

THE BUCKEYE Arborist

○ VOLUME 50, NO. 5 ○ SEPTEMBER/OCTOBER ○ 2019

Ohio Chapter International Society of Arboriculture
www.ohiochapterisa.org

Meet the Member



Six years ago, Betsy Parks was looking for a career change. She was interested in working outside and a friend offered an entry-level opportunity that she fell in love with. Now, there is nothing she would rather be doing than climbing! In August, Betsy represented Ohio in the International Tree Climbing Championship in Knoxville, TN.

Betsy is a general foreman and climber at Parks Tree in Eastlake, Ohio. She is an ISA Certified Arborist and hopes to earn the TRAQ designation later this year. Betsy was born in Oceanside, CA, and has a bachelor's degree in Business Management.

We asked Betsy about her favorite tree and why? "I love American Beech trees. The bark is unique in the tree world and I just think they grow with elegance," she replied. Betsy stays connected with other arborists through Chapter membership and knows it's important to keep current with education in Ohio. Her biggest challenge is maintaining a safe work environment. Parks Tree promotes proper practices and they focus on safety as their main goal. There are so many different facets of arboriculture and so many different areas to focus on which means there's always something new for Betsy to learn.

In her spare time, Betsy enjoys traveling to different dive locations around the world. Betsy is a PADI certified scuba diver.

We hope you enjoyed meeting Betsy and you will look for her at future Ohio Chapter events.

President's Branch

By Tyler Stevenson



It has been a busy year! The opportunities to get involved with the Chapter and our allied organizations for continuing education, professional networking, and all-around arbor fun seem endless. This past August held a couple of great events that aren't around Ohio every year. Our Chapter helped sponsor the 4th triennial Biomechanics Week at the Davey Tree Research Station in Shalersville, Ohio. Researchers from five countries and several

U.S. states descended upon the 28-acre plot of land to test their theories and help us better understand the trees we work in and around every day; ultimately making our industry and the public safer. If you missed the field day this year, mark your calendars for 2022.

With the 2018 International Conference still fresh in our memories, many of our members traveled south to attend the 2019 ISA Annual International Conference and Trade Show in Knoxville, TN. While hard to compare to the incredible conference our membership helped produce in 2018, it didn't disappoint anyone seeking to broaden their knowledge of arboriculture and urban forestry. But if you didn't get a chance to saunter south, Ohio is still hosting two more major educational opportunities in 2019. The Utility Arborist Association and Arbor Day Foundation will present the Trees and Utilities Conference September 10 through 12 in Cincinnati. And in November, the Arbor Day Foundation's Partners in Community Forestry Conference will be held in Cleveland along with several partnering events including the 55th Annual Society of Municipal Arborists Conference and Trade

cont. on page 2



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THE BUCKEYE ARBORIST

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Articles

Submit articles in Word format to the Editor at info@OhioChapterISA.org for consideration. All articles are subject to technical review. Accepted articles may be edited for brevity, clarity and adherence to Chapter requirements and standards. Submissions must contain original work.

An ISA Certified Arborist in good standing may receive CEUs for work published in *The Buckeye Arborist*.

Advertising

Acceptance and publication of advertisements, editorial copy or product announcements do not necessarily imply Ohio Chapter ISA's endorsement of said products or techniques, nor does it reflect the opinion of the Chapter regarding any such product or technique. *The Buckeye Arborist* reserves the right to refuse any advertisement that is deemed unsuitable for publication.

For advertising reservations and material deadlines, rates and data – as well as other Ohio Chapter ISA sponsorship and messaging opportunities – please contact the Ohio Chapter at info@OhioChapterISA.org.

Ohio Chapter ISA

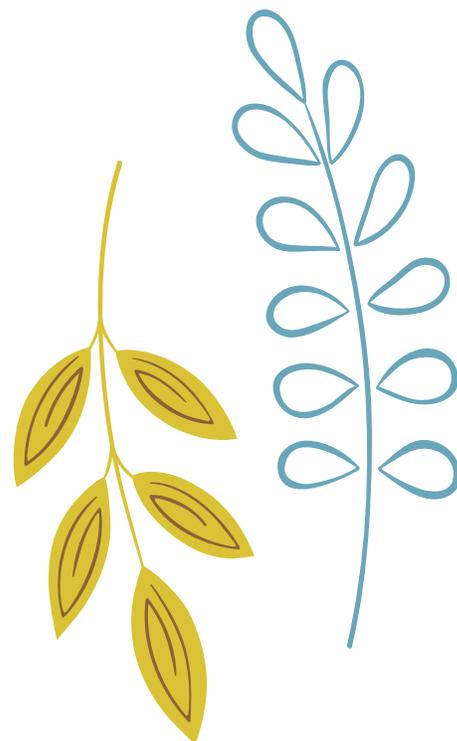
The **Mission** of the Ohio Chapter International Society of Arboriculture is to advance responsible tree care practices through research, technology and education, while promoting the benefits of trees.

The Ohio Chapter **Values** investing in the future of professional arboriculture through education, research, safety and communication, while maintaining integrity and credibility.

President's Branch Cont. from page 1

Show, the Alliance for Community Trees Day, and the 15th Meeting of the Continental Dialogue on Non-Native Forest Insects & Diseases. Ohio is truly the heartwood of our industry in 2019.

One final note... We would like to thank those individuals and companies that answered the call for their arboriculture skills and expertise to help those affected by the Dayton area tornados earlier this year. We are extremely grateful for their selfless actions and will formally recognize their efforts at our 2020 Ohio Tree Care Conference in Dayton.



Scholarships Awarded

The Ohio Chapter is honored to have the ability to assist individuals with the financial responsibility of professional arboricultural development. Annually, \$7,000 is available and awarded to applicants who meet the criteria. We are excited to announce this year's recipients!

Option I – Certified Arborist – Four scholarships are available, valued at \$750 each. Candidates must meet ISA certification board qualifications to sit for the ISA Certified Arborist exam. Recipients receive one-year complimentary membership (or 12-month extension for current members) to both the ISA and the Ohio Chapter, a copy of the ISA Certified Arborist Handbook, a reserved seat at an Ohio Chapter preparation or review course, ISA exam registration fee paid plus \$225 to assist in travel expenses and any additional study materials deemed appropriate by the recipient.

This year, **David Norris**, crew leader with Davey Tree Expert Co. in North Royalton received the scholarship. David currently works with commercial maintenance and landscaping doing tree and shrub planting, mulching, staking, pruning and much more. Prior to working with Davey, David worked for Tru-Green-Chemlawn as a tree and shrub specialist, lawn tech, and pruning manager. David has a passion for trees and knows that becoming certified re-enforces his commitment to arboriculture and is a fitting achievement for all the work, training, and studying he has done.

Option II – Professional Development Scholarship – Two scholarships are available annually valued at \$500 each. Applicants must be a member of the Chapter and be a current ISA Certified Arborist seeking professional development in one of the other ISA certification or qualification areas. Recipients receive \$500 to cover appropriate study materials and training as deemed appropriate.

Carrie Paulus with Horticultural Concepts in Mogadore received one award to assist her financially with renewing her ISA Tree Risk Assessment Qualification (TRAQ). As a small business owner, the costs of memberships, certifications and qualifications are costly but extremely valuable accomplishments.

Dawn Sherman also received a professional development scholarship. Dawn aspires to obtain the ISA Tree Risk Assessment Qualification

(TRAQ). If you know Dawn, you know that she is a true advocate for trees and a valuable asset to the industry.

Option III – Traditional Student Scholarship – Three scholarships are available in this category. Recipients receive a complimentary student membership to both the ISA and the Ohio Chapter and \$1,000 is sent to the academic institution where they are enrolled. Applicants must be Ohio residents, currently enrolled in a 2-year or 4-year accredited post-secondary arboriculture, horticulture, urban forestry or related degree program.

Robert Hammond has received several Ohio Chapter scholarships due to his diligence and dedication to the profession. Bobby works full time for Diefenbacher Greenhouses and attends the University of Cincinnati full time. It's obvious that Bobby supplements his academic interests with a real drive for practical, hands-on experience.

Ryan Vogel has also received several Ohio Chapter scholarships. He is persistent in applying and the epitome of a volunteer as required by his scholarship awards. Ryan has been seen helping out registration at the Ohio Tree Care Conference and attends chapter board meetings as his schedule permits. Ryan attends The Ohio State University and currently works for Columbus and Franklin County Metro Parks as a resource management intern. As a full-time graduate student, Ryan's journey is difficult, especially with a wife who is also a full-time graduate student and a young child to take care of.

Occasionally, no applications are received in a category because people think they *will never win or don't have time* or make up other excuses. If you do the math, you'll see that over \$3,000 was not awarded this year. Is your career where you want it to be? If not, why not take a chance and apply for a scholarship? Or do you know of an individual planning a career in the industry who needs financial assistance? Encourage them to apply. You have nothing to lose by trying; and potentially \$1,000 to lose if you don't try!

Annual application deadline is July 1. Mark your calendar to take time in May/June 2020 to apply for an Ohio Chapter ISA scholarship. You truly have nothing to lose and so much to gain!

Preserve Ohio's Greatest Green Resource – Trees!

By purchasing a *Trees4Ohio* specialized interest license plate for your vehicle, you help underwrite educational programs and services that directly benefit the trees of Ohio.

The plate provides one of the best **member benefits**; it directs readers to Trees4Ohio.org. This site is designed for consumer's looking for everything from proper pruning and mulching to how to find and hire an Ohio tree care professional. **Chapter members must login to OhioChapterISA.org and update their profile. You must check "available for hire" and each of the services you provide.** Your email address associated with your membership record is your user name. If you forgot your password or have not logged in before, use the "forgot my password" and an email will be sent to you with instructions. If you have questions or problems logging in, please contact the Chapter office.

The new specialized interest plate is available under Organizational **Plates at <https://www.bmv.ohio.gov/vr-sp-organization.aspx>.**

Show your support by purchasing new plates and don't forget to **update your profile** so that consumers can find you!



Certification Corner

By Carrie Paulus, CA, Education & Public Outreach Committee

Do You Have What It Takes to Become Certified?

Part I – Types of ISA Credentials

Becoming credentialed by the International Society of Arboriculture (ISA) is a process and begins with determining which credential is best suited to your experience, skills and knowledge. ISA offers certification and qualification that are based on different specializations and eligibility requiring successful completion of separate exams. Each credential has a specific study guide and materials. Begin by accessing the ISA application handbooks at www.isa-arbor.com/credentials for the most current information and to determine which credential is right for you and the requirements needed for each individual credential. Certification is a professional development journey, begin yours today! To verify eligibility and apply to become Certified, or Qualified go to www.isa-arbor.com/Credentials/Apply-Now/Apply-for-Eligibility. You must be approved in writing (receiving a confirmation letter or email) by ISA after submitting your application to be eligible to sit for an exam.

ISA Credentialing types include; ISA Certified Arborist®, ISA Certified Arborist Utility Specialist®, ISA Certified Arborist Municipal Specialist®, ISA Certified Tree Worker Climber Specialist®, ISA Certified Tree Worker Aerial Lift Specialist®; ISA Board Certified Master Arborist® (*No study guide for BCMA) and the ISA Tree Risk Assessment Qualification®. All ISA Credentials require the ISA Certified Arborist credential prior to additional certifications with the exception of the ISA Certified Tree Worker Climber® and Aerial Lift Specialist®.

Certification Prep Courses

The Ohio Chapter ISA Education & Public Outreach Committee is committed to assisting tree care professionals in achieving certification by offering various certification preparation courses throughout the state. Taking a certification prep course is separate and independent from the application process to apply and take an ISA credential exam.

The Chapter holds one full course typically in late summer and a review course in conjunction with the Ohio Tree Care Conference. Once course details are confirmed, they are posted on the events calendar at www.OhioChapterISA.org.

Call for Board Nominations

The role of the Board of Directors is to set policies and procedures to ensure the Chapter fulfills its legal, financial, operational, and professional responsibilities. The Board establishes the direction of the Chapter and provides leadership to the members.

There are many benefits to volunteering. When you take part, you get closer to people. You come to know your friends even better and you make new acquaintances. The selfless act of helping provides a spiritual boost; knowing you did something good for your profession.

We are honored to recognize the following individuals who recently received new credentials. Congratulations to all!

ISA UTILITY SPECIALIST

David L. Hoover, Pierpont

ISA CERTIFIED ARBORIST

Steven Hilton, Cincinnati	Brad Joseph Piecuch, Cincinnati
Adrien Lowien-Kirian, Bowling Green	Roger Ryan Roy, Amelia
Eric Michael, Canal Winchester	Matthew Salvator, Delaware
Kasey Joel Miller, Zanesville	

ASCA TREE & PLANT APPRAISAL QUALIFICATION (TPAQ)

Scott Conover, Upper Arlington	James Jenkins, Kent
Annette Durbin, Columbus	Walter Reins, Westerville

On February 25 & 26, 2020 the condensed review course will be held during the Ohio Tree Care Conference in Dayton. The review is intended for individuals who are more thoroughly prepared to take the ISA Certified Arborist exam.

Certified Arborist Scholarship Award

Congratulations to David Norris from Berea on earning the Ohio Chapter ISA Certified Arborist Scholarship Award for 2019. David is a crew leader for the Davey Tree Expert Company in North Royalton pursuing his ISA Certified Arborist® credential. This award is valued at \$750 and includes a one-year membership to both the ISA and the Ohio Chapter, a copy of the ISA Certification Study Manual, access to one of the chapter's prep courses, registration for the ISA Certification Exam, and specified travel expenses. David will be volunteering 25 hours for the Chapter during the coming year in various capacities such as OTCC, Ohio TCC, educational programs or other public outreach opportunities. Best wishes in pursuing your professional development with ISA certification.

Part II Maintaining Your Credentials

Watch for the November/December issue of the Buckeye Arborist for Part II of this series, maintaining your credentials. The Ohio Chapter, ISA, and numerous associate industry organizations offer many opportunities for educational programming—the key to maintaining your ISA Credentials!

The Leadership Development Committee seeks to fill a slate of candidates for the 2020-2021 elections. There will be 3 open seats, each with 2 year terms. All candidates must be members of the Ohio Chapter.

If you are interested in keeping the Chapter strong and serving on the Board of Directors, email dixie@OhioChapterISA.org no later than November 15. You'll be glad you did!

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TREE Fund Update

By Kevin Jones

Greetings TREE Fund Supporters!

As this issue hits your desk, the Ohio Chapter ISA participants in this year's edition of the Tour des Trees will be getting ready to head out. We want to say a huge THANK YOU to all of you who supported Ohio team riders this year. We saw all kinds of support from all of you with generous contributions to the TREE Fund at this year's OTCC, the Ohio golf outing, North Coast Urban Forestry meeting, and other events as well as your personal support directly to one of our riders.

For this edition of the update, here is a highlight of one of the TREE Fund programs that directly helps our state and our industry. I hear from many people in the industry that there is a shortage of personnel to hire. This program is working head on in our state to address this issue.

From the TREE Fund Website:

2018 | Kent Roosevelt High School Forestry and Landscape Management Program

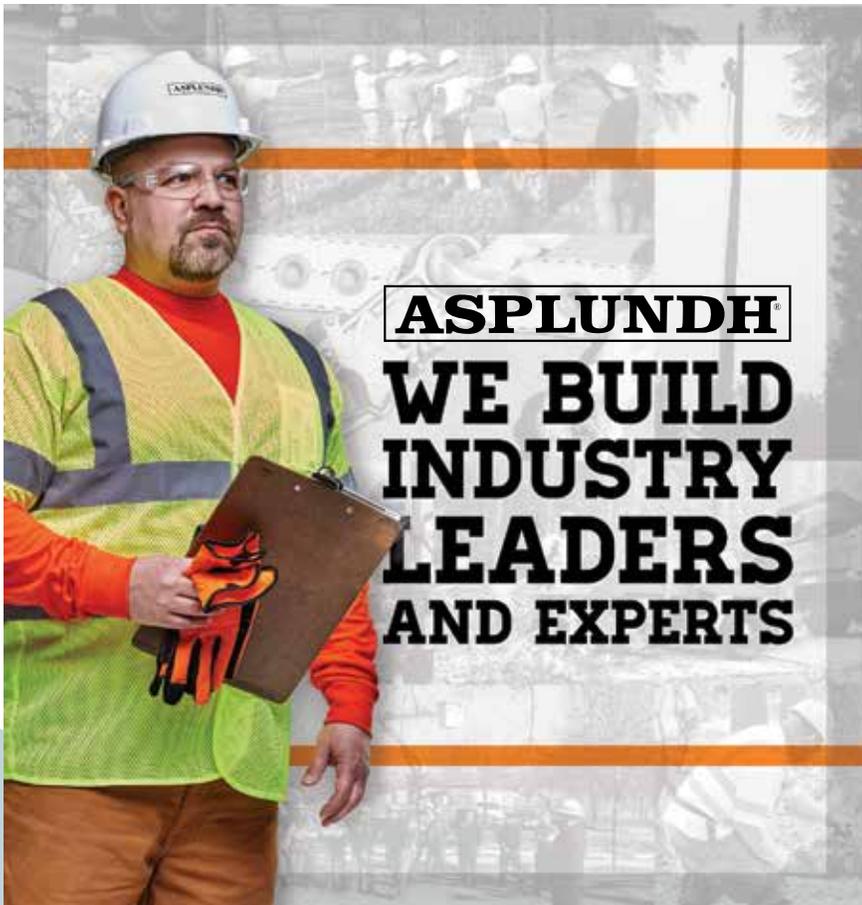
The Kent Roosevelt High School Forestry and Landscape Management Program (FLMP) has been in existence for over 20 years and its equipment has experienced wear and tear. Although some equipment has been replaced throughout the years, tree work is hard on equipment. It is important that tree gear be frequently replaced to remain safe, and this requires a great deal of expense. Climbing technology has changed considerably over 20 years. Ascenders, carabiners, lanyard systems and assisting pulleys are now part of a rope and harness system. It is important that graduating students have a working knowledge of the advances in arboriculture specific to climbing, and funding cuts in public school systems have made covering these expenses extremely difficult. School

budgets are tight and program budgets have not increased at the same rate as inflation. In spite of this, Kent Roosevelt High School FLMP has managed to do more with less and has created a reputation for helping high school students realize a productive place in the tree care industry. Many local employers have become accustomed to recruiting from the program annually. Many students have realized the benefits of further education by attending colleges such as OSU-ATI, Kent State University, Cuyahoga Community College, and schools as far as the University of Wisconsin, Stevens-Point to study arboriculture before entering the industry. This grant application is for financial assistance with purchasing updated climbing gear. This gear allows for the continued and more efficient ability to work in the community to earn funds and practice the valuable skills learned in the arboriculture field.

Project Variance: The original TREE Fund grant proposal was for \$5,000, which would have allowed for the purchase of 5 new complete climbing sets. An unexpected additional \$10,000 from Davey Tree greatly expanded the grant budget resulting in the purchase of 15 new complete climbing sets along with some additional equipment that further enhances the climbing education experience.

News Coverage: As a result of this TREE Fund grant, Kent Roosevelt High School FLMP has had the opportunity to appear in their local paper, Record Courier, in September 2018, and November 2018 with both an article and picture. In addition, they have appeared in the Davey Bulletin, Sept./Oct. 2018, and the Six District Educational Compact Points newsletter, Fall 2018.

This is one great example of the TREE Fund at work.



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Partners Conference



The Partners in Community Forestry Conference is coming to Ohio! Join your peers this November as everyone comes together to share their best practices and find new ideas to bring home.

The conference offers:

- Relevant, practical research findings.
- Best practices — for your trees and your organization.
- Current trends in community forestry.
- All the continuing education credits you need for the year.
- Plenty of fun networking opportunities.

Learn more about the conference program at <https://www.arborday.org/programs/pcf/agenda.cfm>.

Registration is now open at a discounted rate through October 25. Bring your skills, your hunger for knowledge, and your passion for community forestry to Cleveland as you mingle with like-minded professionals — the thinkers, doers, and thought leaders in community forestry.

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Safety Corner

By Brian Goodall

Equipment Inspections

One of the most frustrating issues to deal with is problems with equipment that could have been easily identified and or prevented. Hindsight is always 20/20, but we need to learn from our mistakes. Too many accidents, injuries, and damages occur due to equipment failures that could have been prevented if the equipment was inspected prior to its use. Time is always an issue for us all. We are all busy and trying to get out the door as soon as we can to get to work. We never have enough time it seems. If we do not make the time for safety, we will continue to have unnecessary accidents.

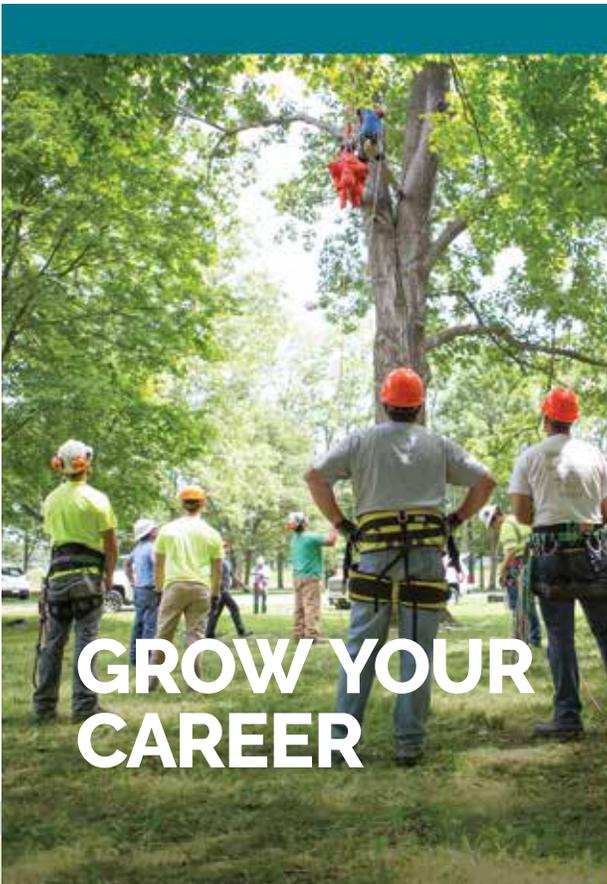
Routine equipment checks are an easy and effective way to help improve the safety of your crews and their equipment. These inspections do not need to take a lot of time, but they must cover the basics. For instance, a morning vehicle check before you leave in that vehicle for the day should at a minimum include:

- A full walk around the vehicle looking for damage to the body, tires, lights, windshield, etc. Check for puddles or stains on the ground under and around the vehicle that could be signs of a fluid leak of some kind. This should be done every time you take a vehicle out.
- Check your fluids and tire pressure. Especially if you see any suspicious signs from your walk around, check your tire pressure if they look low, or your oil if you see what looks like a stain on the ground below the engine. Fluids and tire pressure may not need to be checked every day, but at least once a week (more often if you have a known issue).

- Have someone help you check to see if your lights are working correctly. I mean all of the lights. Turn signals, headlights (high/low), four-way flashers, light bars or sign boards if you have them, running lights, etc. This also means the lights for any chipper or trailer you may be pulling with you. These lights can be your first line of defense that lets people know of your presence on the road. They are a necessity.
- Make note of what you find and document it. Report any issues as soon as they are found. Have a form or checkout sheet that tells you what to check and keep it up to date. The sooner the issue is identified and reported the quicker and more efficiently the problem can be resolved. Keeping records is essential to knowing what has been happening with your vehicle.

These are just a few basic things you can do with your equipment to make sure you and your crews are being safer. You can manipulate and adjust this to fit most of your equipment needs. Not all equipment will require the same things and some things will take longer than others. The biggest take away from this is awareness. Pay attention to your equipment and your surroundings. Take note of issues and address them either by yourself or through the appropriate party. Speak up when you see something. It will only make matters worse if you neglect a problem and or try to hide it.

Now, I know this is probably old news to most. This should be common practice for us all. Unfortunately this is not the case. Even in the most developed and tenured programs, this issue still occurs. Safety must always come first. Make the time. Check your equipment. Speak up!



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Branching Out

The Ohio Chapter continues to *branch out* with education and awareness programs.

- **Specialty license plates** direct readers to our consumer site, Trees4Ohio.org. If you are available for hire, make sure you update your profile so that you can be found in the search. Make sure that all members in your company do the same thing! Search options include air excavation services, appraisals, brush removal, consulting, diagnostics, fertilization, land clearing, landscaping services, mulching, plant health care, pruning, removal, tree moving, tree risk assessment, and so much more. Visit www.OhioChapterISA.org and Login (located in the upper righthand corner) then select Services Offered to be included in the search.
- We continue to work with Associations Advance Ohio to spread our message. Hopefully you have seen an ad or two on **Facebook**. If you see the ad and see consumer messages, make sure you take the opportunity to help educate them.
- **Radio commercials** through the Ohio News Network affiliates have also increased. Let us know if you've heard one in your area and what channel you heard it on.
- If your area is having a fall festival, don't forget about the Chapter's tabletop display that members can barrow and use at local events. The display includes consumer brochures produced by ISA along with career and membership information produced by the Chapter. All you need to do is email info@ohiochapterisa.org with the details of the event (what, where, when) and we will arrange to get the materials to you.

We are working hard to send consumers to you and educate listeners and readers about the importance of hiring an Ohio Chapter professional

member. Make sure you are included in the arborist search; if you do not update your profile, consumers will hire any ole' truck and a chainsaw. **Do not miss this opportunity to add great value to your Chapter membership.**



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Local Roots, Global Reach

Ohio Tree Care Conference

February 25 - 27, 2020
Dayton, OH




Dayton was hit pretty hard this year between the tornado outbreak in May and the mass shooting in August. Little did the Ohio Tree Care Conference planning committee know when they decided on the theme – Local Roots, Global Reach – how close to home that would hit!

In 2016, an article in the Dayton Daily News reported that Dayton had lost about 43 percent of its tree cover on public property since 1982. The loss stemmed from pest infestation, disease, age and poor tree trimming practices; a scenario that may be familiar in your area too.

The 2020 OTCC will take place in Dayton on Tuesday through Thursday, February 25-28. Check out this massive speaker line-up you won't want to miss.

- The keynote speaker will be David Nowak who will present on this 40th anniversary of the Dayton Climate Project
- Climbers' Corner will feature Tim Bushnell with training centered on safety, new climbing gear, techniques and mentorship for field employees.
- This year, we will offer a one and one-half day certified arborist review course designed to prepare you to sit for the ISA Certified Arborist exam. Already have your certification? This is a great refresher course and it offers lots of CEUs.

Commercial topics include:

- The Use (and Misuse) of Tracked Lifts
- Diagnostic Challenges
- User-Friendly Tools for Predicting Pest Phenology Based on Degree-Days and Biological Calendars
- Oak Wilt and Other Disease Update
- Soil Management

Municipal track speakers will discuss:

- New Methods to Compensation of Tree Loss
- What you Need to Know about Ticks
- Tree Risk Management Plans
- Navigating Municipal Government: Uncharted Waters or Smooth Sailing Ahead

- Comprehensive Urban Forestry & Other Duties as Assigned

Utility track sessions include:

- Wildlife Awareness
- Right-of-Way Disease Management
- Incidental vs. Utility Line Clearance: Updates in the ANSI Z133
- Customer Relations & Customer Service
- Relationship Management: Utilities & Municipalities

Combined sessions will discuss emerging invasive insects and management of those pests.

If you are a supplier of goods or services to the profession, visit OhioChapterISA.org, under Events/Annual Conference, for information on exhibiting and sponsorship opportunities. If you have a favorite supplier or one you are considering doing business with, encourage them to support your organizations' show.

Mark your calendar now for the best training in the Midwest!



SAFETY IN NUMBERS

SAFETY IS MORE THAN JUST A NUMBER. BUT IF WE STRIVE FOR ONE, IT'S 0.

Programs like Davey Performance Excellence and The Road to Zero focus on holistic training, team goal setting and encouraging our industry professionals to proactively identify and correct unsafe behaviors and conditions towards achieving annual injury-free workplace goals.

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TELECOM CONSTRUCTION

Lessons from Biomechanics Research Week

By Guy Meilleur, Practicing Arborist, Aerial Consultant

Biomechanics is “the study of the structure and function of biological systems...by means of the methods of mechanics (the details about how something works or is done)”. But do we know how trees work? Mature tree systems are complex, dynamic, and interrelated. “Being a generating system, the tree grows new parts in new positions.” (Shigo) Trees can only be understood with long-term observation. One view does not show us enough to judge the fate of these vital assets. Fortunately, there is a triennial event known as Biomechanics Research Week (BRW) that makes understanding trees possible, over time.

Since 2010, researchers and technicians have combined their talents to cut, pull, and learn from trees planted over 50 years ago. 2019 marked the fourth such gathering at the Davey Tree Research Farm in northeast Ohio. Scientists from several US states, and as far away as Croatia and the Czech Republic, gathered to seek answers to persistent questions about tree structure, health, and safety.

Breaking trees apart with carefully calibrated winches is a popular research activity, but analyzing the results is a challenge. Engineering formulas are based on uniform, unresponsive materials—not variable, living tissue. Statistical analysis is removed from real conditions, so testing is repeated, in efforts to find reliability in those formulas.

Similarly, surprising strength around cavities in two *Platanus x acerifolia* (planetrees) were pull-tested in 2010. One had a cavity on the trunk, one did not. The hypothesis was that the tree with the “obvious defect” would fail first. However, the trunk of the “normal” tree broke, while the “defective” tree held up to much more force, and finally uprooted! The formula, not the tree, was proven defective. These results led Dr. Ed Gilman to observe: “We know next to nothing about tree biomechanics.”

In 2013, pull testing trees and branches in one direction, “pure static loading” was the primary activity, culminating with “The Wager Tree”. This 10” DBH *Acer rubrum* (red maple) had a gruesome looking open cavity over 6’ long. 40 researchers and technicians’ stuck pins at the points where they thought the tree would fail. True to our training, most of the guesses were centered around the “obvious defect”. The winch was cranked up to 9.4 kilonewtons, over a ton of force, before the tree failed—well above the cavity! Every single guess was low.

In 2014, based on this research, a confession of our collective ignorance was voiced in an *addition* to the ISA Dictionary. “defect: A feature, condition, or deformity of a tree that *may* weaken structure or stability and could contribute to tree failure.” Response growth is the other side of the ‘defect’ coin. When the tree’s fate is in question, its voice deserves equal attention and weight, in tree time.



In 2016, Adolfo Sanchez of Guadalajara, Mexico carried pull testing to the next level. Winching branches in two directions simultaneously, he documented the effects of torsional loading. “The 45-degree angle of failure indicates both forces at work. We

reproduced a similar failure as a natural break, and a total failure, as the branch tore off completely. In the past pull testing the only stress we measured was bending moment, and the result was a partial failure and a hanging branch. The next step is to measure the magnitude of stress in different species.”

Ward Peterson of Davey Tree, the host with the most, holds up a 6” *Quercus palustris* (pin oak) branch torn off in a pull test. The break stopped near a node, which had no laterals, but a lot of strength in its Protection Zone. The stub was left to respond on its own, so the results of this “natural fracturing” could be studied. The break was on the north side of the crown, where shade limited the response measured in 2019 to a few short sprouts.

Tearing off that pin oak limb was part of a study on crown regeneration using structural pruning techniques outlined by Henry Davis (TCI, April 2003). Some trees were reduced by 20’ or more, using cuts under the 4” maximum recommended in the German and British tree care standards. The bigger, subordinating cuts were made first. Arborists did not try to estimate the relative size of the remaining laterals, or guess at their ability to take on the terminal role, which encourages outward growth. Mature trees have overextended limbs—terminal roles gone wild!--so the objective is the very opposite—inward and downward growth.



Ends were reduced back to laterals

Cuts shaped like little crowns, “coronets” in the shade increased decay without improving tree response.

Many cuts were made at a fork, some were back to an upright lateral behind the fork. Species including sweetgums, red maples, pin oaks, silver maples, and white pines were selected in a random pattern, with all treatments receiving a range of sunny and shady conditions. We knew from past work in the field that exposure to sunlight is a big factor in crown regeneration. Dr. Jake Miesbauer and technician Don Ropollo discovered this the hard way, from rotten responses to large cuts made in 2013.

ISA Certified Arborist Nic Rataiczak of Independent Tree ascends one of 7 trees that he reduced in 2.5 hours. The specs were simple, so little training was needed.

CEUs at Home Cont. on page 14



"I hope that the results of this project can affect the daily decisions we make while pruning, and how we train new arborists.", BCMA Ryan Lewis said, "We'll do better work when we pay attention to tree growth, and rely less on arbitrary formulas, like the 1/3 rule." We expect the same results in Ohio that we typically see in the field, in line with Jason Grabosky and Ed Gilman's reduction of Shumard oaks and live oaks in Florida. Sprouting from the cut surface was rare, with regrowth dispersed among interior laterals. The trees may reconfirm that 2007 study, indicating that specified retrenchment by European standards can regenerate smaller, safer, low maintenance trees.

REFERENCES:

Henry Davis' work: <http://www.tcia.org/TCI-publications/tci-magazine/pdfs/09-2002-TCI-Mag.pdf> <http://www.tcia.org/TCI-publications/tci-magazine/pdfs/05-2003-TCI-Mag.pdf>

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- The failure point of the wagger tree was
 - above the cavity.
 - below the cavity.
 - at the most extensive decay.
 - on a tension root.
- The defect is a feature that _____ weaken the structure.
 - is highly likely to
 - is not likely to
 - may
 - does not
- 9.4 kiloNewton's is approximately
 - 500 lb
 - 1,000 lb
 - 1,500 lb
 - 2,000 lb
- The largest recommended cut in the German and British tree care standards is
 - 2"
 - 4"
 - 6"
 - There is no maximum sized collar cut.
- The break in the pin oak branch stopped
 - at a lateral branch 1/3 the diameter of the parents branch.
 - at a node with no lateral branches.
 - at the branch collar.
 - six times it's diameter beyond the origin.
- The sprawling pin oaks were reduced by
 - 5' or more.
 - 10' or more.
 - 15' or more.
 - 20' or more.
- Henry Davis' structural pruning technique makes _____ first.
 - inner branch removal cuts
 - outer branch removal cuts
 - bigger subordinating cuts
 - smaller cleaning cuts
- Stems that are cut into little crowns are
 - Bayonets
 - Coronets
 - Martinets
 - Silhouettes
- One person with simple specifications and a bucket truck was able to prune _____ mature silver maple trees in 2.5 hours.
 - 5
 - 6
 - 7
 - 8
- In 2007, a study on reducing oak trees found that more growth
 - sprouted from the cut surface.
 - died within three years.
 - was disbursed among interior laterals.
 - was disbursed among exterior laterals.

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September 13-14
The Sestercentennial of Alexander von Humboldt

September 16-20
Tour des Trees Ride
Kentucky/Tennessee Loop

September 18
Saluting Branches

September 25
Chillicothe Tree Care Conference
Chillicothe, OH

October 4
UAA Fall Regional Meeting
Old Washington, OH

October 19
Tree Survival School
Little Hocking, OH

October 24
Asian Longhorn Beetle Update & Insect Pests of Trees
Hamilton, OH

October 29-31
TRAQ Qualification Course
Columbus, OH

November 7
Taking Root-Energy Saving Tree Program & Tree Selection for Overhead Power Lines
Hamilton, OH

November 19
Health Benefits of City Trees: Research Evidence & Economic Values
Free TREE Fund Webinar

December 8-11
ASCA Annual Conference
New Orleans, LA

February 25-27, 2020
Ohio Tree Care Conference
Dayton, OH

February 27-March 1, 2020
ASCA Consulting Academy
Sacramento, CA

March 6
North Cost Urban Forestry Conference
Kirtland, OH

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