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Do you hire based on skills, certifications, personality, experience, or behavior? I ask because here at TCIA we’ve been doing some hiring as we recover from recession. And while we certainly look for candidates with the required education and job skills, we also look very closely at how they have performed in past positions.

A new study on hiring suggests that too many employers hire for the wrong reasons. Employers are often more focused on hiring someone they would like to hang out with than they are on finding the person who can best do the job, according to a study in a recent issue of the *American Sociological Review*.

“Of course, employers are looking for people who have the baseline of skills to effectively do the job,” said study author Lauren A. Rivera, an assistant professor of management and organizations and sociology at Northwestern University. “But, beyond that, employers really want people who they will bond with, who they will feel good around, who will be their friend … As a result, employers don’t necessarily hire the most skilled candidates.”

According to the study, those involved in hiring often valued their personal feelings of comfort, validation, and excitement over identifying candidates with superior skills. In fact, more than half of the evaluators in the study ranked cultural fit in the organization as the most important criterion.

So, what do the study’s authors suggest? When looking to hire someone to fit your organization’s culture, hire for behavior rather than personality.

Obviously, if you are looking to hire a climber, you want someone who has the skills and experience to do the job. But if you are also looking for a friend or someone you think might fit in with your existing crews, you might not necessarily hire the most skilled people.

How do you avoid the personality trap in hiring? Behavior can be measured by looking at past performance. That will be especially important when you are looking to hire for a sales position. Personality characteristics such as whether the candidate prefers golf to NASCAR are personality traits that won’t tell you much about how they will be as employees.

How do you move toward hiring for behavior, not personality? Ask behavioral interview questions that identify a candidate’s past performance. If working seamlessly as part of a crew is critically important, ask “Can you give me an example of a time when you had to overcome team conflict to solve a problem?”

Or, if you are looking at a new hire who is going to work on his or her own, say in sales, you might ask: “Tell me about how you’ve met your goals when you work without close supervision. How did you manage yourself?”

In a small organization, which most tree care companies are, you don’t want to hire someone whose personality is so far beyond the company’s culture that the person will be disruptive to the team. But as a company owner or manager, you aren’t hiring potential friends either. You should focus on hiring people whose past behavior indicates they will be able to perform at a high level in the future.

Mark Garvin
Publisher
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ON THE COVER: This crew from Arborway Tree Care, Inc., a 12-year TCIA member from Holbrook, Mass., were among more than 10 TCIA member companies taking part in the Massachusetts Arborists Association Arbor Day project on Boston Common April 26, 2013.

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Compiled by Don Staruk, with Alice Carter, CTSP

Palmers have the usual hazards associated with working in trees: falls, electrocution, pedestrian safety, equipment mishaps/failures to name a few. There are also dangers unique to palms. Palms are often a safe harbor for snakes, scorpions, rats and other animals that can attack or startle a climber, triggering a serious incident. Most serious and deadly is frond collapse or frond “sloughing,” where a climber can become lodged under the collapsed frond skirt and which can lead to suffocation.

Aerial rescue involving palms is much more difficult due to the fact there are few/or no alternate routes or points of attachment for ropes. Another danger is that palms have a single stem and if the structural integrity is compromised, structural failure may result with potentially lethal consequences for the climber.

TCI Magazine listed 20 palm-related incidents in its monthly accident briefs over the last three years, January 2010 through February 2013. These include 10 deaths, five injuries and five rescues without injury. In light of this, it seemed prudent to update readers on standards and best practices for pruning palms safely. Of those 20 incidents, 13 occurred in California, so who better to go to than some of our Certified Treecare Safety Professionals who work in and around palms in that state.

Alice Carter, CTSP, veteran of tree care safety with ValleyCrest Companies since 1987 and working out of ValleyCrest’s Pleasanton office, quickly agreed to share her company’s palm care policy. One concern of Carter’s, she says, is that palm pruning and palm pruning safety is not adequately addressed in the A300 Part 1-2008 or the Z133-2012 Safety standard, to which the industry turn for guidance.

“Companies rely on the standards, but there is just not enough information specific to palms,” says Carter.

ValleyCrest Palm Care Policies

To ensure the safety of their personnel, ValleyCrest takes the following steps when engaged in palm pruning or removals:

1) In all instances, with no exceptions, we must explore every avenue, including the renting of equipment, to do all palm pruning with a lift truck, or portable lift to avoid climbing. Not only is this relevant for the safety of our climbers, but it also improves the health prospects of the palm as we avoid spiking the tree, which creates opportunities for disease and pest infestation, leading to structural weakness/failure and the potential death of the palm.

2) If the palm is not accessible by a lift, and has significant dead fronds around the stem of the palm (i.e., more than two years growth), we will not prune this palm. It has been proven that pruning palms from underneath the dead fronds can lead to a collapse of the fronds around the stem leading to crushing weight on a climber’s chest causing death by asphyxiation. Palms in this condition must always be...
Palm Related Accidents

*TCI Magazine* has related 20 palm-related incidents in its monthly accident briefs over the last three years, January 2010 through February 2013. These include 10 deaths, five injuries and five rescues without injury. They include:

- A climber died February 23, 2013, after becoming trapped by collapsing fronds while trimming a palm in Huron, California.
- A tree trimmer was rescued January 23, 2013, in Phoenix, Arizona, after getting trapped in the skirt of dead palm fronds.
- A tree trimmer who became trapped in a palm December 27, 2012, when a frond skirt collapsed on him in Echo Park, California, was rescued by firefighters.
- A 31-year-old tree trimmer died after apparently being electrocuted and falling from a palm July 28, 2012, in Arcadia, California.
- A tree trimmer died June 9, 2012, after becoming trapped while trimming a palm in Glendora, California. A large section of dead palm fronds collapsed on top of him and his climbing equipment, trapping him.
- A tree trimmer died June 11, 2012, after falling 40 to 60 feet while trimming a palm at night at a Waikiki, Hawaii, resort.
- A 71-year-old Kailua, Hawaii, man died September 22, 2011, after the coconut tree he was trimming in Kailua fell on him.
- A Riverside, California, man was killed August 25, 2011, when he fell about 50 feet to the ground while pruned with an aerial lift, or not at all.

3) If the palm is not accessible by lift, and has been pruned such that there is an insignificant amount of dead fronds around the stem (less than two years growth), and we can find secondary tie-in points that are sound (e.g., other healthy and vigorous trees that are not palms, adjacent buildings or structures), we may climb and prune the palm. [Some options for climbing palms are outlined later in this article – Ed.]

4) If the palm is not accessible by lift, and has been pruned such that there is an insignificant amount of dead fronds around the stem, and there are no other tie-in points, we need to ensure the structural integrity of the palm before attempting to climb. Testing the structural integrity of the palm must be done under the supervision of a Certified Arborist, with no exception. We can test structural integrity in the following ways:

- Inspect the soil and root system to ensure there is no evidence of root decay or disease, exposed structural roots or fill soils at root crown.
- Visually inspect the trunk for cavities, wounds, bleeding, narrowing and/or poor taper.
- Pencil-necking on trunk: This indicates a structurally weak point. Never climb past the pencil-neck point.
- Bleeding along the trunk: Usually a sign of internal decay due to tissue breakdown from a disease caused by the fungus *Thielaviopsis basicola*.
- Cracks and or small fractures along trunk: could lead to internal structural failure.
- Severe lean: Never climb – always use a lift to trim and expedite a full structural check for stability. Also, evaluate the end weight (crown) to ensure it is not excessive.
- Throw a line into the tree and pull the tree with sufficient force to ensure sufficient elasticity of movement and strong resist-
ance to forces (e.g., climber and grounds person pull on the top of the palm crown).

- If all the above checks suggest the palm is strong and structurally sound, the climber can begin ascending with a wooden mallet, tapping the stem as he or she moves upward to ensure solid structural integrity. If any cavity is found, the climber should immediately stop ascending and return to the ground. We will not prune any palm where we suspect a stem cavity.

In summary avoid climbing palms with heights in excess of 12-15 feet.

**How do others approach palms?**

“Fortunately at West Coast Arborists we do not have significant issues related to palm pruning safety, as 99 percent of our work has bucket access,” says Andy Trotter, CTSP, vice president with West Coast Arborists, Inc., a 25-year TCIA-member company based in Anaheim. “Our most common palm-related injuries are puncture wounds from date palm thorns, so that is reviewed during job briefings. We do not have a specific palm pruning guideline other than what TCIA or Z133 recommends.”

“We avoid pruning palms without bucket access,” says Trotter. “Unfortunately most of the palm-related accidents in our region are small companies not using the current industry safety standards, climbing under the growth of fronds with many years of growth or spiking palms; and also indirect contact of high voltage wires when removing fronds that get hung up on the utility lines.”

“For me this issue would be best addressed with public service announcements encouraging homeowners to use qualified arborists,” says Trotter. “I think the current guideline from TCIA is a good document and would protect qualified arborists that use it as their standard.”

**TCIA Guidelines for safe palm pruning**

TCIA’s bilingual (English/Spanish) “Safe Palm Pruning Best Work Practices” was produced in July 2009 and is available to TCIA members for free. (See end of article for how to get your own free copy.) It includes the following guidelines, some of which may repeat from those of ValleyCrest’s policy:

Palm trees require regular pruning to remove dead fronds. Some species of palm can acquire very long skirts of brown, dead fronds down the trunk. Many people find these unattractive, and they attract rodents, insects and reptiles.

Trimming palms is hard work that can be very dangerous for unskilled tree workers. It is especially hazardous to climb a palm if the dead growth at its top is more than three years old. Only experienced climbers should attempt to climb palms. A climber-in-training should learn to climb and prune small palms first.

Many palm climbers will use tree gaffs or spikes to help them climb the palm. This is a bad practice for two reasons: the spikes put holes in the trunk that do not callus over. Wounds could become entry points for decay and trunk diseases, which can weaken the strength and health of the palm. The second reason is that if there is old growth remaining on the palm, the entire palm skirt can suddenly come loose. The weight of these dead skirts is very substantial, and if a climber is using gaffs and a flip line they could get crushed and suffocate.

Palm climbers must have an industry approved arborists’ climbing saddle, rope and wire-core flip line. A top-handled chain saw is preferable to a handsaw. Two points of tie in shall be used when using a chain saw aloft.

A palm with more than three years of dead growth should be considered hazardous, and must be climbed on the outside of the fronds to prune. To do this safely, a few different methods can be used.

**Ascending Technique**

To safely climb a palm to prune the dead fronds, try one of these four approved methods using safe, non-invasive techniques:

- Aerial Lift Device
- Tie In From a Second Tree
- Single Rope Technique (SRT)
- Doubled Rope Technique (DdRT)

**Aerial Lift Device** – Whenever possible use mobile cranes or aerial lifts operated by qualified aerial lift operators. (A worker-in-training can complete the Aerial Lift...
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Specialist training manual from TCIA to become employer-certified on aerial lift use.)

Tie In From A Second Tree – If you have to climb the palm, and it has a hazardous accumulation of dead fronds, you can use another tree close by as a tie-in point. Make certain to perform a hazard tree inspection on both the palm and the tree before you begin.

Single Rope Technique (SRT) – This technique involves setting a ½-inch climbing line over the top of the palm. Using a throwline or a specialized throwline launch set-up, throw the throwline over the top of the palm and bring the ball down to the other side. After a bit of practice, you will get good at hitting close to the center. Attach the climbing rope and haul it up. Throw the rope into as close to the middle of the fronds as possible. It may appear that the rope running through the fronds could injure the tree. But this is not the case.

Secure the end of the rope to the trunk of the palm using a running bowline and a half hitch.

You can also use a port-a-wrap or other belay device as the ground anchor, which helps remove the slack in the anchor rope as well as providing a tie-off point. A Prusik lock on the rope as it feeds into the belay device will give additional security, and the entire system is set up for a ground rescue if the climber gets into trouble. (This must be practiced in training scenarios.)

Attach your climbing system to the rope and ascend. Work the fronds from the top down, and be careful to not get in between the dead frond skirt and the trunk.

Doubled Rope Technique (DdRT) – Just as in the SRT method above, use a throw-line or specialized throwline launch set-up to throw a throwline over the top of the palm. Center the rope as much as possible without damaging the meristem. Attach an arborist’s block with your climbing rope threaded through it to the other end of the rope for a doubled-rope-technique system. Pull the rope to the top of the palm.

Secure the end of the rope to the trunk of the palm using a running bowline and a half hitch. Again, you can also use a port-a-wrap or other belay device as the ground anchor.

Work the fronds from the top down, and be careful to not get in between the dead frond skirt and the trunk.

More on pruning and structural defects

“In compiling my own internal guide, I emphasize the connection between proper pruning and structural integrity,” says Bill Owen, CTSP, safety director with Arborwell in Hayward, Calif. “While there are many different scenarios to illustrate this, two significant examples may be relevant to your article:

“‘Penciling,’ or pencil-necking as it is referred to above, can be caused by over pruning. It is, therefore, important to understand that excessive pruning may cause structural defects that render the tree unsafe.

“Thielaviopsis, the pathogen that causes ‘sudden crown drop,’ often develops as a result of improper pruning. When a ‘pineapple’ (retained leaf bases shaped to resemble a pineapple) is shaped on a date palm, chain saws are often used. If a chain saw cuts into the cortex (pseudo bark) during shaping, physiological damage will result. At the very least, structural weakness can result in the trunk, “penciling” can occur and possibly infection from Thielaviopsis.

“Because palms are biologically different from trees, i.e. they lack secondary growth, it is impossible to correct defects that are created as a result of poor pruning (CODIT does not apply),” says Owen. “Defects such as penciling and damage to the cortex often render the tree unsafe and the only mitigation option is removal. In normal trees, structural defects can be addressed with restorative pruning, appropriate crown reduction, etc. Neither of these are options for palms.

“At the very least it should be emphasized that when pruning a palm it is important to understand their unique biological properties and functions. Pruning objectives can be met without the inadvertent creation of hazardous structural defects that will affect the safety of climbers performing maintenance in the future.”
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Conclusion
As stated at the start, palms have the usual hazards associated with working in trees. Now you can see that they also have numerous additional issues that need to be taken into account to work on them safely. Make sure you have all the right gear, abide by the guidelines given here, always avoid putting yourself between the palm and the frond skirt, and when in doubt, don’t prune.

The “Pruning Palms Safely” article is in the process of being translated into Spanish and the Spanish version will be posted here as soon as it is available, so please check back.

In the meantime, to view a bilingual version of TCIA’s “Safe Palm Pruning Best Management Practices” guide, click here. Or, for a FREE, no-obligation printed version of TCIA’s guide, call Brenda French in the Membership Department at 1-800-733-2622 or email bfrench@tcia.org.

Palm accidents
(Continued from page 9)
trimming palms in Grand Terrace.
► A Daytona Beach, Florida, man working with his family’s tree-trimming crew was electrocuted June 2, 2011, as he tried to free a stray palm frond stuck in a power line in Ormond Beach.
► A man attempting to trim an 80-foot-tall palm April 9, 2011, in Visalia, California, was rescued by firefighters after collapsing palm fronds trapped him about 50 feet up.
► Fire crews rescued a man who got stuck 40 to 50 feet up under a skirt of dead fronds while trimming a palm April 23, 2011, in Mesa, Arizona.
► An independent contractor hired by a homeowner to trim a palm fell 30 feet to the ground March 18, 2011, in Tucson, Arizona, after the chain saw he was using sparked and the palm caught fire.
► A tree trimmer found himself trapped 75 feet up in a palm March 25, 2011, in Bakersfield, California, when a skirt of fronds fell on him. When firefighters couldn’t reach him, one of his co-workers went up to get him.
► Johnny Sheffield, 79, the former child actor who played Boy in the Tarzan movie series, died October 15, 2010, of a heart attack at his home in Chula Vista, California, about four hours after he fell off a ladder while pruning a palm tree.
► A tree worker trimming a palm in Mesa, Arizona, April 17, 2010, was killed when a pile of fronds fell on him, trapping him underneath.
► A tree trimmer was trapped aloft in a palm March 19, 2010, in Wasco, California, after a batch of fronds from higher up came down on top of him and knocked him sideways. Firefighters were able to secure him aboard a ladder and bring him safely down.
► A man died February 13, 2010, while trimming a palm in a Pasadena California, after he was pinned by a ring of fronds 50 feet up.
► Firefighters in Cerritos, California, rescued a tree trimmer trapped in a 60-foot palm January 27, 2010. Rescue crews used a ladder to get to the man, who was trapped by giant palm fronds and was losing consciousness.

Product Recall
ZIGZAG Petzl mechanical Prusik for arborists
SKU: D22

Summary of the facts
On Friday, April 12, Petzl was informed of an accidental fall in a training center in Germany. This fall was related to a failure of the rope and attachment hole of the Petzl ZIGZAG mechanical Prusik. We have since been informed of another identical failure.

These failures were the result of a particular configuration of a cantilevered and off-axis loaded upper carabiner (see photo).
Petzl believes that this incorrect positioning of the connector could inadvertently occur during normal use with the potential for serious injury or death.

Continued use of the ZIGZAG poses a risk of serious injury or death.

Petzl has decided to immediately recall all ZIGZAGs.

As a measure of precaution, we ask that you:
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Petzl America will pay for all shipping costs.

You can then choose from the following options:
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- A complete refund of the purchase price

For more information about this recall:
- Consult the ZIGZAG recall FAQ, below
- Contact Petzl America: zigzagrecall@petzl.com
- OR: (877) 807-3805

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Predator Power makes first stumper sales in U.S.

Predator Power, a United Kingdom-based stump grinder manufacturer and TCIA associate member company, in May announced its first sales in the U.S. Two customers purchased Predator’s latest model, the compact P38RX, released in the U.S. at TCI EXPO in November.

The customers included TCIA member Hendrickson Tree Care of Kansas City, Missouri.

These latest sales follow the recent appointment of a U.S. distributor, and the move to establish a U.S. dealer and support network across the states.

Jonsered now has national distributor network

The Husqvarna Group in April announced that the Jonsered brand is now available in the United States through independent dealers nationwide and supported by a national distributor network. The Jonsered brand will also be supported by Tractor Supply Stores nationwide.

Jonsered Power Equipment offers a range of equipment, including chain saws, blowers, trimmers and brushcutters. Jonsered dealers offer all products parts and accessories, and after-sales service and support for all Jonsered products.

SherrillTree becomes Husqvarna dealer

SherrillTree in May began carrying the Husqvarna chain saw product line, including and a wide variety of bars and chains featured in SherrillTree’s retooled bar and chain selector, available at www.sherrilltree.com/Professional-Gear/Wood-Cutting-Easy-Finder.

Petzl ZigZag product recall

In the wake of two incidents involving the Petzl ZigZag mechanical Prusik, the company is doing a product recall on the product.

On April 12, Petzl was informed of an accidental fall in a training center in Germany related to a failure of the rope-end attachment hole of the Petzl ZigZag mechanical Prusik.

“We have since been informed of another identical failure,” the company said in late April. “These failures were the result of a particular configuration of a cantilevered and off-axis loaded upper carabiner. Petzl believes that this incorrect positioning of the connector could inadvertently occur during normal use with the potential for serious injury or death.

Petzl immediately issued a recall on all ZigZags. The company requests customers stop using the pieces immediately and return them to the local Petzl distributor. Petzl will provide a credit or full refund. For details on returning your ZigZag, visit www.petzl.com/pro/contact.

Terex Environmental adds Wyoming dealer

Terex Environmental Equipment has added C & K Equipment Inc. as its distributor serving Northern Wyoming.

A full-line dealership for multiple brands, C & K Equipment has been serving Northern Wyoming since 1988.

They offer service, a full line of parts and will be offering the TAC Woodsman 730 compact, drum-style brush chipper into the rental market.

Rayco gets a new look

This summer, Rayco will unveil a new look, new logo and a new website. To celebrate its 35th year in business, Rayco undertook a broad effort to explore its 35 year history, its customer base, and its workforce. As a result, it has launched a campaign to better communicate its company values.

Another part of the initiative is to shed the yellow and red logos and paint scheme in favor of a new, more modern look. Those visual cues will be carried through from the machines, down to marketing literature, print advertisements, website, etc. The new look was first revealed in April at Rayco’s 2013 Dealer Meeting and annual Customer Appreciation Day.
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Arborwear Ascender Jacket and Pants

Arborwear’s new Ascender Jacket and Ascender Pants wear like a second skin – assuming your skin is made of four-way stretch nylon. Whether you are climbing a tree or rock face, it’s imperative to have gear that is extremely durable, incredibly comfortable, breathable and stretches with every move you make. Ascender Jackets and Pants are made from a blend of 4-way stretch 89 percent nylon and 11 percent elasthane. Add in Teflon Fabric Protector, which repels most water and oil-based liquids, and you have clothes that work hard to keep you working hard. Shoulders, elbows and knees are articulated and reinforced with fabric for extreme abrasion resistance. Jackets feature zip handwarmer pockets, zippered chest pocket and zippered cuffs. Pants have leg-opening zips and Velcro cuffs, cargo pocket with zipper, utility pocket, reinforced inner ankles, and suspender loops.

Circle 92 on RS Card or visit www.tcia.org/Publications

Rayco RG27 & RG35 Super Jr. Stump Cutters

The latest evolution to Rayco’s Super Jr. stump cutter line is here. Two new models are now available. The RG27 Super Jr. and RG35 Super Jr. are compact, self-propelled stump cutters with a newly designed pivot, allowing bigger cutting dimensions and less maintenance. Wider tires provide more floatation and traction for getting into jobs with sensitive turf conditions. Rayco’s swing-out control station provides better visibility while cutting and swings in-line with the machine for travel through gates. Both belt systems have been moved to the non-operator side to further enhance visibility while cutting. The new Super Jr. units are powered by Vanguard Big Block gasoline engines. The RG27 is 27hp and has an optional hydraulic backfill blade. The RG35 is 35hp and has two-speed ground travel and a standard hydraulic backfill blade. Dual rear wheels are optional for both models.

Circle 93 on RS Card or visit www.tcia.org/Publications

Mauget liquid-loadable Mycoject Ultra Hp antibiotic

Mauget’s new Mycoject Ultra Hp, a Caution-labeled antibiotic developed specifically for tree injection use in liquid-loadable injectors, is now available in 0.5 and 1-liter bottles. Specifically developed for use with liquid-loadable tree injection equipment, Mycoject Ultra Hp is a high-volume version of the tetracycline antibiotic used in Mycoject Ultra, a completely enclosed, minimal risk microinjection capsule. With improved solubility, Mycoject Ultra Hp is a systemic aid in the suppression of certain bacterial diseases in elm, red oak, palm, peach, pear, and non-bearing pecan and plum trees targeting ash yellows, fire blight, bacterial leaf scorch, palm lethal yellows and phloem necrosis. Mycoject Ultra Hp was scheduled to be registered and available for distribution in California before the end of May 2013.

Circle 90 on RS Card or visit www.tcia.org/Publications

Forestry Suppliers Medicap MD systemic nutrient implants

Medicap MD systemic nutrient implants for trees contain a mixture of highly water soluble nutrients – including nitrogen, phosphoric acid, soluble potash, iron, manganese and zinc – to stimulate tree growth. The product is designed to be especially helpful in trees affected by confined root areas, construction damage, poor soil conditions, disease stress, air pollution, flood or frost damage, transplant shock, fire damage, or surgery or pruning shock. It is safe for use in trees with edible fruits and nuts and all ornamental deciduous trees and conifers. Results can be seen 21 to 30 days from date of application, with maximum effect in 45 days. Implants can last for two to three years. Medicap MD systemic nutrient implants are available from Forestry Suppliers, Inc., headquartered in Jackson, Mississippi.

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For more information on products featured here, circle the number on the Reader Service Card, or visit www.tcia.org/Publications.

Send Cutting Edge Product information to: editor@tcia.org

Cutting Edge - Products
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Contact 75th@tcia.org

Call 800-733-2622, email 75th@tcia.org or check us out online at www.tcia.org

Photo courtesy of McClanahan Tree Service, circa 1938; yes, it is cool!
Midwestern TCIA Meeting July 16 in Deerfield, Illinois

Peggy Drescher, TCIA’s Midwestern outreach coordinator, is hosting a roundtable meeting for commercial tree care companies July 16, 2013, in Deerfield, Illinois, in conjunction with an OSHA Local Emphasis Program for Tree Trimming Operations.

An OSHA representative will address the Region V local emphasis program on tree trimming, the OSHA inspection process and common hazards inspectors will look at during tree trimming inspections. This is an opportunity to learn what OSHA is looking for related to personal protective equipment use, fall hazards, struck by vehicle hazards, potential crushing injuries, equipment hazards, heat related illness prevention and noise.

To reserve space, contact Peggy at (630) 917-8733 or pdrescher@tcia.org.

July 16, 2013*
TCIA Roundtable Meeting for Commercial Companies and OSHA LEP for Tree Trimming Operations
The Mulch Center, Deerfield, IL
Contact: Peggy Drescher (630) 917-8733; pdrescher@tcia.org

November 14-16, 2013*
2013 TCI EXPO Conference & Trade Show
Pre-conference workshops Nov. 13
Charlotte, NC
Contact: 1-800-733-2622; sboutin@tcia.org

* Indicates that TCIA staff will be in attendance

Industry Almanac

Events & Seminars

June 5, 2013
2013 Clean Fleet Technologies Conference
Constellation Field, Sugar Land, TX
Contact: Crystal.Thomas@h-gac.com; (713)-993-4577; www.h-gac.com

June 9-11, 2013*
Trees Florida
Ft. Lauderdale, FL
Contact: www.treesflorida.org

June 9, 2013
Pruning Class: Trees 2
Sand Point Magnuson Park, Bldg 406, Seattle, WA
Contact: Plant Amnesty via info@plantamnesty.org; (206) 783-9813

June 18, 2013
Rain Gardens in the Pacific Northwest
NHS Hall, UW Center for Urban Horticulture
Seattle, WA
Contact: info@plantamnesty.org; (206) 783-9813

July 16, 2013*
TCIA Roundtable Meeting for Commercial Companies and OSHA LEP for Tree Trimming Operations
The Mulch Center, Deerfield, IL
Contact: Peggy Drescher (630) 917-8733; pdrescher@tcia.org

July 18, 2013
CTPA Summer Meeting
Farmington, CT
Contact: www.CTPA.org

July 21-23, 2013
2013 Legislative Conference & Day on the Hill
Washington, D.C.
Contact: www.tcia.org/events/legislative-conference-2013, 1-800-733-2622

July 31-August 1, 2013
PANTS Penn Atlantic Nursery Trade Show
Pennsylvania Convention Center, Philadelphia, PA
Contact: (732) 449-4004; www.pantshow.com

August 3-7, 2013*
ISA Annual International Conference and Trade Show
Toronto, Ontario, Canada
Contact: www.isa-arbor.com

August 30, 2013*
OSHA Local Emphasis Program (LEP) for Tree Trimming Operations
City, Water, Light & Power Mgt. Ctr.
Springfield, IL
Contact: Peggy Drescher (630) 917-8733; pdrescher@tcia.org

September 19-20, 2013
Shawnee, OK
Contact: www.oklna.org

November 12-13, 2013*
Certified Treecare Safety Professional/CTSP Workshop
Charlotte, NC
Contact: 1-800-733-2622; peter@tcia.org

More almanac online! For the most up to date calendar information, visit www.tcia.org ⇒ events ⇒ industry-calendar

Send almanac listings to editor@tcia.org, or post them yourself on TCIA’s Industry Calendar – follow the directions above.

What’s coming in TCI Magazine

Each issue of TCI Magazine contains a variety of articles tailored to the specific needs, concerns and interests arborists. TCI solicits a number of articles from outside writers to keep its editorial content fresh.

Do you have a story for TCI? The editor will be happy to review your idea or manuscript and discuss it with you. Here are some of the upcoming topics for the next two issues:

July
Machinery & Equipment:
Stump Grinders
Tools & Supplies:
Pruners and Handsaws
Services:
Standards & Compliance
Safety:
First Aid
Special Supplement: Summer Buyers’ Guide

August
Machinery & Equipment:
Right-of-Way
Tools & Supplies:
Pest Management, Climbing Gear, Preparing Storm Response
Services: Tree Appraisal
Safety: Ergonomics

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In the construction trades, crane licensing is sending chills up the spines of crane operators everywhere. If you hire your crane out on jobs outside of tree work, you may have reason to be concerned, too.

OSHA’s new crane standard for Construction, Subpart CC 1926.1400, has certainly raised the bar (no pun intended) for affected parties. The standard ensures that every crane operator receives training in his or her job that will protect the operator and others around him. To get the job done OSHA mandates that all 50 states must comply with Subpart CC rules by November 2014. (Incidentally, you may stop reading if you operate a crane solely for tree work, which is specifically exempted from coverage under Subpart CC.)

TCIA consulted with Associate Member Jay Sturm of Cranes 101 (formerly Crane’s Safety Specialists) to draft this column. Sturm is a noted crane expert. He serves on the ANSI B30 Committee, consults to the ANSI Z133 Committee, performs crane inspections and conducts crane operator certification training.

According to Sturm, by November 2014 each state must have a program in order to license crane operators to meet the OSHA standards. They have two options to get the job done:

1. Put a program together that meets OSHA standards
2. Use a nationally accredited crane certification organization to accomplish the same

This means that each state determines how they will handle licensing. According to Sturm there are three common scenarios:

1. If your state currently licenses crane operators, they may want to continue to do so.
2. If your state never licensed crane operators they may identify a Nationally Accredited Certificate as their license.
3. If your state currently licenses crane operators, wants to keep control of these licensees but doesn’t want to develop a program to meet the OSHA standards, they can make the Nationally Accredited Certificate a pre-requisite to obtaining their state license.

There are five nationally accredited crane operator certificate programs in the U.S. today. If you possess any one of these certificates, it will act as a license in all states in Example Two (over half of the states in the country). The certificate will get you a license in all states in Example Three, with a small fee. Only a few states adhere to Example One. They are going to honor their license only.

An associated phenomenon Sturm has observed is a growing number of jobsite safety people, organizations, etc. that will only honor the Nationally Accredited Certificate. That means that if you are in a state that maintains licensing, a contractor may still need a nationally accredited certificate to work on a given jobsite.

Sturm’s recommendation: Assess your jobs’ potential locations, assess where your state is going with this, and if you believe it’s going to affect you, don’t wait. The companies that are offering the nationally accredited certificates are running the risk of getting overwhelmed and you don’t want to sacrifice a contract because you can’t get into a license class for weeks.

Cranes 101 is a division of Sturm Corporation, and is located in Bellingham, Massachusetts. For information on upcoming crane training and other services, please visit www.cranes101.com.

Peter Gerstenberger is senior advisor for safety, compliance & standards for the Tree Care Industry Association.
It has been estimated that 80 percent of shade tree disorders can be attributed to their soil environment.\(^1\) Unfortunately, because arborists do not have "ready" access to the root zone of plants, the true cause of many tree maladies goes undetected.

Likewise the diagnosis of soil-related problems is also challenging because the plant symptoms can be caused by more than one soil problem. As an example, excessive mulch, poor soil drainage and limited soil volume all can cause flagging (flagging is discoloration and dieback that occurs only on individual branches in a tree.) Diagnosis is further complicated because unfavorable environmental conditions and pests also result in the same symptoms caused by soil-related problems.

With careful planning, many soil-related problems can be prevented or minimized. Choosing plants that are tolerant of poorly-drained soil is just one example of how planning can alleviate a potential plant problem.

The soil problems in the following discussion relate to the physical properties of soils, such as compaction and drainage. Similarly the information presented is limited to curative rather than preventative measures. The eight soil-related problems that will be discussed include:

1. Planted too deeply
2. Compaction
3. Excessive mulch
4. Poor drainage
5. Low moisture
6. Interface
7. Limited space
8. Raise in grade

The plant symptoms, diagnostic tests and treatments for the eight soil-related problems are given in Table 1. If possible, the symptoms given are those that are unique to the soil problem. The diagnostic tests suggested are simple field tests that can be performed by individuals with limited soil science training.

**Planted too deeply**

The absence of the normal trunk (root) flare (figure 1) and the presence of girdling roots are two symptoms of a tree that has been planted too deeply.

Plant roots require oxygen for respiration. Oxygen levels are greatest near the soil surface and decrease deeper in the soil profile. A buried root system will have a limited oxygen supply. The lack of oxygen also disrupts normal root formation and promotes the development of girdling roots.

To determine the depth of a tree’s root system it is necessary to locate the main lateral (structural) roots. The location of the main lateral roots can be determined by probing down into the soil immediately (2-3 inches) adjacent to the trunk. To perform the probing, a surveyor’s chaining pin works well. A surveyor’s chaining pin is a

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*Other treatments may be employed to remediate the problem.
metal rod about 1 foot long. A long-handled screwdriver can also be used for the probing. The pin is inserted into the soil repeatedly around the trunk until main lateral roots are struck. The length of the pin below ground is used as a measure of the depth of the main lateral root. Two to four roots per plant should be found and measured. The average depth of main lateral roots is used. If the main lateral roots are exposed at the soil surface, the root system is at the correct depth and probing the soil is not necessary.

If the tree was recently planted and has not yet established its root system, one remedy is to replant the tree. For an established tree, the excess soil should be removed from the root crown (collar). This can be accomplished using hand tools or compressed air and is frequently referred to as a root crown (collar) excavation (figure 2).

**Compaction**

Compaction causes loss of vigor. A tree with poor vigor has small, yellow leaves, decreased twig growth and slow wound closure.

Vigor is poor because compaction reduces the rate of water movement into soil, decreases the water-holding capacity of soil and limits soil aeration. In addition, plant roots are unable to penetrate the hard compacted layer.

The presence of compaction can be detected by probing the soil (figure 3). The soil should be moist at the time the soil is examined. Push a thin, metal rod, ice pick or screwdriver into the soil. Note the degree of resistance to penetration. Probe several locations within the area suspected of being compacted. Probe the soil in areas thought to be compacted and non-compacted and compare the two. It should be more difficult to push the rod into the compacted soil. Remember that a dry soil is more difficult to probe than a wet soil.

Radial trenching is a treatment that can relieve soil compaction. With radial trenching four or more channels or “trenches” are dug outward from the trunk to the dripline of a tree. The soil from the trench is amended or completely replaced with a mixture of topsoil and organic matter.

**Excessive mulch**

The roots of trees with excessive mulch will grow above the soil surface in the mulch.

Excessive mulch can cause extremes in water availability to the plant. During droughts, for example, mulches can dry out causing the roots to die.

Generally mulches greater than 4 inches in depth are considered excessive and a detriment to plant health (figure 4). A root crown excavation can be performed to both identify and alleviate the effects of excessive mulch.

**Poor drainage**

Poorly-drained soil or wet sites make plants more susceptible to *Phytophthora* root rot disease (figure 5). Symptoms of *Phytophthora* include yellow, wilted leaves or dull foliage color. Improving drainage is a recommended practice for *Phytophthora*-sensitive plants such as azalea and rhododendron.

In addition to *Phytophthora*, plants growing in soils that are poorly drained suffer from a lack of oxygen. This is because all of the pore spaces in the soil are filled with water. This is particularly true for landscape soils that have high clay content.

A soil’s odor and color can be used as indicators of a soil drainage problem. The lack of oxygen in poorly-drained soil frequently causes a distinctive odor. Soil with...
this problem may have an offensive or foul smell. Likewise color can also suggest a drainage concern. A pale yellow or gray color can indicate a poorly-drained condition.

A percolation test can be used to find out the rate at which a soil drains (figure 6). Dig a hole approximately one foot deep and fill it with water. Determine the time it takes for water to drain out of the hole in inches per hour. If the water drains at the rate of one inch per hour, the soil drains well. If drainage occurs slower than one inch per hour, drainage is poor. If the soil drains faster than one inch per hour, the drainage is too fast.

Several strategies can be used to mitigate wet site conditions including selecting plants tolerant of poor drainage and planting trees in raised beds. For trees already experiencing a drainage problem, the soil can be treated using vertical mulching. With vertical mulching, holes are made vertically into the soil profile. Frequently organic amendments are placed into the holes to improve soil conditions.

**Low moisture**

Leaf scorch is caused from a lack of water. Scorch appears as a browning along the edges of a leaf (figure 7).

High temperatures and drought generally cause low soil moisture. Newly-planted trees, trees in limited root areas and dormant evergreens are especially sensitive to
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The above photo is from a research trial in Hazel Crest, Illinois which evaluated a variety of treatment options for EAB management. This joint project has been conducted and supported by scientists from public and private research institutions including Davey Tree Expert Company and Rainbow Treecare.

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Water stress. Trees require deep watering during dry periods. Monitoring soil moisture content is an effective method of determining irrigation frequency. The level of moisture in the soil can be determined using the “feel” method.

With the feel method the feel and appearance of the soil is used to judge the soil’s moisture status (figure 8). Soil that is light in color, powdery and easily crumbles when handled is generally moisture deficient.

Low soil moisture can be prevented with careful water management including the use of mulch.

A quick assessment of soil type can be made by working or kneading moistened soil between the thumb and forefinger. Sandy soil feels gritty, silt is talc or flour-like and clay is slick or sticky.

Interface
Chronic leaf wilt and scorch can be caused by a soil interface.

An interface is a condition where two distinctly different soil types or soils having different physical properties are adjacent to one another within a plant’s root zone. An example of an interface is one that sometimes forms during tree planting when a large amount of organic matter is used to modify the backfill. Differences between the backfill and the unmodified native soil in physical properties disrupt the normal movement of water into and out of the plant’s root zone, causing wide fluctuations in water availability.

Differences in soil color and texture indicate the presence of an interface. A quick assessment of soil type can be made by working or kneading moistened soil between the thumb and forefinger. Sandy soil feels gritty, silt is talc or flour-like and
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clay is slick or sticky.

Vertical mulching can be used to remedy a soil interface.

Limited soil space

Trees planted in planters, “planting pits” or bounded by hard surfaces, utility service lines, etc. are frequently stressed due to the limited space in which they are growing (figure 9). Trees growing in this situation are restricted in their ability to absorb water and nutrients from the soil and quickly show signs of drought.

Estimating the area available for root growth will help determine if limited soil space is the cause of the tree malady. Trees that are 4- to 24-inches DBH (diameter at breast height) at maturity may require 200 to 1,660 cubic feet of soil volume for normal growth and development. Care for trees growing in limited soil space should optimize plant health. Monitoring soil moisture, periodic inspection of the trees for pest problems, etc. will aid in the survival of trees growing with this restriction.

Raise in grade

The symptom of a raise in grade – gradual decline and dieback – usually takes years to manifest itself (figure 10).

Placing soil over the existing soil surface can restrict the movement of air and water into and out of the root zone. The placement of 1 to 2 inches of a soil containing a high amount of clay can cause severe injury to landscape trees.

A root crown excavation can confirm that a raise in grade has occurred as well as correct the problem.

Literature cited


Richard G. Rathjens, Ph.D., is an urban forester and senior agronomist with the Davey Institute, The Davey Tree Expert Company, Kent, Ohio. This article was based on his presentation, “Diagnosing Soil Related Shade Tree Problems,” at TCI EXPO 2012 in Baltimore. To hear the entire audio recording of that presentation, go to this page in the digital version of this issue of TCI Magazine online at www.tcia.org, under Publications, and click here.
I write this from my comfy chair, constantly fidgeting to find an agreeable sitting position that does not remind me of the current state of affairs. I am currently sporting a ureteral stent, a thin tube inserted into the ureter (tube that runs from the kidney to the bladder) to aid in the treatment of a kidney stone. The length of the stents used in adult patients varies from 10 to 12 inches. Stents come in differing diameters or gauges, to fit different size ureters. I am enjoying the big boy version.

The stent is usually inserted through your urethra (read penis guys) with the aid of a cystoscope. One or both ends of the stent may be coiled to prevent it from moving out of place. Think about that. I do, every time I move.

Per usual, I am the likely prognosticator of this predicament. A 200-pound person performing just 60 minutes of exercise a day during warm weather should be drinking over a gallon of water a day. I have no statistics, but I'm pretty sure that many tree workers are exercising well over 60 minutes a day, and often in very hot and humid conditions.

A 200 pound person performing just 60 minutes of exercise a day during warm weather should be drinking over a gallon of water a day. I have no statistics, but I’m pretty sure that many tree workers are exercising well over 60 minutes a day, and often in very hot and humid conditions.

She did not say “I told you so,” but I knew the “look” and had to suffer the added humiliation of her being right (again).

The stone bounced around my bladder for a month or so, perfectly plugging the urine flow every time I tried to pee. Urinating was frequent, urgent, painful and unsatisfying. Finally, one glorious morning, the stone’s alignment along with the proper pressure behind it propelled it forth. The projectile shot out of my penis, around and out of the toilet bowl with astounding aerodynamic form. The resulting pee could only be described as painfully euphoric.

Initially my water intake increased substantially after this episode. But being human, over time I put it all in the rearview, eschewing lessons learned. Now a new stone, even more impressive than its predecessor, is lodged in my right kidney waiting to bust a move. Taking a pro-active approach this time, I will be undergoing a lithotripsy. Sound waves will be used to break up the stone into smaller shards that will then pass through the plumbing. The stent was installed to widen my previously scraped and scarred ureter, enabling these pieces to pass to the bladder. From there they will pass through the urethra. This will likely be as painful as it sounds. After the pieces pass, the stent will come out the same way it went in. There is a 40 percent chance I will develop another stone within two years.

Kidney stones can be genetic, but environmental factors are also in play. Causes include dehydration, diet (too much oxalate, too much protein or, rarely, too much calcium), urinary tract infections, too much vitamin C (over 2 grams per day) and calcium supplements (if taken without food or if used excessively).

Fatigue, heartburn, headaches and mental difficulties are early symptoms of dehydration. Kidney stones are but one product of long-term dehydration. It can also lead to allergies, asthma, dyspepsia, colitis, constipation, rheumatoid arthritis, and chronic pains in various parts of the body such as migraine headaches. So, drink up my friends! Have at least one gallon of water on hand at work, especially during heat extremes. Drink from your own source so you can monitor your intake. Think cystoscopy. Think ureteral stent. A mere 128 ounces of prevention may avert a world of hurt.

Howard Gaffin, BCMA, RCA and Massachusetts Certified Arborist, is owner of Gaffin Tree & Landscaping, a TCIA member-company located in Rowley, Massachusetts.
In 1950, 19-year-old Ellis Allen started his own tree care business in his hometown of Medfield, Massachusetts. “I went up to Stockbridge and took the arboriculture course up there,” recalls Allen, a graduate of the second class out of the Stockbridge School of Agriculture at the University of Massachusetts. “There were several fellows there, veterans of the war, who were there on the GI Bill. I was not. I just had an interest in trees, because I had worked with my grandfather, who was the tree warden in Medfield.”

Allen also got married in 1950, building a house in town the following year. He followed in his grandfather’s footsteps as the Medfield tree warden, worked as a call firefighter, and plowed the streets in the winter to supplement his income.

“We weren’t making much money, but we managed to get by,” says Allen, who recalls the experiences in a self-published book titled *Tree Escapades*.

He charged one dollar per man hour, operating a one-man business that was low on machinery and high on muscle power.

“When I first started in business, I had a one-man cross-cut saw, a Swedish bow-saw, and a Disston handsaw, and that was it,” he says. “I remember cutting down an elm tree in particular that I had to cut all up so I could roll it up on a plank onto the back of the truck, and haul it to the dump.”

Within a couple of years, he had a $275 used chain saw and enough business to hire a crew, which in later years expanded to 12 to 14 men. The cleanup of Hurricane Carol gave his business a boost in 1954, when his 26-pound Homelite chain saw was one of only four in town.

“We could do more work, because we could do it faster, more efficiently,” recalls Allen, who bought more and better equipment, such as chippers, though most of it came used.

His wasn’t the only tree care company tasting success in that decade. For new and established tree care businesses alike, the 1950s was a time of opportunity.

With the end of World War II in the mid-1940s, the U.S. economy was booming, and the Serviceman’s Readjustment Act of 1944, more commonly called the G.I. Bill, provided returning veterans with low-cost mortgages, low-interest loans to start a business, and payments for tuition and living expenses to attend college or other schools. By 1956, approximately 8.8 million veterans had used the benefits for colleges or some type of training.

The National Arborist Association (now TCIA), which had formed in the late 1930s to buttress the business side of the tree care industry, had weathered the war years and by the end of the 1940s had established itself as a source of information, advice, education and support. At the association’s annual business meeting at Syracuse, New York, in August 1950, Executive Secretary Paul Tilford reported that 14 newsletters were sent out in the previous year, with discussions of more than 100 different items. The association had committees focused on finance, safety, membership,
education and publicity, standard practices, and cost analysis and accounting methods. His office received numerous requests for information, and he estimated that the office mailed 5,000 items during the course of the year.

While Tilford's address shared the concerns at the time about the possibility of a third World War, and worried of a “grave danger” from within – “the tremendous expansion of the federal government and the resulting increased control over the activities of people” – he expressed optimism overall, in the future of both the economy and commercial tree care.

“Arboriculture is an old profession,” he reported. “It is here not only to stay, but is due for both expansion and advancement in the future.”

He was correct, both about the profession and the growth of the association. In 1950, the NAA reported 162 members, an increase of 13 over the previous year. By decade's end, the membership had grown to 188.

One member was Bill Johnson, who started Badger Tree Service in Beloit, Wisconsin, in 1947. A U.S. Marine, he was working as a fireman and part-time tree guy after the war before deciding he could do better on his own.

Through the end of the 1940s and the 1950s, he grew the business to the point that when he sold the name and client list and moved to Arizona in 1961, “Badger Bill” brought a convoy of 11 trucks with him. “He hated winters,” recalls Tim Johnson, his son, whose dad had been a Golden Gloves champion boxer on the U.S.S. Arizona, adding to his fondness for the state. (Tim currently runs his own tree business, TCIA member Artistic Arborist, Inc. in Phoenix, Arizona.)

Throughout his career, “Badger Bill” was very involved with the NAA, giving talks to groups around the country and packing up the family to travel each year to the Shade Tree Conference and the NAA Convention. Tim Johnson remembers his father as eager to learn, and eager to share. It was part of his drive to succeed.

“I remember him saying that if anybody was better than him, he wanted to learn how they were better, and then learn how to be that good or better,” Tim says. “He didn’t want to be second in what he was doing with trees.”

Although it is not clear whether Bill was taking his cue from NAA Secretary Tilford’s newsletters, throughout the 1950s he wrote a column that appeared in the Beloit Daily News. That was a public relations recommendation Tilford made in the newsletter.

Boom years

Across the U.S., the 1950s was a decade of economic prosperity, educational, scientific and technological advances, and the start of a cultural revolution. The boom in the American economy – and population – that started in the 1940s continued through the 1950s. It was the decade of the Korean War, Jonas Salk’s Polio vaccine, the heating up of the Cold War and, with the launching of the Soviet satellite Sputnik 1, the start of the space race. Those who lived during the decade witnessed the “Golden Age of Television,” the start of Pop Art, and the birth of Rock & Roll.

The tree care industry in the 1950s reflected some of the major trends of the decade in the United States. The economy and the population were booming, science was pushing advances in medicine and technology, and there was a prevailing sense of optimism.

For tree care, that meant men were setting off on their own in the post-war years, starting their own companies. As had happened during World War II, the Korean War attracted many of its best soldiers from the ranks arboriculture, and when it ended with the Armistice in 1953, many of those soldiers benefited from the GI. Bill just as their World War II brethren had.

The economic and baby boom continued. The growth of suburbs and need for electricity created opportunities for electric-
cal line clearance work, which became an expanding market for tree care. (Donald F. Blair, TCIA member and industry historian, points out that since many of the trees planted in the suburban developments were 15-gallon sized, “It took 25 years for them to get big enough for an arborist to get interested in them.”) Great innovations in tree equipment made for a more effective, efficient – though not necessarily safer – work site. Science helped create the chemicals such as DDT used in tree care, and developed technology to effectively deliver the product. (Though the most convincing studies came later in the century, some scientists in the 1950s also began questioning the potential harm that could come from some pesticides.)

Dutch elm disease, first reported in the U.S. in the 1930s, was prevalent in the 1950s and provided a source of income both for those removing dead trees and those treating to prevent it. “A lot of spraying of big trees was done, (and) it was more like an event,” recalls Lauren Lanphear, president of Forest City Tree Protection, Inc. (NAA/TCIA member since 1948) in South Euclid, Ohio, which abuts Cleveland. “At that time, less was known about the impact of (chemicals); people were thrilled to be having the trees protected, and the actual operation was a sight to see.”

It might have been a big John Bean hydraulic sprayer shooting a heavy stream out of a Bean 785 spray gun like a fire hose, or a flatbed-mounted mist blower looking like an anti-aircraft gun blasting a tornado of pesticide-laden wind up over 100 feet into the air. “Even as a kid, it was intriguing. Whereas today, we want to look as inconspicuous as possible in terms of what we’re doing, and want to make the smallest of impacts, in those days the more impact visibly you had, the more excited and happy the client was.”

Lanphear was born in 1956, so while his own memories of the decade are limited, his grandfather, dad and uncle were all arborists, and the NAA was part of what helped them build their business. “For our family, typically the vacations were associated with some kind of a tree conference,” says Lanphear, recalling an enthusiastic time for many Americans.

“You had people who had survived the depression or had just gotten out of the war, and you went from an economy that was either depressed or one that was geared up toward producing things for a war effort,” he says. “Now you had these people home and starting families, building homes and wanting to have a nice, tree-lined street. I think a lot of the feeling was that anything was possible. “We went from a country that probably wasn’t capable of being a factor in the war to producing all of these things that helped us basically save Europe, and end the war in the Pacific.”

Much of the equipment and rolling stock that was so vital to the war effort began to find its way into civilian use as high-quality, low-cost war surplus. As third generation arborist and grandson of the founder of Sohner’s Tree Service in San Anselmo, California in 1931, Robert Phillips recalls that his father, U.S. Marine Corps veteran John “Jack” Phillips, bought several Army Surplus trucks for $200 each, which were then converted to winch trucks, crane trucks and spray rigs that mechanized Sohner’s Tree Service throughout the 1950’s and beyond. Phillips’ late grandfather, Roger Sohner, founder of the firm that bore his name, was innovative and dedicated to the profession. A charter member of the NAA, he served on the board of directors. Sohner’s son-in-law, “Jack” Phillips, served on the bylaws committee. In 1953, he produced a short
film on line clearance that was screened at an NAA meeting.

The first purchase was for 10 trucks, and the company then purchased smaller vehicles such as power wagons and jeeps. Phillips recalls that there was a fleet of 15 war surplus vehicles on the company lot.

“My grandfather was trying to reduce the manpower by incorporating what was referred to at the time as high-tenders (aerial lifts),” Phillips says. “The urbanization of the area dictated getting as much done as possible with the least amount of effort.”

The equipment saved man-hours and made the work easier, as well as changing the practices of tree work. For example, as brush chippers went into more common use, it changed not just the amount of landscape waste that could be trucked off the property, but also the way it was disposed.

“I grew up on the property where the business is located,” Lanphere recalls. “The brush was hauled in and was all stacked up, until somebody would start a huge bonfire,” after which the process would start all over again.

There was an excitement for hard-working machines then that Lanphere compares to today’s excitement for high-tech and online innovation. His father owned a 16 mm movie camera in 1938, and Lanphere can remember watching some footage from the 1950s at field days when “big equipment” such as chippers, chain saws, and sprayers were demonstrated.

“It was odd to see these things working, and you’re seeing people without any kind of safety equipment standing very close to people doing things (with the machines),”

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he says. The people seemed too excited to consider the safety implications.

Focus on safety

One group that had refocused on safety was the National Arborist Association. In 1953, the association’s safe practices committee expressed the need for a safety manual, and also began circulating “Accident Prevention Bulletins” with its newsletters.

The newsletter suggested that readers post the bulletins in a high-profile spot, and included this paragraph, written in Tilford’s plainspoken style:

“An important step in preventing accidents, according to the National Safety Council and Insurance Companies, is to study reports of accidents. Then don’t do the thing which caused the accident. Keep reporting your accidents to us, we will circulate the information.”

The manual, which was released later in the decade, was titled “Safe Practices for Arborists.” It was one of the most comprehensive in several years and covered several areas. The pocket manual also served as the foundation of the first ANSI Z133 standards for tree care safety.

The report’s introduction spotlighted an over-arching concern about the attitude of those involved with safety. Noting that many industries had tried to focus on safety, including tree care, it added that, “In all of these proceedings, arborists in general were very slow to take any part... Safety rules were written but often neglected.”

The interest of many arborists in safety was driven not by the workers who could benefit most, the report noted, but mostly by insurance companies, which were raising their rates in response to accident rates.

Early in the decade, the NAA endorsed a policy of charging a uniform fee of $100 for each day (or portion of a day) plus expenses for expert witness services. It also successfully petitioned the Labor Department (as it had done during World War II) to include line-clearing supervisors and foremen on the list of essential war activity personnel during the Korean War.

Later in the decade, it created the comprehensive report on safety.

In 1958, the association established an annual safety award for internal recognition of its members.

The association also preached the importance of shade trees as part of quality of life. In 1958 it published “Pruning Standards for Shade Trees.” At a time when planners were not placing a high value on green space and shade trees, the association supported the planting of trees in retail business centers. Editions of Trees, the association’s journal, carried reports championing tree-planting in retail centers of Kalamazoo, Toledo, Cleveland and other urban centers. Citizens in San Francisco launched an initiative to plant trees in the city’s neighborhoods.

“Golden Gate Park is a magnificent park, but this was an effort to put trees in the neighborhoods,” says Blair, who notes that Arbor Day gained in popularity during the 1950s because it was a time of prosperity, and in the days of the baby boom the elementary schools were full.

“My father (arborist Millard F. Blair from Mountain View, California), through the auspices of the California Arborist Association, came to our elementary school every year on Arbor Day and the classes put on skits about trees, and then we planted redwood trees that the association supplied,” Blair recalls. “Half a century later, I was shocked to see these trees. Some, with diameters over 48-inches are ready to be harvested! There is quite a grove of Arbor Day redwoods at Edith Landels Elementary School in Mountain View.”

Looking through some documents from the 1950s, Phillips traced through some of his grandfather’s and father’s experiences as both NAA members and officers. He saw it as a benefit to both.

“It was education by association. You get educated by associating with the membership,” explains Phillips, paraphrasing a quote attributed to late Keith Davey of Davey Tree Surgery Company/West Coast. “They were basically preaching the gospel of trees. By being associated and being educated, you could go out and spread the word.”

Next month, NAA/TCIA and tree care rock into the ’60s.
LEGACY.

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Solar energy collection is expanding rapidly across the world and especially on North American rooftops. Installations are increasing in the United States by about 40 percent per year as costs plummet, innovation increases, and new business models such as leasing roofs to generate power expand in scale. It is projected that solar energy will cost the same as other electricity sources before the end of this decade. This growth has transformed solar into one of the fastest-growing industries in the United States, adding good-paying jobs even during the economic downturn.

Solar power in cities is likely to continue expanding for other reasons as well. Recent research in California found that houses with solar panels facing the street are worth more on the housing market. And once photovoltaic (PV) panels are installed on one house, the chances are good that more houses in that neighborhood will install solar—keeping up with the Joneses’ with solar collection, too.

With more and more PV panels and solar hot water in the urban forest, it is likely that a tree will soon be in the path of a solar collector in your area. This will result in new business opportunities for solar-friendly arborists. These business opportunities will come from two categories—addressing current conflicts and avoiding future conflicts. In other words: solar opportunities will be in pruning and planning.

This article will briefly introduce the concept of solar collection, explore and define a tree-solar conflict, and explain how to mitigate conflicts at different scales, using a solar-friendly “pruning and planning” approach.

Background

For thousands of years, societies have protected their citizen’s ability to collect sunlight for both light and heat. Access to the sun was seen as a right and protected through governance and legal systems. The ancient Greeks used strict land planning schemes that oriented the built environment to receive light and solar gain. Spanish colonies in the new world were required to orient their built environment to catch the sun and local cooling breezes—the “Laws of the Indies”—you can still see this pattern today in the street layout of old Los Angeles. Similarly, new European settlements in the cold interior of the North American continent such as Edmonton, Missoula, Denver, Ottawa, and Toronto tilted their east-west running streets about 23 degrees north of east to ensure the sun could melt snow on street surfaces in winter.

Today, although much of American and Canadian land-use law has its origins in British Common Law, the Common Law doctrine of ancient lights (or “right to light”) is not secured in the United States due to a legal decision in the 1950s, and in Canada due to several court cases. That is: there is no federal law or policy guaranteeing a right to collect solar energy. This lack of legal standing has resulted in a hodgepodge of local ordinances and case law. Interestingly, even though solar-friendly California has important new laws to ensure space for solar collection on rooftops, there currently is no public remedy for a tree-solar conflict. Any remedy for
such conflicts becomes a civil matter, to be resolved between private parties or in the courts. How does all this play out on the ground, on someone’s property?

**What is solar access?**

There are two main types of solar collectors that generally concern arborists: PV panels and solar hot water (SHW). PV panels are generally wired in a series, and sunlight strikes the panel and moves electrons that generate power. Older PV arrays are very sensitive to shading, but new arrays use technology advances to lessen shade impacts. Solar hot water (SHW) uses the sun to heat water, often to heat a domestic or commercial hot water tank, but SHW is increasingly being used for radiant heat flooring and swimming pools as well. SHW is usually less affected by some shading.

The most important thing to remember when considering solar access is that the sun’s path is fixed, knowable, and can be predicted for any place on earth at any day and time (Figures 1, 2 and 6). Anyone can read a sundial and be confident of accurate time today or 200 years from now, provided we have the correction tables at hand. But relatively few people can predict or visualize whether or when a nearby tree will grow into a collector’s access plane and restrict energy collection. This is where the skills and knowledge of arborists have great value.

Of course, the main reason for trees conflicting with solar collection – especially in urban residential settings – is the fact we use trees near buildings because most of our building stock is poorly insulated. It is true that people like trees nearby and trees increase residential property values, but the main work of trees is to shade buildings and cool the surrounding area. This fact puts trees in direct conflict with solar collection. It turns out that because there are so many trees near houses, only about 20-25 percent of residential roofs are suitable for solar collection in the United States. This makes every available roof precious to the solar energy industry and those planning for emissions reductions from traditional carbon-based power generation.

**How is solar access determined?**

When solar businesses analyze a roof for solar access potential, they use special tools to measure the sky and obstructions (figure 3). These tools can be analog or digital, and their data output can be analog or digital as well (figure 4). The amount of obstruction is usually calculated with solar-specific software programs, and converted into output such as; percent obstruction, power potential (in kilowatts [KW]), time of obstruction(s), and time period until the investment is paid off (figure 5). The property owner or leasing company then decides whether the power generated is worth the investment, and solar work either proceeds or is halted.

If adjacent buildings such as a neighbor’s house are an obstruction, it is assumed the power lost by that obstruction is lost forever. When trees are an obstruction, however, it is rarely assumed that power is lost forever. Of course, many factors go into a property owner’s decision on whether a tree will stay or go – but the important thing to remember is the solar business usually isn’t a tree expert. Oftentimes, the solar business will work hard to try and place an array where a tree will not have to come down, but this is not always possible. Alternative collector placement may be especially difficult if there are no “solar gardens” – centralized PV on one site generating power for many users – in an area nearby to choose from.

The normal solar installation goal to avoid tree-solar power conflicts is generally to exclude all trees from a defined area to prevent impeding the solar access zone (SAZ). The main reason for this “tree exclusion zone” is to avoid any shading of solar collectors, as a small amount of shade can affect performance.

On many older PV panel designs, as little as 5 percent shading on a panel can decrease performance. The solar industry prefers...
exclusion because it does not have the expertise for proper tree pruning, species selection and placement.

Further, most defined ordinances require 100 percent clearance in a time period such as 10 a.m.-2 p.m., or 9 a.m.-3 p.m. local time. More than 50 percent of all daily power is generated between 9-3, and this time period requires a wider SAZ. In addition, the difficulty of the layperson to imagine future tree growth rates and canopy size, plus the changing shade patterns makes it easy to enact an “all-or-nothing” solution.

This exclusion of any tree in the SAZ foregoes the many benefits that well-sited small- or medium-statured trees can provide. Arborists can change this “exclusion practice” and recommend appropriate trees near PV arrays to a wide range of customers. Municipal arborists as well as private-sector tree care firms and consulting arborists can offer these services as a part of their professional services.

Keeping a SAZ clear of obstruction requires a “pruning and planning” approach. Keeping a SAZ free today requires pruning, and keeping trees from growing into a SAZ in the future requires planning – either planting the proper species or making future clearance pruning visits.

Mitigating current conflicts
How many of us have seen a new solar PV array installed and a mature tree cut down shortly thereafter? Or several years after installation a tree is hattacked simply because it grew taller? To be sure, not every conflict will result in saving a tree. But there will be times where a solar-smart arborist can perform careful clearance pruning to prevent a tree from coming down. And solar-smart arborists can also perform recurring pruning services to guide some young trees from straying into solar access planes as they grow and mature. This is the “pruning” part of the solar-friendly approach.

Performing initial solar-smart clearance pruning – and coming back for regular clearance pruning on existing trees – will soon be a valuable service. This service will be based on the arborist’s knowledge of the solar access plane, the property owner’s concerns, and the time frame required for clearance. Such considerations will likely be an important portion of cash flow for tree care services in the near future. Another important service – hopefully not too often – will be for the selection and replacement of trees removed from the SAZ for a PV array. Leaf area around buildings will always be important, and although large trees have

Figure 5: Paths and obstructions – an example of output from an electronic solar measurement tool showing an obstruction path for December through June.

more benefits, there is no reason for a barren moonscape in front of solar collectors. Appropriate species selection in front of solar collectors will be an important service for arborists and tree care companies as solar power expands in cities.

Avoiding future conflicts
Knowing that most of the cause of conflict between trees and solar collectors arises from a lack of knowledge of what a future tree will look like means arborists can expand their practice or business offerings. The rapid expansion of solar power ensures that conflicts will have to be avoided. This is the “planning” part of the solar-friendly approach.

Currently many communities are actively planning to codify solar rights for permitting solar collectors, and the lack of uniformity in the law creates an opportunity for arborists to help craft policy or practice at several different levels. Creating solar-safe zones or SAZs can be done for a single homeowner or businessperson on private property, in covenants for home owner associations, in rules for special districts, or in city and county codes.

For example, arborists can define suitable species and optimal placement in SAZs such as seen in figure 2. These are a defined area with a maximum tree height to avoid conflict with solar collectors. Note how the zones change according to structure height, and taller trees are possible closer to a taller structure. The average arborist can define and draw these SAZs easily with free computer software to make custom SAZs for clients. Much of this free software is intuitive and fairly simple to use (and diagrams made with it appear in this article). Computer-literate arborists will find they will have just a short learning curve with this software before making client-ready diagrams.

Another opportunity for arborists is to reach out to the solar installation industry to provide advice on whether or when young trees nearby will grow into the access plane and reduce power generation. This is particularly important to companies that lease roofs to generate power. The leasing business model requires an expect-
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ed generation rate over the life of the loan on equipment. Trees growing into an access plane reduce power generation, which may affect the ability of the leasing company to repay its loans on schedule.

Arborists can also reach out to the “green” development community to provide custom solar safe zones with proper species selection and placement to shade walls, provide aesthetics, and avoid conflicts. Leadership in Energy and Environmental Design – LEED – buildings depend on proper shading in summer and solar gain via windows in winter. Arborists are uniquely positioned to ensure green buildings perform as expected and can provide a valuable service to help create green and sustainable buildings.

**Next steps**

Falling prices and new business models are increasing solar energy options, and renewable energy in the urban forest is likely here to stay. Trees and solar panels can coexist – with some thoughtful planning and solar-friendly care.

Solar-smart arborists can provide consulting services to new homeowners or businesses looking to install solar panels while finishing their landscaping. Arborists can use their expertise and advice a homeowner whether the plants on their plans will grow into the solar access plane, or approximately how many years until solar corrective pruning is necessary. Consulting arborists can pair with solar residential developments to choose appropriate species and provide proper siting. Municipal arborists can lend their expertise at several levels to avoid tree-solar conflicts, including street tree species choice and species selection for green buildings.

Widening your marketing to the green energy industry and learning new skills on free software can put you ahead of the curve in these challenging economic times. Arborists can expand their business offerings and practice by embracing the challenges that come with tree shadows. Will you be the first solar-friendly arborist or tree care company in your market?

Dan Staley studied urban forestry at University of California-Davis, and environmental planning and urban ecology at the University of Washington, and owned a small landscape design and construction firm for more than a decade. His book on solar access for arborists will be published in fall 2013.

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There’s something special about a tree care company – or any company, for that matter – that can weather whatever the economy throws at it for more than four decades.

Lawrence V. Collins founded Collins Tree Service in 1971 in Hooksett, New Hampshire. His son, Bill, grew up in the business, doing groundwork until he was old enough to climb. He graduated from the University of Massachusetts with a degree in arboriculture in 1986, from the same school and with the same degree as his father, and began in sales. Both are ISA-certified.

Bill took over as president in 2005. “I like to think that the fact that we’ve been around as long as we have, that we’re family-owned, and that we have long term employees distinguishes us from other tree care companies in the area,” he says. “I marvel at the companies that have been in business for 100 years. I think it’s a huge testament to any company that it can withstand the test of time.”

Collins Tree Service operates throughout Southern New Hampshire. Their current mix of business is 70 percent residential and 30 percent commercial. Larry still takes part in the business, meeting with longtime customers from their satellite office in Hopkinton, where he now lives.

“Typically he works six months on and six months off,” Collins says. “He knows everybody.”

The company is primarily geared toward tree care. “We pride ourselves on being a company that cares for trees,” he says. “We specialize in diagnosing problems, why a tree is dying, or why it died, and providing solutions to problems.”

Close to 40 percent of their work is insect and disease control, and they have licensed New Hampshire pesticide applicators for the job. The birch trees, in particular, in Southern New Hampshire are infested with birch leaf minor and there are other insect problems, especially aphids and caterpillars.

Some problems are harder to diagnose. For example, Collins was called out to a property where the pine tree needles were curling. After eliminating the most likely possibilities, from insects to poor root structure, he found that the chemicals used on the lawn were causing the problem.

Another 40 percent or so of their work is pruning. They believe in pruning sparingly, for aesthetics, safety and the general health of the plant.

Fertilizing and tree removal make up smaller portions of their work. “We’ll try to save the trees, but if a customer is dead set against it, we’ll remove them,” he says. “In the last five years we’ve had some significant storms. People’s knee jerk reactions are to remove the tree to prevent a possible problem.”

They do stump grinding. They also do weed control, especially for poison ivy. While it has always grown in the woods, it’s being exposed now that the woods are being cut down for new home construction. It’s an aggressive plant in the way it grows, but is easily controlled, Collins says.

Collins Tree Service has seven to nine employees in the summer. Four are New Hampshire Arborist Association certified arborists.

“Employees are the backbone of our business,” Collins says. “The Collins name, which has been around for 43 years, is the driving force, but I couldn’t do what I do without them.”
Ninety percent of the company’s work is done for repeat customers and referrals. They do very little advertising beyond their website, Twitter and Facebook. Their community service work includes planting trees on Arbor Day, participating in NHAA days of service, and sponsoring a little league team and a soccer team.

They promote the longevity of their company.

“I don’t know if we give enough credence to companies that have been around for such a long time,” he says. “We have to promote that aspect of ourselves.”

The company earned TCIA Accreditation in 2005, the same year Collins became president. It was the second in the state to do so.

“There are a lot of tree care companies in our area, and there are becoming more and more. We felt we had to stay ahead of the curve,” he says.

They were well prepared for the process. “We had all the appropriate documents and were keeping good records. We had a safety manual, and hard hats and chaps. Employees understood the safety aspect and read and understood their work orders.”

Still, the amount of paperwork they do increased. They wrote a business plan. They implemented written proposals for all their customers and used more specific wording on their work orders. They began to call customers before the job, and afterward, to check on the work. As a result, communication with both employees and customers improved.

Although the company is in a good position to expand, Collins expects it to be in about the same position as it is now a few years down the road, he says, providing the same service and the same quality work, on the same scale.

He recommends Accreditation for all tree care companies, even well run, successful ones.

“I don’t know why, if you’re in this industry, you would not be accredited,” he says. “It increases your knowledge of what it is you’re doing, and it makes you a better run, more efficient company. If you’re a good company and doing the right things, Accreditation will come easily.”

While Collins Tree Service would prefer to do tree care, takedowns are inevitably part of the job.

Contact Charlie Tentas for your free assessment and to see what TCIA Accreditation can do for your business, ctentas@tcia.org.

TREE CARE INDUSTRY ASSOCIATION
1-800-733-2622 • tcia.org • Advancing tree care businesses since 1938
By Rick Howland

There are literally hundreds of attachments for the many kinds of loaders, skid steers and other machines tree care pros run, so if you can’t have them all, you need to know which ones are the most versatile, will get the most use and get you the most for your money.

Whether you run a mini skid steer or a log loader, high on that list would be the grapple. It’s versatile enough to gently place log-length material into a trailer or stack brush into a pile for chipping, which then can reduce the mess in one pass without the dangers that come with hand-feeding the machine.

Couple the grapple with a winch, and one operator can do the work of a three-man crew, maybe more, according to a consensus of manufacturers we talked with. That means not only the labor savings of two thirds or more, but also reducing the exposure to injury and disability claims by the same amount.

After that, then what? That depends on the business. Think of what you can do with what are arguably the top-most important attachments to a tree care professional: grapples, buckets, shears and winches.

“We know that tree professionals today are making equipment decisions differently because of the economy,” says Jamie Wright, product manager with Terex Construction Americas. “Because attachments can make one machine into a multipurpose tool, attachments are the best way to keep overhead in line for tree contractors. Versatility and job diversification have become the main goals of many looking for ways to keep their businesses afloat or increase revenue utilizing their current machinery inventories.”

“We’ve had customers say that their attachments will basically pay for themselves in one season with the number of added jobs they bring in,” says Wright. “Then they’ll continue to profit for years. For tree professionals watching their bottom lines in this recovering economy, attachments are cheaper than buying new machines and allow companies to be more job-specific, while at the same time giving them more options with their current equipment.”

“Using compact equipment with different attachments can totally revolutionize tree professionals’ businesses, enabling them to bid on larger projects and to work in all weather and conditions,” says Wright. “Adding attachments to perform profitable tasks is always a good financial decision, simply because attachments cost very little compared to the revenue stream they can see as a result of performing more tasks on the jobsite.

“To get more done on every jobsite, Terex offers performance-matched attachments for its compact loader lines, including auger, backhoe, mulcher, rotary broom, general purpose bucket, light-material bucket, multi-purpose bucket, dozer blade, pallet forks, power box rake, snow blade, snow blower, stump grinder, trencher, vibratory roller and the Loegering Eliminator rake. Each attachment comes standard with the necessary hydraulic lines.
and connectors or electric connections for a quick, easy fit,” Wright notes.

Additionally, “Pick-up brooms, angle brooms and grapple buckets are a usual part of tree contractor’s inventories, making jobsite cleanup quick and easy. We have realized that grapple buckets are in demand right now. Whether it’s land-clearing, site cleanup or recycling, this attachment offers the versatility contractors are looking for in an attachment investment.”

Terex recently introduced the G-Series mulcher attachment, aimed at right-of-way work and vegetation management applications, such as clearing brush, moving grass and weeds, as well as cutting down and mulching trees up to 8 inches in diameter.

Tree care professionals are always on the lookout for new kinds of businesses, new profit centers. “A loader and land-clearing attachment, like a mulcher combination, is ideal for site preparation and clearing applications, as well as utility and right-of-way work, brush clearing for firebreaks and fire prevention,” says Wright. “Land-clearing attachments can also offer tree professionals the ability to grapple, shear, hammer, break, crush, cut, compact and scoop up debris on a variety of jobsites.”

“And because snow removal is usually a very steady business, many tree contractors are able to supplement their revenue with a loader and snowblower or snowplow attachment to get them through winter months,” he adds. “New attachments are coming along every day, and tree contractors should be on the watch for any attachments that make their job more efficient.”

One of the best things about the new age of attachments is their application on a variety of equipment, including models for the mini skid steer.

Todd Roorda, tree care/rental sales manager for Vermeer Corporation, notes that, “We have three mini skid steers that go into the tree care market, although the larger two are more heavily weighted in terms of popularity. However, in the end, all attachments will work on any mini skid steer.

“The beautiful thing about minis is that they use a universal mounting plate. For the most part, then, all mini attachments are interchangeable,” Roorda says. “The only wildcard is Bobcat, with its own mounting plate and attachments.” (Adapter systems are available for mounting Bobcat attachments on to other brands, and vice versa for other implements being attached to a Bobcat machine.)

“The three main attachments we sell into the tree care industry,” Roorda states, “are the log grapple, brush grapple and standard bucket. We manufacture our own log grapple because we could not find one that was suitable for our needs and which met the design criteria for the tree care market.” He adds that the brush grapple and standard bucket are made by Bradco.

“Vermeer has been in the mini skid steer business for 10 years, and we have developed a fair amount of experience with the tree care industry and know what direction users are going,” notes Roorda. “Suffice it to say, while climbing and rigging is still being done, these machines have become valuable for takedowns and to get material to the front yard with reduced labor.”

“You still have to have a guy in the trees, and trees have to be dropped, but once material is on the ground, the mini with a log grapple can really reduce a lot of labor and physical injuries. You don’t have to cut material as small as we did in the past. It’s a faster job with fewer cuts and fewer trips, especially when the grapple can grab three logs, not just one,” Roorda says.

They can be used for all kinds of cleanup and to expand business. For example, you can use the bucket to haul chips out and haul in fresh dirt to fill a stump hole and generally groom faster,” he adds. “I’ve seen tree companies use attachments to expand almost into landscaping, not just taking down a tree.

Roorda adds that, “We soon will be unveiling new technologies to enhance our mini loader system. I am not at liberty to talk about them at this time, but they will appeal to the tree care industry.”

According to Don Ryan, owner of Ryan’s Equipment, experienced tree workers say attachments help get the job done faster and safer. If they “had to go back to doing things the old-fashioned way, they’d be done,” Ryan says many have told him. These implements can
extend a tree care worker’s career and help a business owner retain experienced crews by minimizing what Ryan knows to be back-breaking labor.

“Grapples are most popular,” he notes, adding that, “shear heads are almost as popular.”

Ryan’s also offers brush rakes, mulchers, rock grapples and saws.

“We’re always working on new things,” Ryan says. He recently went to a demonstration for a new forestry-saw head, and says his company intends to introduce a new “dangle saw,” a device that in his words “hangs off an excavator” and is capable of cutting standing trees or those downed for logging or from wind damage.

“It is intended to keep guys in the cab and off the ground with a chain saw. Eventually we will put this on skid steers when it’s scaled down.” Ryan adds.

Although dangle saws are already on the market, the new Ryan’s Equipment version is designed to be “half the size and cost, and is very user friendly,” according to Ryan, and will fit on excavators, track feller bunchers, and loader type carriers.

The company’s mulcher has already been available, but will soon be reintroduced. “With the mulcher, we are trying to achieve and promote three things: ease of maintenance, reduced cost for teeth and similar wear components, and add a very large hydraulic variable displacement system, which will reduce stress on the carrier’s hydraulic system,” Ryan says.

As the name implies, Beaver Squeezer Grapple specializes in grapples. For example, the company makes a 62-inch grapple for skid steers, a 54-inch for mini skid steers, and a three-point tractor attachment grapple, the latter largely for logging and tree farming.

Also available from Beaver Squeezer is a line of Warn Hydraulic winches, in 9,000-, 12,000- and 15,000-pound capacities, pre-spooled with cable and complete with hydraulic hoses and quick connects. Combined with a grapple, the setup can turn an operator into a one-person crew.

One of the main features of the Beaver Squeezer Grapple is its continuous 360-degree rotation.

Stan Ogletree, Beaver Squeezer presi-
loader with one operator would replace at least a three-man crew, maybe as much as a five-man crew, doing cleanup.”

“Understand that a skid steer is yard-friendly, especially if you have a competent operator or systems that help compensate for lawn damage, like low-pressure tracks or tires or turning capabilities that help cut down on tearing up a yard,” says Ogletree. “Additionally, with a grapple that rotates you do not have to move a machine as much; you use the grapple for positioning. A lot of people use a grapple bucket (a bucket usually with two grasping fingers), but imagine the difference in on-the-job performance with a rotating grapple. It means a cleaner yard, a nicer finished product,” he adds.

Rayco Manufacturing has “in large part got out of the implement business,” according to J. R Bowling. “We formerly manufactured grapples but have not done that in a few years. What we do in terms of attachments is the forestry mulcher head, similar to that which goes on skid steers. But, we recognize there is a safety issue with putting a mulcher on skid steers.

“Because mulching can require putting about 2,500 pounds of mulcher head 10 feet in the air, this can lead to unstable situations in standard skid steers,” Bowling says. The Rayco line of mulcher heads are designed for Rayco’s purpose-built, heavy duty machines, he says.

The beauty about attachments for tree care is that, like a good marriage, getting hitched is relatively simple, and the relationship will last a long time if you make the right choices.

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A

nders Oredson was on his way to get a hydrant permit from the city water department when TCI Magazine tracked him down in early April. Oredson manages the Young Adult Conservation Corps, one of the non-profit arms of the Tree Trust located in Minneapolis, Minnesota. Tree Trust Landscape Services, a for-profit arm of the Tree Trust, is a TCIA member company.

The Young Adult Conservation Corps (YACC) helps to maintain a 55-mile-long former railroad corridor that is a popular recreational trail for hikers and bikers in Hennepin County. The clearing is 50-100 feet wide, “so there’s lots to do,” says Oredson. That includes watering about 1,000-2,000 trees. Hence the trip to get the hydrant permit, in which he succeeded.

Tree Trust was created in 1976 to address two problems: the devastation of the urban tree canopy due to Dutch elm disease, and high unemployment and poverty rates for youth and adults. “We began combating these issues by hiring unemployed individuals and training them to plant trees and reforest the Twin Cities,” according to their history statement. They have since expanded to offer integrated employment training, case management, community forestry and environmental education programs.

YACC is annually comprised of a group of 60 young adults age 18-24, each of whom has some type of barrier to education and/or employment. Tree Trust helps to prepare these youths for employment, including jobs in the green industry. In their three- to nine-month training program, the young adults work on projects in both Hennepin County and the city of Minneapolis. Besides the railroad corridor work, in summer they do basic property maintenance, mowing, light construction of boardwalks, patios, and staircases in local parks. In winter the trainees tackle removal of invasive trees, buckthorn, hazardous trees and pruning, basically “lots and lots of tree work,” says Oredson.

The youths work full time, 39 hours a week. Not all of them will go into tree work, but they learn valuable job skills and get paid in the process.

The Work Force Investment Act, a federal program passed down to the states from which funding is then split up to counties, helps fund the training program. “Part of that contract says we need to provide a credential for our employee/trainees that meets an industry standard,” says Oredson.

Tree Trust found that in TCIA’s Tree Care Academy curriculum. A contact on the state level reviewed the TCIA material, and accepted it as a credential for the youth workers.

“It’s a big deal for us. It allows us to get that credential for them, and it’s appropriate for them because of how much tree work we do through the year,” says Oredson.

“The reason I like the apprentice training,” he adds, “is that it focuses on the basic requirement of someone working on a tree removal site. The apprentice program puts all of that down in a clean curriculum that we can teach to our entry level trainees and get them up to speed in a very organized and attainable way.”

It was Jared Smith, Tree Trust’s director of landscape services and operations, who discovered the training vehicle, Tree Care Academy, in TCI Magazine after attending the Certified Treecare Safety Professional (CTSP) workshop in Minneapolis in January 2011. He runs Tree Trust Landscape Services, which plows revenues back to the company to help pay for fuel, equipment and vehicles. It is that arm, as well as local tree care companies, that Smith and Oredson hope will eventually employ their trainees.
“If they’re thinking about horticulture as a career path, we have partner tree companies that we have good contacts with. Tree Trust is clearing house for all things tree in the metro area,” says Oredson. He notes that S&S Tree and Landscaping Specialists, an accredited TCIA member located in South St. Paul that was purchased by TCIA member Davey Tree Experts in December 2012, has expressed interest in hiring Tree Trust trainees.

Tree Trust’s full-time employees, who supervise the trainees in five-member crews (based on the number of seatbelts in the trucks), also go through the Tree Care Academy Program.

“All employees are being put through it – it’s all very new and we’re all very excited about it,” says Oredson.

After three months, Tree Trust “graduates” some of the trainees onto the advanced crew, where they remain for another three months. Then Tree Trust selects two members of the advanced crew to become interns who work on a smaller crew directly with a YACC supervisor. A crew member who successfully graduates from entry to advanced to the intern crew will be in the program a total of nine months.

One such former intern and one of Tree Trust’s shining stars is Eric Adams, from Mounds View, just outside Minneapolis. Following friends’ leads, he joined the program in 2011 and moved up through the crews to become a full-time employee. He now oversees a crew of his own who frequently work on tree removals, and he also teaches job skills to the trainees.

“With that program, I showed leadership and was a role model for the entry crew. I was able to help others be motivated and use my work ethic to display it for other kids,” he notes. His favorite three months, he says, was in the internship program, working directly with a supervisor.

Adams points out that it’s not just gaining experience with the tree work, but also with independent living. Tree Trust teaches job skills to money management and transferable job skills.

“It’s definitely something I will continue because I’ve put so much time and effort into it, and it’s something I like doing. I feel like I’m a lifer,” he says.

“I really like to cut down big trees, even though it is very dangerous. My first experience was kind of thrilling, but definitely rewarding, to see a tree so huge go down,” he says.

The trainees tackle various projects. In May 2011, a tornado struck North Minneapolis, a low income section of the city. In its wake and with the blessing of a tree-supporting mayor, Tree Trust’s Forestry Department started a tree distribution program for private property owners to replace some of the huge beautiful shade trees lost. The trainees plant the trees and also help hand out the 6- to 8-foot deciduous shade trees on distribution days, which this year accounted for more than 1,300 trees.

In another effort, the winter of 2011 had no snow, so there was tremendous amount of buckthorn removal. “We cleared the equivalent of eight Metrodome (home to the Minnesota Vikings football team) sites of buckthorn,” says Oredson with a laugh.

The Corp’s manager, Oredson has a bachelor’s degree in biology, specializing in entomology, from the University of Minnesota-Morris. He took a year off, then went back to grad school thinking he would be a high school biology teacher. Along the way, he heard about Tree Trust, joined it in 2005, fell in love with it and has been there since.

Oredson is nothing if not optimistic. “Tree Trust started in the ’70s with high unemployment and Dutch elm disease. We’ll be in a similar position with emerald ash borer,” he says. “There will be a lot of positions available for these young people. That will benefit them for future employment.”

Smith echoes that optimism. The trainees “have made tremendous leaps and bounds in their training program and capabilities in their participation through programs like TCIA’s. The Tree Care Academy is very formal and very well documented. When they go through it, they’re coming out with a higher skill level. And there’s also a safety component to that side.”

Smith notes that Tree Trust, since its founding in 1976, has developed in-house training documents from OSHA and ANSI standards and best practices, “but nothing really laid out plainly for us.” Membership in TCIA opened up the whole array of materials at member pricing, and Tree Trust started looking at that more carefully. Smith notes it made sense to use TCIA’s formalized training curriculum.
“Rather than us reinventing the wheel, it’s better to go with industry people who have already done the work for us. I contacted Charlie Tentas at TCIA. He sent examples of Tree Care Apprentice and Ground Operations Specialist. We reviewed it, and it was exactly what we needed.”

Smith is now considering using TCIA’s Chipper Operator Specialist Training Manual. That includes important techniques for keeping individuals safe for operating around a chipper.

Charles Tentas, account rep with TCIA, notes that it’s another training skill the Young Adult Conservation Corps members can show potential employees. The procedure is that the students have to send in the tests to TCIA to be reviewed. There’s a competency checklist. The leaders have to sign off with it.

“I know if I were an owner, I would think that, if they’ve (trainees) got the gumption to go out and do this and they’ve got something in their hand attesting to the fact that they’ve already done something to try to stay safe around this equipment and around trees, that might give them a leg up to be hired,” Tentas says.

As well as a message for the day, this signage may offer a career plan for this Tree Trust YACC program participant.

“Trainees may do a variety of tasks, from basic property maintenance and mowing to pruning and removal of invasive or hazardous trees.

“If you’re interested in learning more, or in hiring a Tree Trust trainee, contact Anders Oredson at (612) 419-4622 or anderso@treetrust.org.”

If you love to read TCI Magazine, send a picture of yourself reading it and we’ll consider you for the next ad!

To subscribe, call 1-800-733-2622 or go online www.tcia.org
Error on Washington state workers’ comp reporting

I recently read a letter to the editor regarding “Following the Rules” (Letters, TCI, March 2013) from John Hushagen at Seattle Tree Preservation. In his letter, John states, “For at least 20 years we have been allowed to self-audit our hours between a ‘tree care & pruning service’ category…and ‘lawn care maintenance.’”

The State of Washington Department of Labor and Industries is very clear on their interpretation of these two categories and the lawn care maintenance category is intended for companies that mow lawns and trim shrubs. (rule 0308-01) They even caution that this should not be used for tree care services in the rule. The Tree Care and Pruning category “includes, but is not limited to, incidental ground operations such as picking up branches and limbs, operating mobile chip machines used in connection with a tree care service, spraying or fumigating of trees, debris removal and stump removal when conducted by employees of an employer subject to this classification.” (rule 0101-36)

In other words, if a tree care company in Washington state is classifying their workers in the lawn maintenance category there had better be some lawn maintenance going on. To interpret these rules to say that only arborists working aloft are in the Tree Care and Pruning Services category could open a company up to a hefty fine and possibly a fraud charge.

Zeb Haney, BCMA, ASCA
Tree Resource, owner
Federal Way, Washington

Minding a professional image

When I read the “Mind Your Skirt” article (From the Field) in your April 2013 issue of a young woman, fresh out of college selling tree work, walking up to the jobsite in a short pink skirt and flip flops, I was appalled. The article reinforced sexist stereotypes, was wrong on many levels (Was this a weekday? Where was her PPE? Where was her training?) and went nowhere to help bring an image of professionalism to one of the least utilized demographics in our industry.

As a strong proponent of bringing more women into the tree care industry, I found myself very disappointed. I manage 20 professional arborists in sales, two of whom are highly professional women. I can tell you that it is very challenging for a woman to enter into the male-dominated tree care industry as a respected colleague. Gaining respect in our industry is challenging for all of us, but can be especially so for a young woman who may lack the strength, mechanical inclination, and background of many young men.

Your publication does not seem to be committed to helping us get past this. I hope you can do better.

Patrick Brewer, CTSP
Bartlett Tree Experts, district manager
Austin, Texas

Saving the eucalyptus feller

Aloha. I enjoyed your article “What Kills Tree Care DIY-ers?” in the April 2013 TCI Magazine. I would like to post this article with references and a link to the TCIA website under the News link of the Aloha Arborist Association website, www.alohaarborist.org, if that is acceptable to you. Please let me know.

I’ve been handling the calls for AAA for around eight years now. The most memorable call was from a farmer on the Big Island who wanted information on training classes so he could fell the 100-plus eucalyptus trees growing on his property. Mike Kraus, owner of Tree Works, Inc. (22-year TCIA member) on the Big Island, helped me dissuade the gentleman from attempting it on his own. He wrote a great email explaining that an amateur is lucky if all that happens is that he dies because being severely maimed or paralyzed for life can be much more difficult to deal with. I’m just glad the guy called first and gave us the opportunity to talk him out of it.

Carol Kwan
Carol Kwan Consulting LLC, president and Certified Arborist
Mililani, Hawaii

Editor’s note: Carol – post away!
Accident Briefs

Taken from published reports or reported directly to TCIA staff, as noted.

Trimmer hurt when boom truck tips
A tree trimmer sustained minor injuries April 1, 2013, when the bucket truck he was in tipped over in Twin Falls, Idaho. The man was in the bucket when the truck fell over. It was unknown right away what caused the truck to tip. The man sustained minor abrasions but was not transported to a hospital from the scene, according to the Twin Falls Times-News.

Man pinned, injured by cut tree
A tree service worker suffered serious injuries after a cut tree fell on him at a home in Chesterfield County, Virginia, April 03, 2013. The victim was awake and breathing after the tree fell on him, according to WRIC ABC channel 8 and WWBT NBC12 reports.

A neighbor brought over a tractor to help lift the tree off the victim, according to a CBS 6 WTVR-TV report. The tree was too heavy for the tractor to fully remove, but it was able to lift the tree partially. Once Chesterfield fire crews arrived, they used airbag technology to stabilize and finish lifting the tree off the victim.

The man was taken to Virginia Commonwealth University Medical Center by ambulance where he was listed in stable condition.

Homeowner dies in fall from tree
Mathew Nagel, 44, died April 6, 2013, after falling from a tree on his property in Lexington, North Carolina.
A retired 20-year Army veteran, Nagel was trimming a pine tree and had taken precautions, including putting on a safety harness before beginning work. But part of the tree he cut fell in an unexpected direction, knocking him from the tree and snapping his safety line. He broke his neck in the fall and died at Wake Forest Baptist Medical Center, according to the Winston-Salem Journal report.

Man killed by cut tree
An Onalaska, Washington, man hit on the back of the head April 8, 2013, by a tree being cut down on his property subsequently died from his injuries.

John C. Hazen, 43, who worked as a maintenance person for a local logging outfit, had his employer helping him clear land. Hazen, who didn’t have a hard hat on because he wasn’t part of the tree cutting crew, for some unknown reason ran in front of an evergreen tree as it was being dropped.

He was flown to a Vancouver, Wash., hospital after the incident. Death was caused by blunt trauma to the head, according to a Lewis County Sirens report.


Woman, 79, pinned by tree she felled
A 79-year-old Holliston, Massachusetts, woman was rushed to the hospital April 11, 2013, after a tree she was chopping down in her backyard fell on her. Beatrice Wardford was cutting down the tree herself, using an axe.

Her neighbor, Katelyn Springsteen, 16, was walking home from the school bus when she heard Wardford’s cries. “It sounded like a cat meowing. As I got closer I heard the cries for help,” she told WBZ-TV.

The tree was 30-40 feet tall and 10 inches in diameter. Springsteen, who immediately called 911, said the tree was on her left hip, with her right hip to the ground, and was crushing her.

A local firefighter who lives nearby and heard the emergency call was the first one on the scene and said the woman was having trouble breathing. He lifted trunk up a few inches at first, and then about a foot. Katelyn’s father, Hank, quickly moved the victim out from under the tree.

Worst April in five years
April 2013 was the worst April for the number of persons involved in accidents since TCIA’s Peter Gerstenbeger, senior advisor for safety, compliance & standards, began tracking them in 2009:

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In the words of Sgt. Phil Esterhaus on the old Hill Street Blues TV show, “Let’s be careful out there.”

April 2013 was the worst April since TCIA’s Peter Gerstenbeger, senior advisor for safety, compliance & standards, began tracking them in 2009. 

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Accidents in the tree care industry that occurred during the month of April 2013. Graphic compiled from reports gathered by, or submitted to, TCIA staff.
There was a rope tied to the tree indicating the woman may have been trying to pull the tree down after the cut and didn’t get out of the way fast enough. Feisty to the end, Wardford tried to refuse medical transport to UMass Medical Center in Worcester, according to the WBZ-TV report.

*Contributed by Ellis Allen, privileged TCIA member-retired, from Mashpee, Mass.*

**Man hurt falling from tree with running chain saw**

A man was hurt April 13, 2013, in Norwalk, Ohio, after he fell out of a tree with a running chain saw. James E. Sayre, 37, was transported to Fisher-Titus Medical Center for treatment.

Sayre was up in a tree in a backyard when he lost his footing. The top of his right hand was cut with the chain saw, which was still running.

Sayre had his hand wrapped in a towel by the time firefighters arrived, and was conscious and alert, according to the *Norwalk Reflector* report.

*Contributed by Gary Dempster, a climber with Nature’s Way Farm & Trees, LLC in Chesterfield, New Jersey.*

**Golfer killed by limb from cut tree**

A golfer apparently seeking to retrieve a ball he had hit into a wooded area adjacent to the Montammy Golf Club in Alpine, Bergen County, New Jersey, was struck and killed by a cut tree limb April 14, 2013.

Sung K. Paik, 60, of Union City, N.J., was struck by a limb from a dead tree workers were in the process of cutting down at an adjacent home.

Paik had sliced the ball into the woods and replaced it with another ball to finish the play, but apparently stepped into the yard looking for the ball that he had lost. The tree workers stopped using their chain saws when they spotted the golfers in the area, to avoid disturbing them with the noise, according to a police report. They then yelled at Paik to go back when they saw him coming into the yard. But they had pretty much cut through the tree, and it just gave way on its own, and one of the large limbs hit Paik.

Paik’s companion, a dentist, tried to administer CPR, and another golfer on the course, who happened to be a physician, rushed over to help. Paik was then rushed to a hospital, where he was pronounced dead on arrival, according to *The Record* report.

**Tree worker killed in struck-by**

A man felling a large tree April 15, 2013, behind a home in Richmond, Kentucky, was killed when the tree or part of it struck him as it came down.

Kevin Turpin, 39, of Bybee, Ky., was pronounced dead at the scene. He died from...
blunt force trauma to the head and chest, according to a Richmond Register report.

**Bucket operator killed in 60-foot fall**

A tree company owner was killed April 16, 2013, in Anderson County, South Carolina, when he fell more than 60 feet from a basket crane while removing a pine tree. Gerald Lee Culler Jr., 36, owner of Anderson Arbor Pros, died after an employee working on the tree needed help and Culler took over.

Culler apparently asked the owner of the basket lift if Culler could operate the lift. The lift owner asked Culler if he was going to take safety equipment up with him, but Culler apparently declined, saying he didn’t need it and left the gear on the ground.

The pine was about 110 feet tall. Culler was topping the tree at about 65 feet when the tied-off portion of the tree swung around and hit the basket, turning it upside down and throwing Culler out and to the asphalt driveway below, according to the WYFF 4 report.

**Man electrocuted trimming tree**

A man was electrocuted April 22, 2013, while trimming trees around power lines near Brodheadsville, Pennsylvania.

Jimmy Hernandez, of East Stroudsburg, Pa., had been hired to cut limbs off of trees in the front yard of a home. He tied a rope around his waist, then climbed a metal ladder and started cutting down limbs with a metal saw. He was cutting tree branches away from power lines and at some point leaned over and his stomach touched the power line running through the branches. Hernandez was stuck in the tree with the live wire and the only way his body could be brought down was for the power to be shut off. Within an hour the PPL crews were on scene and cut power to a part of the neighborhood, according to the WNEP, Channel 16 report.

**Homeowner killed by cut limb**

A wayward branch killed a man April 22, 2013, in East Drumore Township, Pennsylvania, when it fell on him while a tree on his property was being cut down.

Martin J. Rineer, 58, and his sister were having poplars on their property logged when Martin went to tell workers that a truck (to haul the wood) would not be arriving that day.

He was struck by a large branch and died immediately. The tree, with a trunk about 26 inches in diameter, fell in a different direction than intended, according to the Intelligencer Journal report.

**Homeowner injured by cut tree**

A homeowner was injured April 23, 2013, in Logan, Utah, when a tree he was cutting fell in different direction than intended, pinning his leg.

Brett Tarbet was in a tree he was trimming and the tree or a section of it was reportedly tied off to control the direction it fell. However, when Tarbet made the cut, the trunk came back toward him, trapping his leg.

His family was able to free his leg before emergency personnel arrived. With the help of EMS, Tarbet was removed from the tree and transported to the hospital, according to The Herald Journal report.

**Contributed by Mark Malmstrom, owner of TCIA member Total Tree Care, Inc. in Logan, Utah, whose company was called in after the accident to take down a tree that was hung up and another that was partially cut through.**

“By the look of things he is lucky that he was not killed,” writes Malmstrom. “His leg was broken in two places. He had surgery to install a metal rod and spent a couple of days in the hospital. It is a marvel that more do-it-yourselfers are not injured or killed – no PPE and just making it up as they go in tree removal.”

**Man hurt in 30-foot fall**

A man was rushed to the hospital April 25, 2013, after he took a 30-foot fall while trimming a tree at a home in Huntsville, Alabama.

It was unknown whether the man works for a tree cutting service that was in the neighborhood or was just helping out, but authorities believe he was cutting down trees in the backyard when he fell. Some equipment was left on the roof, along with a tree branch. His name and condition had not been released at the time of the WAFF Channel 48 report.

**One tree service worker killed, another injured in winch-line mishap**

One man was killed and another injured April 25, 2013, in Talleyville, Delaware, when the winch line on a brush chipper they were using apparently snapped, striking both of them.

Luis Benjamin Sanchez, 60, of Upper Darby, Pa., died and a 47-year-old co-worker sustained pelvic and abdominal injuries. The two men were working for a local tree service using a wood chipper at a home when a steel braided cable used to
pull tree limbs to the shredder became caught and sheared off, hitting both men.

Sanchez was flown to Christiana Hospital with injuries to his chest and extremities and died of his injuries a short time later. The 47-year-old man was initially listed in serious condition but later improved to stable and was recovering from his injuries, according to The News Journal report.

**Tree worker killed in struck-by**

A tree company employee was killed April 26, 2013, when he was struck in the head by a limb from a cut tree in Alpharetta, Georgia. Misael Soriano Elorza, 41, of Doraville, was part of a crew removing a tree when he was struck from behind. A co-worker was cutting a large tree at its base when it fell, causing a limb to hit Elorza.

The impact caused Elorza to fall backward and into a creek, where he was submerged, his two co-workers told police. Elorza was pulled from the water by his co-workers.

All three workers were wearing protective gear, including hard hats, at the time of the incident. Elorza’s hard hat was cracked by the limb. Paramedics administered CPR to Elorza, who was transported to North Fulton Hospital. He died the next day, according to The Atlanta Journal-Constitution report.

**Man trapped under cut tree**

A man clearing trees April 26, 2013, in the Bowden area of Randolph County, West Virginia, was injured after a tree fell on him, trapping him. Firefighters were able to get him out from under the tree. He was flown to a hospital, but there was no immediate word on his name or condition, according to a WDTV Channel 5 report.

**Man dies while cutting trees at church**

A volunteer trimming trees at his church died April 27, 2013, in Polk County, Florida, after falling over 20 feet from a tree.

Stephen Pederson had been using an electric saw, but one of the trimmed limbs hit a power line and power was lost. Pederson began descending from the tree with his equipment but as he approached

(Continued on page 65)
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ITCC Masters’ Qualifying Events
Tree Academy Workshops
Arbor Fair and Fun Climb

Sunday, August 4
ITCC Masters’ Challenge and Head-to-Head Footlock
Tree Academy Workshops
Student and Early Career Networking Reception
Opening Ceremony and Welcome Reception

Monday, August 5
Educational Sessions
Trade Show
Climbers’ Corner
TREE Fund Raise Your Hand for Research Auction

Tuesday, August 6
Educational Sessions
Trade Show
Climbers’ Corner
Utility Arborist Association Lunch
Student and Early Career Mentoring Lunch

Wednesday, August 7
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**Deducting safety improvements**

All-too-often, the government steps in to tell an arborist what to do about his or her tree care operation’s facilities, equipment, work sites, etc. A good example is provided by the improvements required under the American with Disabilities Act (ADA), or those mandated by OSHA. Obviously, a tree care operation has little choice about complying – make the changes the government wants or pay penalties. What tax relief can any tree care business claim for making the needed compliance improvements?

An arborist, tree care professional or business forced to pay penalties for non-compliance or law violations will often discover many of those penalties are not tax deductible. The tax law specifically denies deductions for fines and penalties paid to the government for violating the law. Thus, the tree care operation usually has little choice but to comply with government-ordered improvements, and do it as quickly as possible, so as to minimize or avoid penalties.

Unfortunately, the costs of capital construction and improvements are not immediately deductible. The costs are added to the basis of property and recovered through depreciation. This can be a long process, giving little tax relief upfront when the costs are incurred. Fortunately, special rules can accelerate the deductions or write-offs for making some mandated improvements. Consider:

**The Americans with Disabilities Act:** A tree care business required to make changes to its equipment or facilities to accommodate the handicapped or elderly public – or its own employees – in order to comply with the ADA may qualify for a tax break. Thus, something as simple as adding ramps and/or railings, may mean a tax deduction.

**The Disabled Access Credit:** A brick and mortar business such as an equipment dealer or supplier can claim a tax credit for 50-percent of the cost of all expenditures over $250, and less than $10,250. Any unused credit can be carried over and used by the same qualifying small businesses – those with gross income under $1 million or with fewer than 30 employees. Details about the type of improvements eligible for the credit are explained in the instructions to IRS Form 8826, Disabled Access Credit.

**Barrier Removal:** A special deduction for the cost of removing barriers to the disabled and the elderly is capped at $15,000 per year. If costs are greater, the amount over $15,000 can be capitalized and recovered through depreciation.

Unfortunately, a barrier removal cost can be used only once (it can’t be used as both a tax credit and a tax deduction), but write-offs for ADA-related improvements continue to help reduce the tax bills of many tree care businesses.

**OSHA compliance**

The Occupational Safety and Health Administration (OSHA) is concerned with safety for employees in the workplace. Under the provisions of the OSH Act, every tree care business must provide a workplace free from recognized hazards that are causing, or are likely to cause, death or serious physical harm to employees regardless of the size of the business. OSHA was established to create standards and regulations that implement the Act.

There are no special tax breaks immediately tied to OSHA-ordered changes or improvements. Depending on the type of changes required, the costs may be immediately deductible or will have to be capitalized.

A good example of what is immediately deductible and what must be capitalized and written-off over a number of years is provided by the personal protective equipment (PPE) purchased by tree care operations for their workers, such as eye and hearing protection. These may be immediately deductible as an ordinary and necessary business expense, or if expected to last more than one year, as an immediate write-off under first-year expensing or bonus depreciation rules.

Re-wiring, constructing exits, overhead protection, or other capital improvements to a tree care business’s offices, garage or storage facility may have to be capitalized. However, for a limited time, special rules may help those leasing business property write-off improvements faster than the more common – and quite lengthy – depreciation process.
A tree care professional may want to consider OSHA’s free on-site consultation. The program does not entail penalties or citations; it merely makes recommendations for improvements to be a safer workplace. This can help any business prevent penalties that could result from inspections down the road.

**Fighting back**

As mentioned, fines and penalties are not generally tax deductible, although fees for legal and professional services are. Amounts paid for legal services to battle fines and penalties levied for safety violations, as well as many other causes, are tax deductible.

In fact, in 1996 Congress passed the “Small Business Regulatory Enforcement Fairness Act,” or “SBREFA,” to help small businesses. An often-overlooked provision of SBREFA gives small businesses expanded authority to recover attorneys’ fees and costs when a federal agency has been found to be excessive in enforcing federal regulations. The legislation also establishes 10 Small Business Regulatory Fairness Boards to receive comments from small businesses about federal compliance and enforcement activities and report these findings annually to the Congress.

**Tool and equipment plans**

Already mentioned are the personal safety equipment purchased by so many tree care businesses for their workers, such as eye and hearing protection, and hard hats. Keep in mind that workers in many industries routinely purchase their own safety clothing. In turn, they are permitted to claim a tax deduction for these expenditures under the heading of “employee business expenses,” on their personal income tax returns. Should the employee provide his or her own tools, it is a slightly different story.

An “Employee Tool and Equipment Plan” is an agreement between an employer and one or more of its employees to reimburse the employee for the use of the employee’s tools and equipment. The idea is that a portion of the compensation paid to the employee is for use of his tools and equipment and, therefore, that portion is not taxable wages to the employee.

In addition to saving the employee federal income taxes, the employer would not have to withhold employment taxes on that portion of the employee’s compensation. As the IRS has pointed out, employers/taxpayers can achieve this tax result by structuring the Employee Tool and Equipment Plan as an “Accountable Plan” as defined in the tax law.

To qualify as an Accountable Plan, the Plan must meet some very minimal requirements. Specifically, the Plan must require the employee to substantiate the expense and the Plan must provide that the employee must return any amount in excess of the amount of the expense that is substantiated.

**Training and education**

Under the tax rules, many of the educational and training expenses incurred by a business are both tax deductible by the business and, at the same time, tax-free to the recipients.

That’s right, a largely-ignored provision of our tax law permits every tree care business to claim a tax deduction for expenditures made to educate or train employees. An ideal “fringe” benefit for any employee – even employee owners of their own businesses. And, best of all, it is deductible by the business and tax-free to the recipient.

**Financing workplace improvement**

When it comes to paying for safety improvements, mandated or undertaken voluntarily, a number of lenders stand ready to assist. The SBA, for instance, is authorized to make loans to assist small businesses with meeting OSHA standards. Because SBA’s definition of a “small” business varies from industry to industry, contact your local SBA field office to determine whether your tree care business qualifies.

A helpful hint: anyone applying for an SBA loan should be aware that most delays in processing SBA/OSHA loans are because applications (1) do not adequately describe each workplace condition to be corrected and to not identify one or more OSHA standards applicable to the condition to be corrected, or (2) do not provide a reasonable estimate of the cost to correct each condition.

In most cases, however, safety hazards can be corrected without financial assistance. Health hazards may be more costly to correct. The age and condition of the building and equipment are major factors that must be considered.

Establishing a safe and healthful working environment requires every tree care operation and business – large and small – and every worker to make safety and health a top priority. The entire work force – from the CEO to the most recent hire – must recognize that worker safety and health is central to the mission and key to the profitability of the company. If workplace safety-related tax write-offs are available, all the better.
U.S. urban trees store carbon, provide billions in economic value

From New York City’s Central Park to Golden Gate Park in San Francisco, America’s urban forests store an estimated 708 million tons of carbon, an environmental service with an estimated value of $50 billion, according to a recent U.S. Forest Service study.

Annual net carbon uptake by these trees is estimated at 21 million tons and $1.5 billion in economic benefit.

In the study published recently in the journal Environmental Pollution, Dave Nowak, a research forester with the U.S. Forest Service’s Northern Research Station, and his colleagues used urban tree field data from 28 cities and six states and national tree cover data to estimate total carbon storage in the nation’s urban areas.

“With expanding urbanization, city trees and forests are becoming increasingly important to sustain the health and well-being of our environment and our communities,” said U.S. Forest Service Chief Tom Tidwell. “Carbon storage is just one of the many benefits provided by the hardest working trees in America. I hope this study will encourage people to look at their neighborhood trees a little differently, and start thinking about ways they can help care for their own urban forests.”

Nationally, carbon storage by trees in forestlands was estimated at 22.3 billion tons in a 2008 Forest Service study; additional carbon storage by urban trees bumps that to an estimated 22.7 billion tons.

Carbon storage and sequestration rates vary among states based on the amount of urban tree cover and growing conditions. States in forested regions typically have the highest percentage of urban tree cover. States with the greatest amount of carbon stored by trees in urban areas are Texas (49.8 million tons), Florida (47.3 million), Georgia (42.4 million), Massachusetts (39.6 million) and North Carolina (37.5 million).

The total amount of carbon stored and sequestered in urban areas could increase in the future as urban land expands. Urban areas in the continental U.S. increased from 2.5 percent of land area in 1990 to 3.1 percent in 2000, an increase equivalent to the area of Vermont and New Hampshire combined. If that growth pattern continues, U.S. urban land could expand by an area greater than the state of Montana by 2050.

The study provides more refined statistical analyses for national carbon estimates that can be used to assess the actual and potential role of urban forests in reducing atmospheric carbon dioxide.

More urbanization does not necessarily translate to more urban trees. Last year, Nowak and Eric Greenfield, a forester with the Northern Research Station and another study co-author, found that urban tree cover is declining nationwide at a rate of about 20,000 acres per year, or 4 million trees per year.

To see how your state rated in the study, visit www.nrs.fs.fed.us/pubs/24240.

Letters & Emails

(Continued from page 51)

Reduce the Risk of Tree Failure” by Brian Kane, TCI, May 2013). TCIA’s fine work in maintaining this standard is respected when terms are accurately used, so some corrections seem to be in order. “Reducing is shortening branches to provide clearance above or adjacent to canopy” describes one objective, but defined that term too narrowly. [ANSI A300 (Part 1) - 2008 Pruning] “4.34 reducing: Pruning to decrease height and/or spread” can be done for reasons other than clearance, such as appearance, health, and safety.

That narrowed definition led to misleading speculation, which dominated the latter part of the article. This was aggravated by further non-standard usage of terms. “Water sprout” is not in A300, but it was used in the article. This negative spin cast all sprouts – “4.42 sprouts: new growth originating from…buds…” – in a negative light. New growth may be undesirable after pruning for clearance (depending on where it is), but it is highly desirable in most cases.

The A300 does not only apply to utility pruning, but this article’s substandard use of terminology said that clearance is the objective, and new growth is bad. However, trees are adapted to responding and regrowing after natural branch reuction by storms and by pests.

Without accuracy, myths are perpetuated, and readers are misinformed. When TCI EXPo talks are repurposed as articles, author and editor alike should check as carefully for compliance with A300 as for Z133.

Guy Philip Meilleur
practicing arborist, aerial consultant
Apex NC

The author, Brian Kane, responds:

I would like to thank Guy Meilleur for carefully reading my article and engaging in a positive discussion of it. I had no intention of misleading readers, and note that reviewers who checked my manuscript prior to publication did not express Mr. Meilleur’s concern that the article contained misleading speculation. To the specific points raised:

1) I agree that reduction pruning can be done for reasons other than to create clearance. (The same could be said of raising.)

2) I disagree that the latter part of the article contained misleading speculation. Mr. Meilleur did not offer specific instances of misleading speculation, so I cannot respond more specifically than noting that in the absence of research studies quantifying the biological and mechanical effects of pruning on trees, thoughtful speculation is justified.

3) The term “water sprout” does occur in the A300 Part 1 (§4.42: “sprouts: New shoots originating from epicormic or adventitious buds, not to be confused with suckers. (syn. watersprouts, epicormic shoots”).

4) I did not intend to cast sprouts in a negative light. If an arborist’s pruning objective was to reduce drag and torque, new growth that quickly returns a tree to its previous size negates the effect of pruning.

5) I also disagree that new growth after pruning would be “highly desirable in most cases.” The physiological response of trees to different types and doses of pruning has not been studied extensively. The health, age, species, and growing conditions would likely affect a tree’s physiological response to pruning.
The man’s injuries were serious enough that he had to be flown to Boston Medical Center, according to the Cape Cod Times report.

Tree worker hurt in fall from bucket

A bucket operator was injured April 30, 2013, in Orange, Connecticut, after falling or jumping from his bucket only to have it and part of the tree he was cutting land on top of him.

Contractors were removing a tree at a private residence and made a cut in the tree top about 20-feet up. When it became apparent that the tree as not going to fall in the right direction, the arborist in the bucket tried to get out of the way and either jumped, was thrown, or fell from the bucket. He landed on the ground, the bucket landed on top of him, pinning his lower extremities (legs) and the tree landed on top of the bucket trapping the man.

In addition to the victim being trapped, the falling tree also fell onto the house, damaging it and knocking over a propane tank, which then began leaking.

Electricity to the home had to be turned off for safety reasons. Firefighters used the services of a tow truck on the scene to put a strap around the tree to make sure it wouldn’t move any further; the fire department used its air bags to raise the tree off the bucket that had landed on the victim; and a jaws of life tool was used to lift the bucket off the victim so he could be removed.

Emergency responders and doctor monitored the patient during the 40 minutes it took to extricate him, then accompanied him to Yale-New Haven Hospital, where he was admitted in critical but stable condition, according to a www.orangectlive.com report.

Send you local accident reports to editor@tcia.org.
By Kristoffer Rasmussen, CTSP

I'm on my lunch break and my wife calls: “Honey can you stop and pick up some soap on your way home?” Why, of course, I would love to!

After work I head to my favorite “market,” produce from which is always fresh and locally grown. I pull off the road and grab my rope, saddle, pole saw and tarp out of the back. This is no ordinary market, the shopping aisles are 30 feet above the ground.

I am in search of the translucent berry of the Western soapberry tree (Sapindus saponaria var. drummondii). I locate a tree loaded with berries, unfold my tarp at the base of the tree, set my rope, and up I go. I find a comfortable crotch to stand in. With my pole saw I begin shaking the tree, which from the ground probably looks like a bad YouTube video of the Harlem Shake. The sound of the berries hitting my canvas tarp is like a spring rain shower. I take a rest and watch other shoppers, one stuffing nuts in his mouth, another selecting the perfectly ripe drupe; and then back to shaking. This goes on for about an hour, or until I’m tired. Then, I descend to the forest floor to gather my berries.

With the birth of our seventh child my wife wanted to use cloth diapers. Not only are they environmentally friendly, but through a Facebook trade it only cost me a cord of firewood for several bags of diapers and covers. Being new to cloth diapers, my wife had to educate me on how to use them. She told me they could only be washed with special soap or they would lose their absorbing capability. She told me about a cloth diaper store that sold soap nuts from India. My wife also asked me if I knew where any Western soapberry trees were and could I bring her some berries?

Seeing an opportunity to flex my arborist muscle, and the fact that she spoke to my primitive desire to hunt and gather, I assured her I would fulfill her request. The Western soapberry tree is very prolific here in North Texas, but I never took notice of the tree until now. I contacted my state forester and fellow arborists about locating the trees, but eventually stumbled upon a grove less than a mile from our home. The native berries are not as large as the variety from India, but my wife did not mind, she was just excited to have locally grown soapberries.

I should have known that her excitement would not be contained. She began making a liquid soap and canning it for friends and family; she even started a Facebook page. My solo trips to the forest turned into family outings. I would shake the trees and the kids would gather berries. My wife’s passion for locally grown food and products inspired her to name the diaper wash after our son, Silas (meaning of the forest): “Of the Forest Soapberry Diaper Wash.” Not only do we use the soap to wash all of our laundry, but my wife went “crunchy” (see urban dictionary) on me and we now use it to bathe and wash our hair.

Renewable resources abound in the urban forest. A tree that I dismissed as invasive now supplies my family with a product we use every day. The amazing thing to me is that I didn’t plant the seed, water the tree or pull weeds, but now, years later, I am reaping from seed I did not sow. What other resources have I overlooked, what treasures are yet to be found? This highly efficient self-sustaining ecosystem doesn’t really need me, but I find strong purpose being an advocate and caretaker of our urban forest.

Kristoffer Rasmussen, CTSP, is a certified arborist and crew leader with the Parks & Community Services Department in Fort Worth, Texas.
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