfilled with virtually any item including gravel, mulch or

compost. This “vertical mulching” is highly beneficial to root development.

- Avoid the application of fertilizers during drought conditions. Contrary to popular belief fertilizer is not a cure-all. In fact, fertilizers are basically salts and the addition of more salt during dry spells can cause considerable damage to the root systems of our trees and further complicate the absorption of water by roots. Besides, trees do not need to be pushed into a growth cycle when stressed.

From a design standpoint we can really be proactive. Consider the following:

- We all know that choosing the right tree for the space is important. Landscape designers should utilize the best species for harsh sites. Native or regionally adaptive trees should be matched to the site.
- Landscape installation specifications should address proper soil preparation. Each tree should be provided ample rooting area to develop a full-size root system. Soils should be fractured over a large area to allow for unrestricted root development.

Yes, the southwest is in a drought. Some say the current mega-drought began in the year 2000. While opinions vary on the role of global warming, few argue that drought in the southwest is a reality. We are foolish to pretend it does not exist and ignore it at the long term peril of the quality and aesthetic of our landscape.



Coupled with the prospect that the population of the “Sun Corridor” will swell by over 7 million people by 2040, clearly water conservation will remain a major issue and our landscapes will likely be subjected to greater water use restrictions. Given our current, and likely long term, challenges, the use of regionally adapted trees, landscape designs that reflect the beauty of our surrounding deserts, and the application of appropriate horticultural practices, are an attractive, practical and logical alternative. ■

Pest Post:

First Arkansas, then Louisiana, next Texas!

by Ron Billings, Texas A&M Forest Service.

First published in the Forest Pest Management Cooperative Newsletter PEST.

Our neighboring state of Louisiana—long known for its cypress-lined swamps, alligators, and Cajun cuisine—can claim another distinction, albeit a dubious one. It is now home to the destructive emerald ash borer (EAB). This invasive insect has killed millions of ash trees in rural and urban forests in 24 states, including Arkansas and Missouri. The detection of EAB last August in six counties of southwestern Arkansas— including within thirty miles of the Louisiana border— suggested it

would be just a matter of time before the pest was found in Louisiana, or in Texas for that matter.

In mid-February, entomologists with the US Forest Service/Forest Health Protection, based in Pineville, came across infested ash trees in Webster Parish on the Arkansas border. During a routine roadside stop, the federal entomologists recognized heavy woodpecker activity on several ash trees. Closer inspection (as entomologists are

inclined to do) revealed winding galleries and white larvae beneath the bark characteristic of EAB. Their suspicions were soon officially confirmed. EAB had arrived in Louisiana.

The infestation, consisting of 12–15 ash trees all showing signs of infestation within a mixed hardwood stand, is located just 42 miles from the Texas state line. The Louisiana Department of Agriculture and several federal agencies are conducting surveys to determine how widespread the current infestation has become.

Once the survey is completed, a quarantine will be placed around the infested area to prohibit the sale of ash nursery stock and prevent movement of hardwood firewood

to other areas. Infested ash firewood is believed to be the means by which EAB is transported over long distances. A similar quarantine already has been implemented in 26 counties in southwestern Arkansas. As of March 1, EAB has not been found in Texas.

The Texas A&M Forest Service (TFS), in conjunction with the USDA Animal and Plant Health Inspection Service (APHIS), Texas A&M AgriLife Extension Service, Sam Houston State University, and other collaborators have deployed several thousand detection traps in high-risk counties throughout Texas in recent years with negative results (i.e., no EAB found on the traps). Plans are to continue the detection survey with emphasis on East Texas in 2015, if federal funding becomes available. Because of the importance of this pest, TFS plans to install 380 APHIS-provided detection traps in high risk areas, even if additional federal funding is not offered to cover operational costs.

Meanwhile, foresters, landowners, and others who frequent our East Texas forests are encouraged to keep their eyes peeled for declining ash trees. Signs and symptoms of EAB include ash trees dying back from the top, an abundance of basal sprouts (epicormic branches), evidence of woodpecker feeding on the trunk, winding trails (galleries) and/or white inch-long larvae beneath the bark, or “D”-shaped exit holes in dying or dead ash trees.

Report any suspicious symptoms to your nearest TFS field office or contact TFS Regional Forest Health Specialists Allen Smith at lasmith@tfs.tamu.edu in East Texas or James Houser at jhouser@tfs.tamu.edu in Central Texas. ■



Emerald ash borer adults and “D”-shaped exit holes on ash.
(Photo courtesy West Chester Tree Life, LLC.)



Characteristic galleries made by emerald ash borer on infested ash.

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The Right Tree Trail of Missouri City



by Paul Wierzbicki, Missouri City Parks & Recreation

In January 2009, Missouri City partnered with CenterPoint Energy to create the first Right Tree Right Place demonstration trail in the Houston area. The project entailed removing four declining hackberry trees, which were located under a utility distribution line, and replacing them with 33 small-statured trees that are able to grow to their full potential without overhead conflict. Trees were planted by volunteers, and

interpretive signs were placed next to the trees to give residents more information. The timing was perfect, as it was shortly after Hurricane Ike had decimated many people's home landscapes, and many residents were inquiring about new trees and shrubs to plant in restrictive areas.

On November 14, 2014, Missouri City and CenterPoint Energy partnered once again for a follow-up to the project. With

the help of 30 volunteers from CenterPoint Energy and Missouri City Green, an additional 20 trees and interpretive signs were installed at a distance appropriate for medium-statured trees. These trees were planted at least 20 linear feet from overhead utilities, and included species such as American holly, pistache, retama, loquat, fringetree, and redcedar. Missouri City Parks & Recreation handled the site prep and maintenance, and CenterPoint Energy contributed the trees, signs, and volunteer lunch. In addition, a TUFC micro-grant was

awarded to help add a few trees to the project. This project was a great partnership and helped create a mutually beneficial opportunity for utility education and park beautification. ■



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EDITOR'S NOTE by Oscar Mestas

January 2012 was my first year as your Editor. The top news in the newsletter that year were the estimates of millions of dead and dying trees in Texas due to the 2011 drought/ fires and big freeze in West Texas. Fortunately we have been slowly recovering since then, but there are still some areas of Texas that are struggling for water and hoping their reservoirs will soon be filling.

The snow pack in Colorado started early last year and that is good news for the farmers and folks in El Paso where we use Rio Grande water to irrigate the pecan orchards and for municipal use also. 2014 was also a good year for rainfall (over 9 inches) at my house and some scattered fall rain showers, and 2015 has brought some scattered showers over West Texas which has equated to a good wildflower show this spring, especially in Big Bend.

I'm being optimistic for both the State of Texas and the current year with ISAT. We have a great new board and the retreat went well with a lot of good participation and ideas from our newest members. The new members of last year now have a better idea of how things operate, and they were quick to volunteer and serve on different committees. That being said, please visit www.isatexas.com and look at the volunteer opportunities that are available for you to help keep this organization growing and moving in the right direction. Do not sit back and armchair quarterback. Get involved! Start by sending me a short article—400 words or less with a photo—and let others know what great things you are doing. As always I am open for suggestions on how to make this newsletter better, what do you like or not like. Please send your comments or questions to: omestas@tfs.tamu.edu. Have a safe and great summer.

Meet the ISAT Board: MICAH PACE

New board member Micah Pace, whose term runs through 2016, is an urban forestry specialist with Preservation Tree Service in Dallas (www.preservationtree.com). He has BS and MS degrees in forestry, worked for forest service agencies in three states, and has been a professional forester and practicing arborist in north Texas since 2009.

His professional interests include improving urban forest management using comprehensive inventories and resource assessments, as well as advancing the art and science of arboriculture throughout the Dallas-Fort Worth area, one client at a time. Micah has led the way in Texas utilizing innovative tools from the iTree suite of tools (www.itreetools.org) in order to help communities learn more about their urban forest resource and how to better manage their trees. He has completed high-profile projects for the cities of Arlington, Mesquite, and Plano.

Micah sees technology becoming more important, adding value to field work. Tools such as sounding and imaging equipment for decay assessments and wood strength loss will become more and more available and cost effective, he believes, making these important evaluations available to more clients. "I also see the willingness to invest in urban forest management continuing to increase, as it has in the last five years," says Micah. "I believe more and more communities will see the value in improving the proactive management of their urban forests."



His ideas for ISAT: continue to add new and innovative educational options during the annual conference, and also promote regional-based educational opportunities throughout the year that focus on priorities of professionals in those regions.

Micah is fluent in Spanish and has translated many articles and educational materials into Spanish for ISAT. He currently assists the ISAT board by serving as the membership chair, chairing the development of ISAT's new Oak Wilt Qualification Program, and assisting with program development and planning for the annual Texas Tree Conference.

Micah is available to both new and long-time members. "If I can be of service or assistance in any way, please don't hesitate to contact me," Micah says. He can be reached at micahp@preservationtree.com. ■



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Strong Winds Strong Roots: What Trees Teach Us About Life

by Dennis Merritt Jones

A great experiment in the desert called the biodome created a living environment for human, plant and animal life. A huge glass dome was constructed to house an artificial, controlled environment with purified air and water, healthy soil and filtered light. The intent was to afford perfect growing conditions for trees, fruits and vegetables, as well as humans.

People lived in the biodome, for many months at a time, and everything seemed to do well with one exception. When the trees grew to a certain height, they would topple over. It baffled scientists until they realized they forgot to include the natural element of wind. Trees need wind to blow against them because it causes their root systems to grow deeper, which supports the tree as it grows taller.

Who among us doesn't long for a perfect growing environment for ourselves, with no disruptions from outside influences? We strive to avoid the times of contrast and tension, when life's daily challenges push against us. When they

do, the normal tendency is to curse them. If trees could talk, would we hear them curse the wind each time they encountered a storm?

We can learn a great deal from nature's wisdom at work if we are open to the lesson. Watch how a tree bends and sways gracefully when the wind blows against it. It does not stand rigid, resisting the flow of energy. It does not push back. The tree accepts the strong wind as a blessing that helps it grow. Such experiences develop our character and deepen our spiritual roots. When we grow deep, we too, stand tall.

Dennis Merritt Jones, D.D., is the author of Your Re-Defining Moments, The Art of Uncertainty and The Art of Being, the source of this essay. All published by Penguin/Randomhouse. He has contributed to the human potential movement and field of spirituality as a minister, teacher, coach and lecturer for 30 years. Learn more at DennisMerrittJones.com. This article appeared in the April issue of Natural Awakenings magazine and was sent to us by Mark Baker, Environmental Review Specialist Senior, City of Austin Development Services Department.



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Desert trees: form and function

by Patrick B. Brewer, Vice President/Division Manager,
Bartlett Tree Experts, Southwest Division, Austin

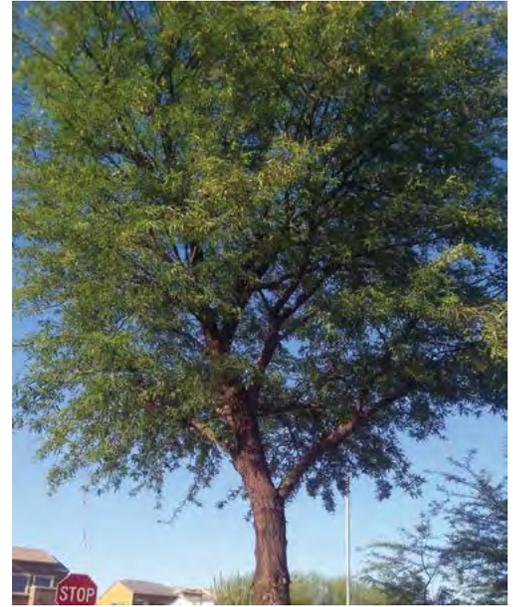
In July of 2014, the ISA Texas chapter published an article on Desert Trees: Form and Structure, arguing that pruning for a central leader and hence good branch ratios doesn't work with desert species. It riled me up a bit as I have worked for several years to promote better pruning of desert trees. Recently, I wasn't a bit surprised to see the cover of the most recent *In The Shade* newsletter, showing the results of a West Texas ice storm on a desert tree with flat-faced branch failures on all of the major branches, devastating the tree in the picture.



It is certainly true that those species are more difficult to prune for structure. In the desert, the multi-leader spreading structure of acacias, palo verdes, palo breas, mesquites, and other species are an effective response toward shading soil, reducing wind-drying, and reducing competition in a very harsh environment. However, a multi-leader form is not the best when these species are brought into the urban forest. Every year, tree damage in Tucson and Phoenix shows me this mistake in practice. After every major storm (they call them monsoons) the streets are littered with stems with the same flat-faced breaks seen in West Texas, caused by poor branch ratios on desert species, in many cases destroying trees and shutting down streets.

Branch ratios have a direct impact on the resilience of the branch attachment across desert, xeric, temperate, and rain forest species, period. In the desert, tree growth is slow and only after many years does a tree attain substantial size. In urban areas where irrigation is common, a mesquite can reach 25" stem diameter in fifteen years. These are not small-maturing trees in the urban environment. Add to this the fact that these trees must be limbed up to accommodate houses, streets, and drives, and with a multi-stemmed form we have a recipe for disaster.

Pruning xeric trees is a challenge, but we cannot ignore one of the truths about trees: strong branch attachment comes from a pattern of subordinate branches on a parent stem. Dr. Alex Shigo showed us decades ago how branches imbed themselves into a parent stem if they are subordinate, this is nothing new. Rather than allowing multiple codominant with similar-sized leaders to form, we should always look to subordinate laterals to avoid codominant stems and branch ratios greater than 75%, even on desert species. In my opinion, we are at a new beginning in our understanding of pruning for strength, and this is no different in desert cities than in any urban forest. We owe it to the trees to approach pruning with competence and vision. ■



Left: Willow acacia with codominant stems.
Above: Mesquite with better branch ratios.



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LUFKIN ARBOR DAY



Lufkin celebrated Arbor Day on February 6th with a ceremony at Saint Cyprians Episcopal School. Elementary students sang a song about trees and a Texas A&M Forest Service forester, Todd Nightingale, reviewed the history of Arbor Day. The mayor read a proclamation naming February 6, 2015, as Arbor Day in Lufkin. Then an oak tree was planted. Members of the Lufkin Tree Board, the Lufkin City Council, Angelina Beautiful/Clean, and others were present for the event.

-Joe Pase

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March Big IDEa Winner



Justin Krobot correctly identified the March Big IDEa tree as possumhaw holly, *Ilex decidua*. Justin is Assistant City Arborist for the City of San Antonio Development Services. He has a BS from Texas A&M and an MBA from UT-San Antonio.

Honorable mention goes to Mark Baker. Mark answered correctly, but he jumped the gun and posted his answer on the ISAT message board before the official photo and page posting went up.

Thought You Might Be Interested to Know . . .

Tawny Crazy Ants Displace Fire Ants on Gulf Coast



The tawny crazy ant is now sweeping across the southeastern U.S. (Photo by Joe A. MacGown, Mississippi Entomological Museum).

Compiled by Ron Billings, Texas A&M Forest Service, from various internet sources

The tawny crazy ant, *Nylanderia fulva*, (formerly known as the Raspberry crazy ant after pest exterminator Tom Rasberry who first reported it in Houston), gets its name from its light brown color and erratic movements. For better or worse, this invader is beginning to displace the invasive red-imported fire ant, *Solenopsis invicta*. Both species originate from South America. *N. fulva* has been a pest in rural and urban areas of Colombia, South America, where it displaced all other ant species.

There, small poultry such as chickens have died of asphyxiation, while cattle and other larger animals have been attacked around the eyes, nostrils, and hooves. Grasslands have dried out because of the increase in plant-sucking insect pests (hemipterans) which the ants cultivate and the excretions of sugary “honeydew” on which they feed. When attacked, these ants can bite but not sting, and excrete formic acid through a hairy circle on the end of the abdomen. The formic acid is used as a venom which causes a minute pain that quickly fades. Uniquely, the tawny ant also uses formic acid as an antidote against the venom of the fire ant. It recently has been discovered that the crazy ant produces and covers itself with formic acid as an antidote against the fire ant’s venom. Tawny crazy ants were found to displace other ant species in their native Argentina and later the U.S., including the red imported fire ant.

It is the first example of an insect being able to neutralize another insect’s poison, an ability speculated to have evolved in South America while sharing the same native range. Colonies have multiple queens, a feature that contributes to their survival. The earliest record of *N. fulva* presence in the US is from Brownsville, Texas, in 1938. By the early 2000s, the ants spread across the southeastern portion of Texas including at least 27 counties. As of 2012, the ants have established colonies

in all states of the U. S. Gulf Coast. The ant is considered an invasive species. Infestations of *N. fulva* in electrical equipment can cause short circuits, sometimes because the ants chew through insulation. Overheating, corrosion, and mechanical failures also result from accumulations of dead ants and nest detritus in electrical devices. If an ant is electrocuted, it can release an alarm pheromone in dying, which causes other ants to rush over and search for attackers. If a large enough number of ants collects, it may short out systems.

It is unclear why colonies of crazy ants, like many species of ants, are attracted to electrical equipment. They may sense the magnetic fields that surround wires conducting electric current, or they prefer the warmth produced by resistance to the currents in the wires. Some argue they simply are searching for food or an attractive place to nest. The ants are not attracted to ordinary ant baits, and are not controlled by over-the-counter pesticides, and are harder to fully exterminate than many other species because their colonies have multiple queens. In June 2008, the United States Environmental Protection Agency granted

temporary approval for the use of fipronil, an anti-termite agent, to control this ant. Its use is restricted to seven counties in the Houston area.

The ant is very small, about 0.125 in (3.2 mm) long, thus smaller than the red imported

fire ant. It is covered with reddish-brown hairs. The colonies live under stones or piles; they have no centralized nests, beds, or mounds. They tend aphids for honeydew, feed on small insects and vertebrates, and forage on plants, especially for sweet materials. The ants appear to prefer the warmth and moisture of the coast. The ants don’t fly and they normally move, on average, only 200 m per year. Long distance movement is by humans, transporting ants in abandoned boxes, vehicles, or potted plants. Be on the lookout for crazy ant stowaways. ■

“Be on the lookout for crazy ant stowaways”



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DYNAMITE IN THE ORCHARD



IT HAS been conclusively proven that dynamite is an exceedingly valuable aid in the successful growing of trees. Those who have tried it are thoroughly convinced that no method of excavating the hole in which to plant a young tree is so economical, quick, or productive of desirable after-results as blasting with dynamite.

Sometime ago it was the prevailing idea that dynamite was unnecessary for tree planting unless the soil chanced to be underlaid with hardpan, in which case the explosive was regarded as valuable for breaking through the hard soil. It has been found by experiment, however, that trees thrive better when planted in blasted holes than in hand dug holes, even when no hardpan is encountered.

The explanation of this is simple. It is because the explosion of the dynamite loosens up the soil for yards around the spot, kills all grubs, worms or other animal life likely to injure the young tree and thus makes root growth easy; whereas, digging the hole with tools tends to pack the earth around the roots and retard their growth.

Scientific agriculturists have discovered that water is the most important element in all kinds of plant growth. Soil which is of the natural consistency to allow water to circulate freely through it and still retain or conserve it so that it is available at all times for growing plants may be considered as ideal for agricultural purposes. Few soils possess this natural consistency. Other soils, which may be classified as good, average, or fair, must have artificial preparation in order to make them produce the results that may be expected from the rarely-found perfect natural soil.

Few persons understand the principle of plant growth. It is not necessary, as many suppose, that the root of a plant shall come in actual contact with all of the plant food elements of the soil needed for the sustenance of the plant or tree. Plant roots have the power to draw from the surrounding soil the necessary elements of plant food, provided the soil is of such a character as to permit the passage of these elements through it. Water or moisture is the carrier of these plant food elements through the soil and into the plant roots. This will indicate the importance of a porous soil which will permit the free passage of water through it in order that plants growing upon the surface may be properly nurtured for rapid and healthy growth, and it is because the action of an explosive on soil causes it to become thoroughly loosened and aerated that trees planted in blasted holes show so much stronger and healthier growth than trees planted under old conditions.

Blast from the Past (Please Don't Try This at Home)

This historical item on tree planting with dynamite was seen in the Nov/Dec 2014 issue of City Trees, the magazine of the Society of Municipal Arborists (urban-forestry.com).

TFS centennial exhibit reception

Over 160 attendees gathered at the George Bush Library and Museum on the Texas A&M campus to help TFS celebrate the opening of the History in the Making exhibit celebrating 100 years of service. Special guest speakers included Chancellor John Sharp and Director Tom G. Boggus.

“Tonight is incredibly special for our agency. There are several video clips running throughout this exhibit that will give you a glimpse of what this agency means to the people lucky enough to work here,” Boggus said. “The exhibit title is not by mistake—we are celebrating 100 years, but understand that we are still making history every day and we aren’t finished by a long shot.”

The exhibit will run until Nov. 8. To see photos from the event and exhibit, go to the TFS flickr page:

<https://www.flickr.com/photos/texasforestserservice/sets> and choose “History in the Making...”



TFS publishes centennial edition, *Famous Trees of Texas*

To celebrate its 100th anniversary, the Texas A&M Forest Service presents a new edition of its classic 1970 book *Famous Trees of Texas*. The centennial edition, by Gretchen Riley and Peter D. Smith, features 100 trees that are living links to Texas history.

The book is available from TAMU Press (tamupress.com) or Amazon.



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Fire Blight Photo: William Jacobi, Colorado State University, Bugwood.org
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Help Texas AgriLife find this new pest!

There is a new insect pest that is spreading to crape myrtle trees throughout Texas. This insect was first detected in 2004 in Dallas, but it wasn't until last year that this scale was positively identified as an exotic scale, *Eriococcus lagerstroemiae*. In 2014 Texas A&M AgriLife Extension published information about this scale, and most recently, AgriLife employees have worked with the Southern Region IPM Center to create an information clearinghouse and citizen science database for this pest.

Here's where AgriLife especially needs your help. They are asking people in Texas who think they have encountered this pest to report it. The <http://www.eddmaps.org/cmbs/> site makes this process fairly simple. A person can register on the site and click on the Report Sightings tab to report a new location for this pest. A report is verified by pictures, so they encourage folks to take a digital picture of the suspect infested tree. The site allows the person putting in the data to pinpoint the location, down to the precise block or back yard where the infested tree is located.

AgriLife knows that the scale is already present in Houston and College Station, but they have very few reports from east and central Texas locations.

... and remember to check in with the ISAT pest page

More information on this and a host of other pests can be found on the pest page at [isatexas.com](http://www.isatexas.com). Keep checking back for timely pest alerts. Current topics include lethal date palm, tent caterpillars, citrus root weevil, eastern speckled oak gall, and citrus greening.
