Aerial lifts present new set of safety, training concerns

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“All the news just repeats itself … Like some forgotten dream … that we’ve both seen.”

– John Prine

Every day headlines from newspapers cross my desk. Negative stories, such as trees falling on houses, trees taking out power lines, and trees suffering from drought, as well as positive stories about community tree plantings, the cooling effects of a larger tree canopy, and commemorative gatherings centered around a cherished tree.

Some headlines cross my desk with depressing frequency. The first week of August was one of the worst, with seven serious industry accidents, including six fatalities, in a seven-day span. We read about a worker in a bucket without fall protection, a landscaper on an aluminum ladder with an aluminum pole saw too close to conductors, and yet another in a seemingly endless string a fatalities while pruning palms.

Another frequent headline involves criminal wrongdoing by the owners of tree care companies, usually involving fraud of some sort related to insurance or taxes. And so it was last week – another tree care company allegedly ran afoul of the law.

We all know how mind-numbing complex government rules and regulations can be. With the proliferation of foreign-born workers, managing the paperwork and work status verification hurdles has gotten increasingly complex. Even with all of the help TCIA offers members in complying with government mandates, I’ve talked to members who became sole proprietor consultants because they couldn’t stand all the paperwork involved in running a compliant tree care business.

Other company owners have tried to become sole proprietors – on paper at least – by classifying their employees as independent contractors. There are many tests to determine whether a worker qualifies as an independent contractor, tests you must pass with your state unemployment office, your workers’ comp carrier, and the Internal Revenue Service. Figuring out how to treat a worker as an independent contractor can be a complicated undertaking.

Some of the recent cases we’ve seen, thankfully not with members, were hardly mistakes or the result of sloppy paperwork retention. When more than one-quarter of your employees are in the country illegally, it’s hard to claim total ignorance. With that level of non-compliance, we’re talking about more than technical violations or an inability to understand the Employment Eligibility Verification Form I-9 rules. Or when you classify dozens of employees as landscapers rather than tree workers to lower your workers’ comp expenses, the action is usually deliberately misleading. There may be some level of interpretation for a ground worker who spends most of his time performing landscape-type tasks. If he is aloft for four hours a day, either climbing or in a bucket, the argument runs thin and an indictment becomes more likely.

Most recently, a newspaper article came across my desk about a tree care company who had classified its employees as independent contractors to avoid paying any workers’ comp premiums. When one employee was injured and required almost $1 million in medical care, the state came after the employer. Fines, not to mention indictments for fraud and larceny, were the next step.

When the economy turns sour, the temptation to cut corners on safety, skirt the rules and, yes, break the law can seem like viable options to maintain profit levels. They aren’t. Unfortunately, those few who do cross the line sully the reputation of an entire industry. They end up with closed businesses, felony convictions, and fines exceeding what they may have saved. Reputable professionals are left to restore the industry’s image.
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ON THE COVER: Jeff Thierbach, CTSP, of Victorian Gardens in White Lake, Michigan, at a day of service earlier this summer. Photo courtesy of Jack and Jane Purslow.
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Recent advancements in vehicle and equipment technology have come at us at the speed of light. Well, almost. Many of the changes we have seen in the past decade are the result of emission reduction mandates, fuel economy improvements, energy independence initiatives and advancements in safety.

Of course, when substantial changes are implemented within a short period of time, it can result in challenges that are difficult to keep up with. For example, when stringent levels of diesel emission standards were mandated by the EPA in 2007 and 2010, the cost of diesel powered medium-duty trucks were impacted more than 30 percent. Similar requirements are now kicking in for off-road equipment as well. These rapid advancements have also resulted in added operating, training and maintenance cost for companies operating this equipment.

When new systems and components are introduced, it generally doesn’t take long for real-life issues to rear their ugly head. Unfortunately, we as the consumer end up performing field testing for the manufacturers. That is just a fact of life, hence the common suggestion to not purchase the first model year of a newly introduced vehicle.

The DPF simply wasn’t intended to operate in an idle mode for extended periods. Because of this, the importance of operators understanding how this system functions and what they can do to minimize failures is critical. It is also extremely important for mechanics to understand not only how the system operates, but proper maintenance and diagnostic procedures as well. These systems are complex, so a less technical mechanic should understand enough to determine if it is something they can repair or whether it should go to a properly trained and equipped shop.

Electronics and computers now monitor and operate almost every function of today’s vehicles and equipment. And, although we would like to fix a problem quickly and get back to work, we don’t know what we don’t know. Well intended
Making the Switch to Natural Gas

By Kelli Angelone

Natural gas has been all over the news lately, and for good reason. As a cleaner, domestically-produced fuel with most of diesel’s combustion power at occasionally half its price, natural gas has captured America’s hopes for a cost effective and more diverse energy future. If produced in an environmentally responsible way, natural gas can take a large role in solving our nation’s energy and sustainability challenges.

Affordable fuel

Everyone wants to know if natural gas will stay inexpensive – most importantly, less expensive than diesel. No one can predict the future, but looking at the past 10 years, compressed natural gas (CNG) has remained very stable, ranging from between $1 to $2.50 per diesel gallon equivalent (DGE). In that time, diesel and gasoline have ranged from between $1.50 to $4.50 per gallon. Diesel and gasoline prices tend to be more volatile because of overseas influences, but CNG produced in the United States does not share that same dependence on foreign prices and supply. Given that diesel fuel will continue to be a fleet fuel for the foreseeable future, and that other fuels such as propane, biodiesel and hydrogen will further diversify America’s fleets, it is reasonable to expect natural gas prices to remain low over the long-term.

Converting to natural gas

Light-duty CNG conversions are available for trucks, vans and SUVs from Chrysler, Ford and General Motors. Bucket truck conversions for medium and heavy-duty are also available. Before converting, fleet managers will need to decide what type of system they want: “dedicated” or “bi-fuel?” Dedicated vehicles run only CNG and can be optimized for best performance, while bi-fuel vehicles offer the flexibility of switching to diesel or gasoline when CNG fuel stations are unavailable. Fleet managers will also need to consider space and weight limitations, since CNG tanks often take up more space and are heavier than traditional fuel tanks.

Kit prices range from $7,000 for light-duty to $25,000 for heavy-duty trucks. For trucks above medium-duty, a “repower” rather than a conversion may be required, which means replacing the old engine with a completely new one. A repower may cost about $60,000, but it can take the place of an engine overhaul or remanufacture and will extend the engine warranty.

Conversion kits or services can be purchased through dealers across the United States. In the U.S., conversions must be certified by the Environmental Protection Agency (EPA) or the California Air Resources Board (CARB). Certifications are necessary to ensure converted engines meet safety and exhaust emissions standards. NGV America has conveniently compiled a list of the certified conversion kits and companies that can provide them (see link at end). Using any certified dealer or “upfitter” does not typically void the original warranty for any parts that maintain their original use in the engine; however, fleet managers should always double check this with the vehicle/engine manufacturers and the EPA.

Conversion companies for off-road or stationery equipment are currently trying to break into the American market. Stump-grinder and wood-chipper conversions are currently sold in other parts of the world, but are currently unavailable in the United States. Natural gas generators can power electrical equipment in the field, but a natural gas

Making the Switch to Natural Gas

(Continued on page 10)
Making the Switch to CNG

(Continued from page 9)

generator would need to be purchased new, not converted.

Many areas with air quality problems offer funds to help fleets transition to alternative fuels such as CNG. The Department of Energy (DOE) website has an online tool for finding CNG grants and tax benefits (see link at end). Tax exemptions and credits of different kinds are available in many states for using CNG or for the benefit of CNG fuel stations. Government grants for certified conversions typically cover some portion of the equipment and installation cost.

Fueling up

According to the Department of Energy (DOE) fuel station locator, the 500 or so public-access CNG stations in the U.S. are concentrated in California, New England and Oklahoma. However, most major cities have at least a few CNG stations now, with new stations appearing every day.

Companies also have the option to purchase their own “fast-fill,” “time-fill” or mobile station. A fast-fill station requires a large compressor and offers a refuel experience similar to a gasoline station, and takes only a few minutes to fill light-duty vehicles. Costs for a fast-fill station can range from $750,000 to more than $1.5 million depending on local needs and conditions, and are ideally situated near natural gas pipelines. Many companies have formed partnerships with other nearby public and private fleets to share a fast-fill station, which helps reduce upfront costs. The local Clean Cities coordinator (see link at end) may be able to help you locate prospective partners that are interested in or are already using CNG.

Time-fill stations provide a fill-up time of about eight hours and cost about half the price of a fast-fill system. Typically, a fleet is parked every night in the same lot, hooked up to the time-fill station all night and is ready to go in the morning. Companies wishing to give CNG vehicles a try without a huge investment can look for a mobile station, which costs between $30,000 and $60,000. A mobile station fuels similarly to a timed-fill station and can handle fueling for four medium to heavy-duty vehicles.

Performance

Beyond fuel savings at the pump, some fleet managers have also enjoyed reduced maintenance costs with CNG trucks. Since the cleaner-burning fuel puts less grime and sludge into the engine, often after some testing, fleet managers find that time between oil changes can be extended 5,000-10,000 miles or more. Many dealers will provide maintenance and refuel training to new CNG buyers to ensure a smooth transition.

Bottom line

Converting to CNG is now affordable. Fleets may have more significant upfront costs if there is no nearby fueling infrastructure, but lower-cost options have been developed to meet this challenge. Resources, experts and funds are available to ease the transition process. And the results? Besides the economic, energy and environmental benefits, you might find you have more satisfied employees, too:

“I’ve been driving my natural gas-fueled Chevy 2500 pickup truck for about six months now and have had no problems with its performance or operation,” says Kyle Kirby, CenterPoint Energy operations supervisor in Chickasha, Oklahoma. “I pay about $1.69 per gallon, which makes me feel good, even though it’s not my personal vehicle.”

Why not explore whether natural gas will work for your fleet today?

Kelli Angelone is with Houston-Galveston Area Council (www.h-gac.com) in Texas. She works with the Clean Cities/Clean Vehicles program (www.houston-cleancities.org), promoting the use of alternative fuels, advanced technologies, and clean vehicle grant opportunities. The Houston-Galveston Area Council will host the Clean Fleet Technologies Conference 2012, “Fueling the Choice,” November 15, 2012, at the George R. Brown Convention Center in Houston, Texas. Topics on the agenda include natural gas, propane, electric vehicles, ethanol, biodiesel, and fueling stations. For more information or to register, go to: www.houston-cleancities.org/2012_CFTC.htm.

Helpful links:

- Hydraulic Fracturing for Natural Gas in Shale www.shalegas.energy.gov/
  CNG Prices www.afdc.energy.gov/data/#tab/all/data_set/10326
- EPA Warranty Information www.epa.gov/OMS/cert/dearmfr/cisd0602.pdf
- Funding for CNG Conversions www.afdc.energy.gov/laws/
- Find Fuel Stations www.afdc.energy.gov/locator/stations/
- Find your local Clean Cities coordinator: www.afdc.energy.gov/cleancities/coalitions/coalition_locations.php

important to be sure those operating and maintaining our equipment are properly trained and have the appropriate tools to be successful.

Technology will continue to advance. We cannot stop it or even slow it down. To be successful, we need to embrace the changes and identify the opportunities presented to us.
Okay, now how do we do that? Let’s break it down…

We have improvement opportunities related to:

- acquisition cost – primarily diesel-engine related
- equipment downtime as a result of failures to these new systems
- maintenance and repair cost
- fuel cost, and
- marketing (environmental benefits of alternative fuel advancements)

The additional acquisition cost of a diesel engine over gasoline can be $18,000 or more. That is more than twice the incremental cost of just 5-6 years ago. If you haven’t done so, it is time to take a hard look at your vehicle specifications and determine your minimum requirements. For example, do I really need that 1-ton diesel pick up for my supervisor? If they are towing heavy equipment routinely, maybe you do. But if the need is only periodic, another vehicle in the fleet or renting a truck may make more sense.

When you sit down to review your vehicle needs, be sure to use a “Total Cost of Ownership” (TCO) approach. This includes calculating all of your fixed and variable costs over the period you will own or operate the asset. Be sure to include all expenses: depreciation, interest, insurance, fuel, maintenance & repair, license, taxes and residual value. TCO should be calculated for the different practical scenarios for your business. For example, if a sedan or pick-up would do the job, compare them. Look at lease vs. purchase, new vs. used, and short- and long-term replacement cycles. The most challenging number to determine is your true maintenance and repair cost at the different stages of a vehicle’s life. If you aren’t collecting accurate maintenance and repair data today, you may want to start. Without it, you will never really know the best time to replace your equipment.

Equipment downtime can quickly negate a profitable week. We sometimes have no control over equipment failures, especially when new technology is introduced and we are “working the kinks out.”

What we do have control over is the relationship with our local dealer. This is where you get more with honey than vinegar, trust me. More than likely, the technicians at the dealer are learning this new technology on your vehicle. The advantage they have are the resources because of their relationship with the manufacturer. But be patient, they are learning this new technology, too. At the same time, make sure they understand how important it is for your business to have equipment running every day. They will ask you to do your part and perform the recommended routine maintenance. That sounds fair to me.

New components in today’s vehicles require maintenance we may not be familiar with. Don’t ignore it. There could also be recommended maintenance procedures added long after the owner’s manual was printed. It isn’t unusual for a manufacturer...
to learn of a maintenance requirement that was not anticipated. This is why utilizing a dealer is beneficial, especially in the early stages of new technology. They are learning of issues and solutions, through the manufacturer, from hundreds or thousands of vehicles being operated in different conditions and duty-cycles. They are essentially the clearing house for information. Take advantage of it and incorporate what you learn into your maintenance program.

Fuel cost is an important component of calculating TCO. Fuel efficiency is improving rapidly, an advantage of all this new technology that most of us actually like. When operating a high-mileage fleet, we will often find the newer vehicle has a lower operating cost than a similar older model, primarily because of substantial fuel economy improvements. Look hard at your fuel cost and be open-minded to smaller, more fuel-efficient vehicles that add to your bottom line. Fuel economy standards are increasing substantially over the next decade, so be sure to anticipate these increases when you are running your numbers.

Alternative fuels are gaining traction, with some providing a short payback of the incremental vehicle cost or infrastructure investment. It is more important today than ever to keep up on these fuel options.

Remain open minded and review them periodically. With fuel being a substantial cost in this industry, it deserves attention. Keep in mind, what may make economic sense for one vehicle type, may not for another. Include different fuel types in your TCO analysis.

Alternative fuels and clean diesel technology can be an asset to your marketing program. Take advantage of this by letting your customers know what you are doing to positively impact the environment.

Paying close attention to each area of fleet management may provide you with a competitive advantage. Add up the cost savings and increased revenue and see how you are now positioned compared to your competitors, who may not be putting in the same effort. Could you bid more competitively if your fuel cost was reduced by 5 or 10 percent? How about a 10 percent reduction in maintenance and repair cost? I bet a 5 percent increase in productivity would help. Now add these together and see how that changes your

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A well-designed fleet strategy is proactive, not reactive, and includes a long-term plan. Know and manage your costs. Take the time to understand and embrace new technologies. Make the time to create a positive business relationship with your dealer and other maintenance partners. Take a hard look at your training program as it relates to equipment operation.

Equipment-related decisions should be made to match a company’s overall strategic plan. Those who don’t include progressive fleet management strategies are leaving a lot on the table.

Mike Moser is founder and president of MyFleetDept.com, a full service fleet management and consulting firm. Mike has 25 years of vehicle, equipment and fleet management experience with 10 years in the tree industry as director of fleet & purchasing for a major utility line-clearance contractor.

Blending the old and the new – This truck was retrofitted to run on compressed natural gas for the New York Botanical Gardens in Bronx, New York. Photo courtesy of Houston-Galveston Area Council/Clean Cities/Clean Vehicles program.

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March 6, 2012, is a day that will affect me for the rest of my life. It was a chilly day and I was joining some colleagues to prune trees for the upcoming 2012 Mid-Atlantic Chapter ISA Tree Climbing Championship. I can remember not feeling well that morning and struggling to find the motivation to leave the office.

Once I arrived on site, I said hello to some of my friends that I only get to see one or two times a year. We had our safety briefing and then dispersed to begin pruning various trees at Wheaton Regional Park in Silver Spring, Maryland. Since I was competing in the event, I was not permitted to work on the trees that were going to be used in the competition. I picked out a 90-foot tulip poplar that had a few large pieces of deadwood in it and proceeded to set my access line in the top of the tree. Once I set my line in the tree, I began to ascend the tree using the tree frog system.

Then the unthinkable happened! According to witnesses, I fell 60 feet, landing on my head and right shoulder. I broke nine ribs and two vertebrae, punctured my lung, tore my anterior cruciate ligament (ACL) in my left knee and was suffered a subdural hematoma (bleeding in the brain). I was rushed to Suburban Hospital where I spent the next two weeks in a coma while I recovered from my internal injuries.

During 21 hours of surgery, the doctors implanted five titanium ribs and a titanium vertebra, and fused my back. After four weeks in the ICU, I was transferred to a rehab hospital where I had to recondition myself to walk again.

Many of the details of the fall itself are unknown, as there were no witnesses and I do not remember what happened. Either the impact of the fall affected my memory or my brain has elected to block the event. After speaking to some folks who reviewed the accident, it was determined that all of my gear was in perfect working order. So how did this happen?

Since my accident, I have had many discussions regarding the details, and everyone wants to know what went wrong. It wasn’t what went wrong, it was who went wrong.

“…everyone wants to know what went wrong. It wasn’t what went wrong, it was who went wrong.”

I wasn’t very sociable like I normally am. I am convinced that my mental state is the main reason for my accident. My mind was not 100 percent on what I was doing and I did not have my “head in the game.”

Studies have shown that approximately 90 percent of all accidents can be attributed to human error. This was definitely one of those. Tree climbing techniques are always changing. The more complex the system is, the more you have to think about. I was ascending the tree using the tree frog system, which consists of a pantin (an ascender that straps to the ankle, enabling a user to virtually grab rope with the foot), croll (chest-mounted) ascender, and a double-handle (single line) ascender. My intention was to reach the top of the tree, then switch over to a more traditional double rope technique. For anyone who has ascended a tree this way, they know there is a lot to remember.

Not a whole lot has to go wrong for a serious accident to occur. I could have missed clipping in a carabiner or forgot to tie in before going off my SRT. As painful as it would be to remember exactly what happened, I wish I could, so I could pass along all of the details to prevent someone else from sharing the same fate. Your mind is your primary tool, and it has to be in good working order (i.e., proper state of mind) before you perform any tree care operation. You should check yourself as part of your daily inspection, the same way you would inspect your climbing gear. An accident like mine is just not worth it.

Steve Castrogiovanni, BCMA, CTW, LTE, CTSP, is plant health care manager for Mead Tree and Turf Care, Inc., an accredited TCIA member company located in Woodbine, Maryland. He returned to work on June 1, 2012, almost three months after his accident.
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Fecon enters drilling market

Fecon, Inc. has entered the seismic and geothermal drilling markets through an acquisition of Dyno-Drill, LLC. The move positions Fecon to offer drills to an existing base of mulching contractors who offer seismic drilling services, and to expand its product offering into an additional segment of renewable energy. Fecon will offer two standard models under the Fecon label and colors. The rubber track crawlers include an on-board 300-cfm/200-psi air compressor and a rod rack for carrying straight rod, auger rod, and an air hammer. Wet drilling will also be available.

FMC names director and marketing manager

FMC Corporation named Bethwyn Todd director, and Steve Fasano strategic marketing and business development manager, of FMC Professional Solutions, which serves the professional pest control, lawn, nursery, ornamental and related industries.

Todd recently served as Asia-Pacific Development and Regulatory manager in the FMC Agricultural Products Group. Todd will continue growth initiatives started under previous director, Amy O’Shea, who recently became division manager of FMC Environmental Solutions.

Fasano is responsible for strategic planning and leadership of the marketing team. In his new role, he will also provide leadership on business development and product management, fostering customer-driven innovation.

Scott Jamieson, vice president of corporate partnerships & national recruiting for Bartlett Tree Experts, had a family vacation in France in July and hunted down this tree, a Sequoia sempervirens that Bartlett gave France in 1989, when France was celebrating the bicentennial of the French Revolution. “It is just across from the heavily guarded U.S. Consulate in Paris, in a beautiful park just off Plaza Concorde. Seems happy there!” says Jamieson. Shown are Scott Jamieson, right, with his children, Ryan and Kathryn. Scott’s wife, Diane, was behind the camera.

Cutting Edge - News

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**Knapheide cross member dump bodies**

Knapheide’s recently redesigned dump bodies with a cross-member understructure are now available in fixed-side applications and are compatible with Class 3-5 chassis, including Chevy, Ford, GMC, Ram, International, among others. Available models include 9-foot or 11-foot body lengths with either 12-inch- or 16-inch-high sides; body capacity ranges from two to four yards. The understructure is a stacked design with 3-inch structural steel cross sills on 12-inch centers with 6-inch structural steel long sills. Self-cleaning sloped top rails and lower rails allow for effortless dirt-shedding. The tailgate offers both dump-through and drop-down applications with a quick-release, one-handed lever for convenience. Immersion in Knapheide’s exclusive E-Coat system along with undercoating provides superior corrosion resistance.

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**Split-Fire 4490 wood splitter**

Split-Fire Sales Inc.’s new model 4490 is a 32-ton, bi-directional wood splitter with a 4-way wedge. Designed specifically for small to medium tree care operations, the rugged yet simple design of the Split-Fire 4490 takes productivity to the next level by splitting in both directions. The two-sided knife can be interchanged with a 4-way wedge, giving operators the option of quartering wood blocks on both the forward and reverse stroke. The custom “log stops” keep pressure centered to prevent “fly-outs,” and the cylinder is mounted in the center of the frame to prevent bending. All Split-Fire wood splitters can be equipped with an optional hydraulic log lifter. Compact and portable, the 4490 can be towed or transported in the box of a standard pick-up truck.

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**Buckingham ErgoLite with Batten Seat**

You spoke and Buckingham listened. Buckingham has combined all the features of its popular ErgoLite saddle with the comfort of a padded batten seat. The batten seat is designed to distribute weight while the user is suspended, providing maximum comfort. Quick connect buckles on the leg straps keep the batten seat in place while climbing and working. Available in S, M, L and XL, ErgoLite features include: Stainless-steel clevises at either end of a high-strength warp speed bridge; allows for simple bridge replacement when necessary (Use only Buckingham authorized bridges); instead of taking the saddle apart, the user opens and closes the locking clevis with common tools; front buckle closure (for easier on/off wearing spikes); comfortable, lightweight and very breathable waist belt; lightweight aluminum, full-sized work positioning dee rings; second set of dee’s mounted under the work-positioning dee’s allow the bridge to articulate; quick-adjust strapping; adjustment areas for an ideal fit include waist, legs, seat depth and bridge height; six large accessory loops. (Buckingham item #17904)

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Send Cutting Edge Product information to: editor@tcia.org
Weaver Leather Steel Support Pads

With sunset harness leather construction and an English toast suede lining for a no-slip grip, Weaver Leather LLC’s new Steel Support Pads feature a metal insert that provides added support and helps ensure proper climber shank position. The wrap-around calf with a 4-inch-wide hook and loop strap offers a perfect fit and distributes pressure evenly while the climber shank runs through an angled bracket and leather tunnel and secures with a brown Brahma Webb strap. (Weaver item #08-97155).

SherrillTree Tri-Guard barrier

SherrillTree’s new Tri-Guard heavy-duty durable debris containment barrier is a great solution for controlling chips when grinding stumps and chipping brush. The three-panel system is constructed of a rigid, powder-coated .88-inch steel frame for extended durability and easy transportation, with added stability control for windy conditions. Each panel is covered with heavy-duty nylon reinforced coarse mesh featuring an extended fabric apron. Rods are contained inside water resistant fabric pockets without the use of snaps or Velcro. Panel connectors can be easily disconnected for expansion with additional panels. Rounded connectors allow panels to adjust individually to variable surface levels. Additional benefits include: Alerts bystanders to danger area; minimizes cleanup time following stump removals; and minimizes risk of flying debris. Each panel measures 40.5 inches wide by 45.5-inches high; total weight is 45 pounds; ships inexpensively in 7-inch x 6-inch x 46.5-inch box. (Photo by Tanya Peterson)

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Shown here, a crew from Barrett’s Tree Service, Inc. in South Burlington, VT, a 24-year TCIA member company.
### Events & Seminar

**September 6-8, 2012**  
Lake States Logging Congress & Equipment Expo  
EAA Grounds, Oshkosh, WI  
Contact: GLTPA (715) 282-5828; www.timberpa.com

**September 12-13, 2012**  
Certified Treecare Safety Professional/CTSP Workshop  
LaQuinta Hotel, Hayward, CA  
Contact: 1-800-733-2622; peter@tcia.org

**September 13-14, 2012**  
ASM-Michigan ISA Summer Conference & Show  
Potter Park, Lansing, MI  
Contact: (517) 337-4999; asm@acd.net; www.asm-isa.org

**September 14, 2012**  
ISA Certified Arborist Exams (All)  
Board of Water & Light (Across from Potter Park), Lansing, MI  
Contact: asm@acd.net; (517) 337-4999; www.asm-isa.org

**September 15, 2012**  
Michigan Tree Climbing Championship (MTCC)  
Potter Park, Lansing, MI  
Contact: asm@acd.net; (517) 337-4999; www.asm-isa.org

**September 20-21, 2012**  
Rock ‘n Grow! ONLA Annual Convention & Trade Show  
Hard Rock Casino  
Tulsa, OK  
Contact: Becky (405) 945-6737; info@oknla.org

**September 23-24, 2012**  
New York State Arborists Fall Conference  
Holiday Inn, Liverpool, NY  
Contact: www.nysarborists.com

**September 26-28, 2012**  
33rd Annual Texas Tree Conference  
Waco, TX  
Contact: shenson@gptx.org; www.isatexas.com

**October 16-17, 2012**  
Illinois Arborist Association Annual Meeting  
Tinley Park, IL  
Contact: www.illinoisarborist.org

**October 15-16, 2012**  
L1 Precision Tree Felling & Chain Saw Handling  
2 Days Hands-On Training Module  
Taylor, MI  
Contact: www.ArborMaster.com; (860) 429-5028

**October 15-16, 2012**  
L1 Precision Tree Felling & Chain Saw Handling  
2-Day Hands-On Training Module  
Attleboro, Massachusetts  
Contact: www.ArborMaster.com; (860) 429-5028

**October 19-21, 2012**  
2012 American Chestnut Summit  
Crowne Plaza Resort  
Asheville, NC  
The AmerChestnut Fdtn (TACF) and USDA Forest Svc.  
Contact: www.acf.org

**October 24-25, 2012**  
Certified Treecare Safety Professional/CTSP Workshop  
Central Park Recreation Center  
Denver, CO  
Contact: 1-800-733-2622; peter@tcia.org

**October 29-30, 2012**  
L2 Tree Climbing Methods & Work Positioning:  
2-Day Hands-On Training Module  
Haddam, CT  
Contact: www.ArborMaster.com; (860) 429-5028

**November 6-7, 2012**  
Certified Treecare Safety Professional/CTSP Workshop  
Baltimore, MD, In conjunction with TCI EXPO  
Contact: 1-800-733-2622; peter@tcia.org

**November 8-10, 2012**  
2012 TCI EXPO Conference & Trade Show  
Pre-conference workshops Nov. 6-7  
Baltimore, MD  
Contact: 1-800-733-2622; dcyr@tcia.org

**November 14-15, 2012**  
2012 Partners in Community Forestry National Conf.  
Sacramento, CA  
Contact: www.arborday.org/shopping/pcf/2012/

**November 15, 2012**  
Clean Fleet Technologies Conf: Fueling the Choice  
George R. Brown Convention Center, Houston, TX  
(713) 970-2112; Claire.Quinn@edelman.com

**January 9-11, 2013**  
Northern Green Expo 2013  
Minneapolis Convention Center, Minneapolis, MN  
Contact: MNLA MTGF; www.NorthernGreenExpo.org

**January 27-28, 2013**  
New York State Arborists Annual Conference  
Crowne Plaza, Suffern, NY  
Contact: www.nysarborists.com

**February 6-8, 2013**  
New England Grows  
Boston Convention & Exhibition Center, Boston, MA  
Contact: www.NewEnglandGrows.org; (508) 653-3009

**February 10-14, 2013**  
Winter Management Conference*  
St. Kitts Marriott Resort  
Contact: 1-800-733-2622; dcyr@tcia.org

**February 13-15, 2013**  
ISA Ontario Chapter Annual Meeting  
Crowne Plaza, Niagara Falls, Ontario, Canada  
Contact: info@isaontario.com

**February 24-26, 2013**  
PennDel Shade Tree Symposium  
Lancaster, PA  
Contact: www.penndelisa.org

**March 24-26, 2013**  
Southern Chapter ISA*  
Memphis, TN  
Contact: www.isasouthern.org

**May 7-10, 2013**  
Western Chapter ISA  
Indian Wells, CA  
Contact: www.wcisa.net

* Indicates that TCIA staff will be in attendance
We are in an election year, at a time when our federal legislative and regulatory bodies are even more gridlocked than normal, awaiting the election’s outcome. But by November 7, 2012, whether we re-elect an incumbent or place a new person in office, the wheels will begin to turn again.

In this legislative and regulatory lull, we have time to plan and to begin to effect change.

There is a quote attributed to Alexis de Tocqueville, and it reads, “In a Democracy, the people get the government they deserve.” Extending that thought to our regulatory environment, what sort of regulation does the U.S. tree care profession deserve? We all know there are good actors and bad actors in any profession, and here is the dilemma: our regulatory entities have a hard time telling the difference between the two. We are cast in the same light.

What sort of regulatory environment does the collective profession deserve when, in the course of one seven-day period, we can recount something like the following?

- On Wednesday, July 25, a 28-year-old man was electrocuted while trimming trees in St. Joseph, Missouri. He was in an uninsulated lift.
- Also on July 25, an Auburn, Indiana, arborist was killed when he fell out of an aerial lift. He had no fall protection and he was attempting to use his bucket to hoist a tree out of a lake when the boom failed.
- On Thursday, July 26, a Wilkes County, Georgia, tree service owner was killed and a second man was badly injured when their truck-mounted aerial lift overturned.
- On Saturday, July 28, a palm trimmer in Arcadia, California, died when he cut into an electrical conductor, was electrocuted, caught on fire, burned through his lanyard and fell to the ground.
- On Monday July 30, a Johnston, Rhode Island, landscape worker was pruning a tree when he touched a primary line with an aluminum pole tool while standing on an aluminum ladder. He was electrocuted and fell 25 feet to the ground.
- On Tuesday, July 31, a Reading, Pennsylvania, ground man was killed by a falling tree branch cut by his boss and co-worker. The victim was an unemployed nurse, working on a tree crew to make ends meet.

As a reader of this magazine, the odds are that you are part of the “choir” that arguably does not deserve a sermon. We hope you are training your people, providing the necessary PPE and requiring that it be worn, and using the tools of this trade as they were intended to be used. We hope that you are regularly inspecting crews in the field, and providing coaching, mentoring and training as it is needed.

With those sorts of activities as a baseline of professionalism, we hope that you will consider reaching out to the less professional around you or among you, in some way. If each of us becomes a more proactive professional, we can be the masters of our own destiny.

Election-year politics

Recently in Washington, a bill that would sharply curb federal government agencies’ ability to develop and issue regulations passed out of the House. Votes predictably fell along party lines.

The Red Tape Reduction and Small Business Job Creation Act, voted up by the House on July 26, would prohibit most regulatory action until the unemployment rate falls to or below 6 percent. The current rate is 8.2 percent.

The bill applies to regulations that would cost the economy $50 million or more annually. Some exceptions apply, including regulations determined to be necessary because of an imminent threat to health or safety.

Republicans said the bill would help businesses by stopping unnecessary regulations and saving jobs.

Democrats warned such restrictions would have a negative effect on the workforce by blocking rules that save lives.

The bill now goes to the Senate, where it is expected to languish and die. And so it goes in an election year.

Peter Gerstenberger is senior advisor for safety, compliance & standards for the Tree Care Industry Association.
Has your community caught the buzz around biochar? Word about this ancient yet new soil amendment has been traveling at Twitter-speed around the country as gardeners, farmers and plant lovers of all types learn of the intriguing properties of charcoal added to soil. That is what biochar is – charcoal made from biomass that is clean and safe to use in soil.

For four years now, tree care industry professionals have been learning how to use biochar to solve some common problems: low organic matter in disturbed soils, soil compaction, soil water retention and nutrient leaching. This article will give you some background on what biochar is and how tree care professionals are developing applications for it.

**What is biochar?**

Scientists first became aware of biochar after studying the properties of carbon-rich soils created by the original inhabitants of the Amazon who added charcoal to soils along with food waste and other nutrients. Five hundred years after the demise of the cultures that created them, the terra preta soils (Portuguese for “dark earth”) are still five times more productive than adjacent, un-amended tropical soils. The longevity of the effect comes from the high stability of charcoal in soil. It takes hundreds to thousands of years to break down, forming a kind of semi-permanent compost.

Today, agronomists (experts in soil management and field-crop production) at institutions such as Cornell and Iowa State are deeply engaged in probing the secrets of biochar’s effects on soil. Fused carbon rings form the microstructure of biochar; while at coarser scales a highly porous carbon matrix structure emerges that has robust ion-exchange properties. This structure supports soil fungal and bacterial life while holding water and nutrients. Plant roots love it, and with proper nutrient support, plants of all kinds, including trees, seem to thrive in biochar.

Biochar is produced by baking biomass without the oxygen that would cause it to ignite and burn. Baking wood and other plant materials releases a flammable gas that yields energy. That is the basic biochar-making process, but the end product is not a single, well-defined substance. Depending on the...
feedstock and processing conditions (time and temperature), different biochars can have very different properties. The International Biochar Initiative, an organization formed by leading biochar scientists, recently issued Biochar Standards for reporting characteristics of biochar such as pH and carbon stability to help guide the selection of biochar materials for specific soil and plant requirements.

Biochar and trees – research

Trees are a particular focus of biochar research in Japan, which also has an ancient tradition of charcoal use in soils. Professional arborists there apply biochar in root-zone trenches to revive much-loved ancient trees on the grounds of temples and shrines that suffer from ground compaction caused by visitors. Before application, the biochar is inoculated with mycorrhizal fungi and nutrients. Research shows that biochar increases the abundance of mycorrhizal fungi in soil, and inoculated biochar has become a popular ingredient in nursery media for increased tree seedling survival and growth.

In the U.S., biochar research has begun to move out of universities and government labs and into the hands of professional farmers, horticulturalists and arborists. Leading the way in tree care is Bartlett Tree Experts, an accredited TCIA-member company that began an ambitious biochar research and development program four years ago at the Bartlett Tree Research Lab and Arboretum in Charlotte, North Carolina. Researcher Kelby Fite, Ph.D., heads the program of field and greenhouse trials for Bartlett. “We wanted to find out if biochar could improve root-soil interactions in compacted urban soils,” Fite says. “The objective was to replace short-lived compost with a longer lasting source of soil carbon.”

Dr. Fite found that his first experiments were inconclusive. His team applied several different biochar formulations to established trees, but delivery rates were “a stab in the dark” and no differences could be determined over a single growing season. Greenhouse work was more telling. They found clear improvements using biochar amendments, particularly in sandy soils where biochar’s water holding capacity is a big boost.

Nutrient management is important as well, and one clear result is that blending biochar with compost provides a real synergy of short-term nutrient support from the compost while the longer-term benefits of biochar develop. In all kinds of agronomic conditions, researchers have found that it can take several years for biochar to accumulate nutrients and boost soil life. Often the greatest effects are not seen until the second or third year after biochar application. For long-lived species such as trees, this feature of biochar is an important benefit with the potential to reduce care and maintenance needs over the long term.

TREE Fund grant

Bartlett has also teamed up with others for an industry-wide approach to the investigation of biochar.

In 2010, Dr. Bryant Scharenbroch of The Morton Arboretum Soil Science Laboratory and Dr. Fite won a TREE Fund grant to examine biochar for urban tree care. The grant has funded three real world experiments with street trees.
One study in Bucktown-Wicker Park neighborhood of Chicago includes 54 trees in sidewalk cutouts with treatments being augered into the soil. An experiment in the City of Bolingbrook, Illinois, has 75 trees with treatments being applied with air-injection tools. An additional landscape experiment is planned to begin late this fall in Aurora, Illinois, using liquid injections of biochar. All three experiments include different combinations of biochar and fertilizers, and also non-treated controls. Soil and tree health measurements taken last fall, just months after the applications, have as expected shown no impacts. The landscape experiments are in their infancy, and monitoring will continue throughout the next three to four growing seasons.

Dr. Scharenbroch says, “landscape experiments are important, but can be challenging due to the inherent site variability, so much so, that treatment effects can be masked by soil heterogeneity (or variation) on site. In addition, trees are long-lived organisms and, as such, can be slow to respond to experimental treatments.”

Experiments in nurseries and greenhouses with younger trees and herbaceous plants allow for more experimental control and faster plant responses. These experiments are also being conducted at The Morton Arboretum, and have been showing positive responses in soil quality and tree health with biochar.

“Compared to our controls,” says Scharenbroch, “we are finding increases in soil organic matter content and tree and turf growth, with biochar applied as a top-dressing in a variety of soil types (e.g., sand, non-compacted silt loam, and compacted clay loams) and across multiple tree species.”

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Root growth of Gleditsia triacanthos after 18 months of no treatment (left) compared to biochar application (right) of 2 cm top-dressing. Trees were grown for 18 months in a compacted (1.8 Mg m⁻³) B horizon soil. Courtesy of Bryant Scharenbroch/Morton Arboretum Soil Science (www.masslaboratory.org).
genera (e.g., Gleditsia, Acer, Malus, Betula, and Tilia). (See images above.)

In their experiments, Drs. Fite and Scharenbroch have discovered that biochar quality matters. Improvements in plant growth tend to be greatest with biochars with lower carbon-to-nitrogen ratios. Biochar from a now defunct supplier turned out to be not as good as the current supply from Biochar Solutions, a woodchip biochar producer based in Pueblo, Colorado. Now that he has a supply of consistent, quality biochar, Dr. Fite can begin to refine his biochar-nutrient formulations to produce “designer” biochar amendments targeted to specific soils and conditions, such as drought resistance for sandy soils.

Economical and effective application methods are important and these researchers are focusing on three alternatives: soil auguring and filling of holes with a biochar; air-tool excavation and mixing biochar into soil with physical decompaction; and liquid injection of fine biochar/water slurries using existing fertigation (application of fertilizers, soil amendments or other water-soluble products through an irrigation system) technologies. Fite said that the liquid injection method looks promising although he is dealing with challenges around plugged injectors and keeping the finely ground biochar in suspension.

Fite and Scharenbroch are also working on application rates. Fite says, “we did not see any detrimental effects from application rate until we reached 20 percent biochar by volume – a rate that is not even possible in the field.” Fite has found a “sweet spot” at around 5 percent and is now looking at even lower rates to determine if there are measurable benefits from using even less of the somewhat expensive product. The price of pure biochar seems to hover around $1 a pound.

The TREE Fund seed grant runs out next year, but Drs. Scharenbroch and Fite will continue the biochar research through other funding sources, institutional support, and volunteer efforts. The Morton Arboretum has an active citizen science program that provides many enthusiastic student interns and other volunteers to help with experiments. One thing Scharenbroch would like to try is to make biochar from biosolids for a higher nutrient product. As the research matures and results come in, they will be publishing in scientific and popular journals. Many of these projects are currently being presented at industry conferences, including TCI EXPO this fall.

Biochar and special tree problems

Bartlett has also started to look at the role that biochar could play in mitigating common tree diseases. Lab employee Drew Zwart, who is now completing a doctorate program at the University of Washington, was interested in the contribution of biochar to disease resistance. Biochar research on vegetable plants found that biochar-amended plants seemed to develop a systemic resistance to disease. Zwart inoculated a number of gardenia shrubs with the phytophthora that causes sudden oak death (SOD). He inoculated...
the above-ground stems only, while applying the biochar to the soil root zone, theorizing that any disease resistance would be due to increased plant vigor, not a direct effect of biochar on the pathogens. His results show that the biochar-amended plants showed just as much stem-canker size reduction as gardenias treated with the commercial systemic fungicide Agri-fos. Biochar-treated gardenias also exhibited less water stress than untreated plants.

Another tree care issue that biochar could address is the impact of DuPont Imprelis. The now-banned herbicide has killed woody plants in many areas where it was applied and tree care professionals are being asked how to save affected trees and prevent the long-lived chemical from doing more damage. The University of Minnesota Extension recommends the use of activated charcoal in new plantings to bind any residual Imprelis in the soil and keep it from being taken up by plant roots. The strongly adsorptive properties of activated charcoal make it a commonly used remedy for cleaning up all kinds of soil and water contamination.

Biochar is not activated carbon, but it does have some similar characteristics, including large surface area that is chemically active. Biochar is commonly less than half the price of activated charcoal and it could be a viable tool for mitigating the effects of Imprelis – certainly it is a worthy research topic. Those who are interested in investigating this should be aware that some biochars will be much more effective as adsorbents than others. The International Biochar Initiative Biochar Standards provide standardized tests that measure the surface area and porosity of biochar.

**How to use biochar**

By now you have probably gotten the impression that biochar is a pretty complex subject. Fortunately, the research community and companies such as Bartlett are working hard to bring forth solid applications. Bartlett feels the hard work is justified. Kelby Fite says, “We are early adopters, but we feel it is worth it for the long term results.” And enough results are in now that Bartlett is starting to use biochar in commercial applications – they have applied 100 cubic yards of biochar so far in 2012. Customers are interested because even though the upfront costs are greater, they look forward to a payback of less water and fertilizer use over time.

Given the variables in biochar materials and compounds, tree care professionals can provide substantial value to customers who want to try biochar in their tree plantings by following the research and development of biochar and learning about successful applications.

**A few resources to help you get started:**

The International Biochar Initiative (http://www.biochar-international.org/) has a number of resources including a bibliography, research summaries, application guidelines and Biochar Standards. The IBI is rolling out a Biochar Certification program soon that will help buyers know what they are getting.

The Morton Arboretum (www.mortonarb.org) has several different biochar research trials in place and will soon communicate results in publications and presentations.

Bartlett Tree Experts (www.bartlett.com/index.cfm) has biochar application information on its website and is interested in sharing results with the industry as a whole.

Kelpie Wilson is a consultant and writer with five years’ experience in biochar. She is on staff, helping with communications and technical document production, with the International Biochar Initiative, a science-based NGO that promotes research and development of sustainable biochar systems.
Arborists need to have an understanding of basic legal tools involving contract issues, cabling issues, disclaimers and indemnity clauses. In addition, every arborist needs to know the basic legal concepts involving tree issues, such as determining the ownership of the tree, the controlling legal authority to determine duties, responsibilities and liabilities and the law that controls those issues.

In the United States, there are three primary sources of law that affect everyone including arborists. The three primary sources of law are fundamental law, written law and common law. Common law is the law that deals with most of the issues involving tree law.

What is common law? Common law, also known as case law, is the law that many different courts in this country have in “common.” Most of our common law is descended from the English common law system. It has taken root very successfully in Canada (except for Quebec) and in the United States (except in Louisiana).

In common law states, the body of state law consists of statutes, regulations and case law. Statutes are enacted by a legislative body; regulations are promulgated by executive branch agencies pursuant to a delegation of rule-making authority from a legislature; and, common law, also known as case law, is court decisions pursuant to the court’s authority to interpret the law while relying on previous legal theories and cases. Common law is developed through decisions issued by the various states’ Supreme Courts, Court of Appeals, trial courts and occasionally by municipal courts, as well. Federal courts may decide cases that turn on substantive state law issues; and, therefore, add to the body of common law as well. So what is common law all about? Many of the case holdings arise from common law concepts with no express statutory authority.

Most arborists need to know at least the “Ten Basic Common Law Concepts” including contract law, agency law (employee v. independent contractor), negligence, concepts, trespass including licensees and invitees, encroachment issues, overhanging branches and roots, damages, nuisance theories, boundary line issues and sovereign immunity. In addition to these basic common law concepts, an arborist needs to know the grass roots foundation of tree law such as duty to inspect, tree ownership issues and boundary line responsibilities.

Here are Ten Basic Common Law Concepts:

1. Contract law: How much must be spelled out before there’s a “meeting of minds” and the contract is enforceable? What kind of implied warranties come with a contract for landscaping, tree trimming or similar agreement? What steps can an arborist take to ensure clarity and eliminate contract pitfalls?

2. Agency: Who is an agent, who is an employee and who is an independent contractor? And why should an arborist care?

3. Negligence: What is negligence, and when can negligence make an arborist liable to a customer or third party?

4. Gross Negligence, Recklessness, Willful and Wanton Conduct: What is gross negligence and recklessness, and why is it important to differentiate these from simple negligence? How can gross negligence or recklessness make an arborist liable to a customer or third party where simple negligence cannot?

5. Trespass: Isn’t trespass a criminal law concept? How can trespassed be used against an arborist? When is it committed? What damages flow from it?

6. Encroachment: Encroachment, one of trespass’s many cousins, has special significance to arborists. What is it, and what impact does it have on traditional notions of trespass?

7. Damages: When a breached contract, negligence or trespass occurs, how are damages assessed? What factors go into a damage calculation? How do statutes on damages to trees affect common law damages determinations?

8. Nuisance: What is common law nuisance? How does it affect negligence, and how does it affect the arborist’s job?

9. Partition Trees: When a tree is located on the boundary line between properties, who owns it and what special rights might the neighbor have in it?

10. Immunity: What is immunity, and who has it? Who may get it? How can a defense of immunity be overcome?
Ten Lessons of Common Law

A full discussion of any of these concepts would entail a lengthy review of state and national case holdings, causing each concept to constitute a whole article by itself. For the purposes of this article we will look at a lesson that each one of these concepts can offer us.

**Common Law Lesson No. 1 – Contract:** Always use written agreements, preferably ones written or reviewed by your lawyer, and be sure those agreements set out the identity of the parties, the scope of the work and all of the terms and conditions in reasonable detail.

**Common Law Lesson No. 2 – Agency:** When you perform services, you are an agent, an independent contractor, an employee, a volunteer or a trespasser. Know which one you are, and the differences in who can be liable for what according to the hat you are wearing.

**Common Law Lesson No. 3 – Negligence:** Avoiding negligence starts with being aware of the duty owed to third parties. Be aware of those special duties and use special care to document the advice you give, both for the landowner’s benefit and for your own.

**Common Law Lesson No. 4 – Gross Negligence, Recklessness and Wanton Conduct:** All are to be avoided. If you are negligent in some aspect of your work, be aware: you can make it worse than it already is.

**Common Law Lesson No. 5 – Trespass:** Trespass is easy to accomplish, and by itself means little. However, beyond the one dollar concept in presumed damages, virtually anything you do to change the property could cause more damages.

**Common Law Lesson No. 6 – Encroachment:** Encroachment may be cured by self-help (the act or right of remedying a wrong without resorting to legal proceedings). Where the encroachment of trees or vegetation cause or threaten imminently to cause “sensible harm” (the kind of harm an ordinary person would consider injurious), the landowner may seek judicial help to force the tree’s owner to remove the harm.

**Common Law Lesson No. 7 – Damages:** Damages are intended to put the victim in the position he or she would have been but for the injury. Courts are reluctant to commit waste, so where the cost to bring the property back to its condition before the injury exceeds the difference in the fair market value before and after the injury, courts most often award the diminution (or difference) in fair market value unless other factors are established into evidence that show more compensation is justified.

**Common Law Lesson No. 8 – Nuisance:** A nuisance (a use of one’s property in such a way as to interfere and appreciably damage the enjoyment of another’s property by that person) imposes liability without fault. As a result, it is used sparingly by courts but it is available in the quiver of tort law causes of action, and a prudent arborist should remain aware of it.

**Common Law Lesson No. 9 – Partition Trees:** If the trunk of a tree or a hedgerow straddles a boundary line, assume that neither neighbor can use self-help without the permission of the other; and, that the tree or plant is probably owned by both owners as tenants in common.

**Common Law Lesson No. 10 – Immunity:** Absent a statute giving permission to sue, federal, state and local governments are generally immune from suits for damages due to errors and omissions by their employees and agents. Where tort claims acts have been enacted, the exceptions to sovereign immunity are limited and require a detailed application of the facts of the particular case.

Courts have interpreted and decided these basic common law concepts over time and can rethink and modernize any concepts that are antiquated or no longer serve a just result. Arborists need to understand that courts can change case laws as each new case arises. Therefore, arborists need to understand the basic reasons and methods courts use to reach their decisions. This task usually requires a reading of a number of cases concerning that particular concept to appreciate the reasoning of the court. This is why common law is most often referred to as case law and why it varies in its interpretation from state to state.

Victor D. Merullo is an attorney based in Columbus, Ohio, who speaks and writes on tree law issues. This article is based on the presentation he will be making on the same subject, “Legal Tools for Arborists,” at TCI EXPO 2012, November 8-10, in Baltimore, Maryland. In addition, he will cover basic concepts of tree law, current tree law trends including both state and national cases. For a complete TCI EXPO schedule or to register, visit expo.tcia.org.
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When it comes to fuel efficiency – and general efficiency and productivity – you want to keep your chipper blade sharp, your filters clean, and your service record regular.

By David Rattigan

When it comes to chipper maintenance, you may want to remember your father’s old saying: “If you take care of it, it will take care of you.”

In these days of rising fuel prices and tight budgets, getting the most fuel-efficient performance from all of your equipment is important. Frequently, maximum fuel efficiency will also lead to more predictable performance, better general efficiency, and a longer life – all things that can keep money in an owner’s pocket.

Brush chippers in tree care usually average an hour per day of run time, notes Nate Burton of Oconto Falls, Wisconsin-based Barko Specialty Equipment, and as a result saving fuel may not be a high priority for some owners.

“They tend to be more interested in getting their chipping done quickly and moving to the next job,” Burton observes.

Nonetheless, we asked a group of experts from the nation’s leading chipper manufacturers to share their knowledge about getting the best benefit from chipper maintenance.

“Fuel conservation is certainly a hot button topic in today’s marketplace,” says Jason Showers of Morbark, Inc. of Winn, Michigan, and others agree with him that a good maintenance plan is a good starting point.

The Bandit Model 1990 drum-style chipper, above, has a 24.5-inch high by 26-inch wide chipper opening. Conducting a daily maintenance routine is critical to machine longevity and performance, especially on machines that consistently chip large diameter material.

The Bandit Knife Saver, at right, is a diamond-honed tungsten carbide sharpening tool that adjusts to the knife angle to restore the proper cutting edge, saving the average chipper owner hundreds of dollars each year, according to Bandit.

“Keeping blades sharp and maintained is the most effective way to increase fuel efficiency,” explains Andy Price, market manager for Altec Industries, Inc., headquartered in Shelby, North Carolina. He also recommends keeping air filters clean and servicing the engine on a regular basis.

Regular tune-ups are also an important part of optimizing performance, and Kurt Kainz, marketing manager at Lake Zurich, Illinois-based ECHO Bear Cat, notes that some machines are on a different schedule than others.

“Besides changing oil and cleaning the air filter, if ethanol blended fuels are used, fuel filter and carburetor service may be required more often,” he observes. He recommends that the person responsible for
maintenance become very familiar with the engine owner’s manual for complete specifications.

Here are a few more tips on better maintenance for better fuel efficiency:

1. Do not let the machine run idle for long periods of time between use. Price recommends positioning the brush to be chipped in a safe position near the chipper before starting the machine, to avoid the engine run time that might be wasted as a ground worker walks back and forth to retrieve the brush. He cautions not to leave the chipper engine running while trimming operations are taking place.

Showers concurs: “A best practice when chipping to conserve fuel is to only operate the chipper when enough material is present to warrant starting up the machine,” Showers explains. “For example, stage the material near the chipper until a large enough pile is acquired. Once compiled, fire up the chipper and chip the debris pile. When completed, shut down the unit and repeat the process until the job has been completed.”

If your crew is on a smaller job and the above is not practical, Showers suggestion is to return the machine RPM’s to idle between chipping cycles to reduce fuel consumption.

“Several Rayco chipper models are equipped with a Fuel Saver feature that automatically throttles down the engine to a low idle when work isn’t being done and then throttles back up to the working RPM when the operator begins to feed material in,” notes J.R. Bowling, vice president of sales for Wooster, Ohio-based Rayco Manufacturing, Inc. “Although some competitors are just now adding this functionality to their chippers, Rayco has been doing so for over five years.”

Bob Campbell, sales manager for Farwell, Michigan-based Terex Woodsman, notes that his company and some others offer additional tools to reduce idling time, including a radio remote control that can throttle down the engine during idle periods and a hydraulic winch that can save time by bringing larger material to the chipper more efficiently.

“First of all, you’re saving on less trimming, not just with the chippers, but with chain saws. You’re using less fuel,” he says. “It saves time and money in certain applications.”

Campbell adds that by relying more on the chipper and using it efficiently, a company saves fuel not just with the chipper, but elsewhere on the job site. “All three products relate – chain saw, chipper and truck.”

2. Size the material being fed into the chipper. Cutting down crotches and limbs for easier feeding into the chipper may increase saw labor, Showers says, but as properly prepared material is fed through the machine, it will flow through the cutting system more efficiently, resulting in less labor on the engine and lower fuel consumption.

Bowling agrees. “Do not over-feed a chipper,” he says. “If the chipper struggles to pull in large branches or several branches at once, it creates a “traffic jam” at the infeed. This slows down the feed process, consuming more fuel and often creating dust and fines, small particles that don’t discharge well and can lead to plugged air filters, plugged radiators, and sometimes plugged discharge chutes. A chipper fed properly always has brush going into the infeed and, most importantly, chips coming out the discharge at a steady rate.”

3. If buying a new chipper, size the engine for the application. Showers suggests that you avoid the temptation to “over power” the unit. This is especially important as the industry enters the Tier 4 for emission standards and after-treatment systems are introduced, he says. “These systems require a balance between the power and use ratio, meaning the engines have to be under load in order for the after treatment to work effectively and efficiently,” he explains.

Meanwhile, Sal Rizzo, president of Salsco, Inc. in Cheshire, Connecticut, says buyers might also go too far the other way.

“Sometimes, people tend to go small on the motors, in the interest of saving fuel, and actually overwork them and...
use more fuel,” he says. “They go in two different directions.”

4. Be mindful of anvil condition and adjustment. The anvil is the hardened steel structure that the knife slices the wood against, and over time the edge of the anvil will become worn and rounded. As the anvil wears, the space or gap between the anvil and the knife widens, explains John Bird of the Spartanburg, South Carolina-based J.P. Carlton Company. “Most modern chippers allow the mechanic to turn the anvil to expose a new edge to the knife,” he notes. “This new square edge gives the knife a precise edge to slice the material against. It is critical to keep the gap between the knife and the anvil set at the manufacturers recommended distance. This gap will allow the chipper to produce the chips it was designed to – reducing strings, chunks and dust – making the chipper work more efficiently overall. A properly adjusted anvil will give a better chip quality – packing the truck tighter – reducing the number of trips to the dump site.”

Bird adds that if the chip quality is good enough, a local resident may want the chips, again saving extra trips to the dump.

5. Monitor the autofeed adjustment. Most modern chippers are equipped with an autofeed system, which is designed to sense engine RPM and stop the feed of the wood into the cutting chamber when the engine slows and restart the feed once the engine recovers. Manufacturers have optimized these autofeed settings to allow the engines to work in their most efficient zones, Bird notes, and when set up correctly the autofeed will keep the engine from bogging down too far – which requires time and fuel to recover. “Mechanics need to verify that the autofeed system is functioning correctly and the parameters are set to factory specifications,” Bird cautions.

The rate at which the feed system pushes the wood to the chipper should match the feed rate of the chipper, notes Jerry Morey, president of Remus, Michigan-based Bandit Industries, Inc. He adds, “Over-feeding robs power and increases fuel consumption; pushing wood against the disc or drum creates a breaking action. Typically, one should not have to worry about the feed rate, unless the feed wheel drive pump is changed.”

6. Keep the belts at the proper tension. Belt tensions should be checked often and maintained to the manufacturer’s specifications, notes Kainz, who explains that improper belt tensions will result in poor chipper operation and can contribute to unnecessary wear and tear on other machine parts, significantly shortening their use time.

“Loose belts will slip, not transferring the power the engine is producing,” Bird agrees. “This will cause poor chipping, chute plugging, and overall poor performance.”

7. Keep the bearings properly lubricated. Bearings should be maintained and lubricated according to the instructions found in the user manual, explains Kainz, who notes, “Over-greasing, as well as not greasing the bearings enough, can hurt the overall efficiency of the chipper.”

8. Keep your operators well-trained. “Well-trained operators can save a significant amount of fuel,” Bird explains. “Operators should be trained to run the machine up to operating speed just prior to chipping and bring it back down to idle whenever there is going to be a break in the chipping duty. Too often we see chippers run at full RPM for extended periods while not being fed. Operators should be taught to work together to feed the machine in the most efficient manner.”

9. Change worn drive parts. Regular inspection and maintenance of drive parts needs to be performed, Kainz notes, adding that worn or cracked pulleys, damaged idler systems or worn out bushings can also play a major role in machine efficiency and thus fuel consumption.

10. Sharpen that blade. Blade designs will vary but one thing will never change, Kainz notes. “No matter who manufactures the machine…the harder the wood being chipped, the more often blade sharpening will be required.”

“Making sure that knives are ground at the proper angle and making sure that they are properly dressed is

With its new wider and more ergonomic infeed, the Morbark® Beever™ M12R eagerly welcomes and chips branchy material, with less need for sawing and groundwork. So you save time and money with a powerful chipper that:

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Nate Burton, which also helps knives last longer. making slicing cuts instead of chopping, says Barko’s shown here, save fuel because they use less energy by issues.”

Barko Conehead chippers, such as the model CH460 adjustment to increase or decrease airflow,”

Diligent operators check the air filters several times a week if not daily.”

11. Clean the air filter. Air filter maintenance is a huge factor, notes Bowling. “Blowing into chip boxes often creates a great deal of dust flowing back toward the chipper,” he says. “When the air filter is blocked, the engine uses a lot more fuel and can also show signs of weak horsepower output, leading to a downward spiral of performance-related problems. Diligent operators check the air filters several times a week if not daily.”

12. Keep the radiator clean. A clean radiator improves engine efficiency and increases fuel consumption, Morey explains. “Venting the chip truck will help prevent blow back from the truck, and will help keep debris away from the radiator.”

13. Maintain the chipper fan blade. A significant amount of power or energy is used in discharging the chips from the chipper, Morey notes, so fan blades on a disc-style chipper should be replaced when worn, and the fans on the drum chippers should be inspected periodically. “The side vents on the drum-style chipper can be adjusted to increase or decrease airflow,”

increase fuel consumption, reduce chip quality and can lead to the production of long slivers that could lead to plugging issues.”

What not to do: Common areas of chipper neglect

Y ou’ve learned how to keep your chipper running in a fuel-efficient manner. Now, our experts share their observations on the three things most neglected in chipper maintenance and repair.

Andy Price, Altec Industries, Inc.: “The operators’ manual will instruct certain bearings be greased on a daily basis. Truly following this suggestion is often overlooked.”

Another area of neglect: “keeping the engine cooling system (radiator) free of debris that restricts air flow.”

Dan Vroom, Vermeer Corporation: “Knife maintenance, air filter clean/change, and oil changes/greasing are the three most commonly missed steps out there. Others would be routine overall frame and component checks. Most of the major failures can be prevented and result in minimal service time and cost to the customer, resulting in better relations everywhere. Also, getting the right size machine to the customer for his job is key to the end cost the customer will pay.”

Kurt Kainz, ECHO Bear Cat: “The three B’s: Blades, bearings and belts.”

Jerry Morey, Bandit Chippers: “The three most neglected maintenance areas are anvil maintenance, belt tensioning and radiator cleaning.”

Bob Campbell, Terex Woodsman: “Areas of neglect that cause higher fuel consumption? Dull knives, first of all. Second, not changing the filters. Third, not keeping your radiator screen free of debris. If a company is neglecting those three areas, it’s going to cost them money at the end of the day.”

Jason Showers, Morbark, Inc.: “The most neglected maintenance items on a chipper would be chipper knives, chipper knife/anvil hardware, anvil adjustment, clutch adjustment and proper drive belt adjustment.

“Proper machine maintenance has a substantial impact on fuel consumption. Properly sharpened knives (e.g. correct angle, sharp edge), proper adjustment of the anvil (e.g. sharp 90-degree edge on the anvil, proper anvil-to-knife clearance), clean fuel, oil and air filters increase efficiency, allowing the cutting system and engine to run at optimal levels with lower fuel and operating costs.”

John Bird, J.P. Carlton Company: “One, there must be a proactive maintenance plan in place. By just reacting to breakdowns and poor performance the mechanic will never have the chipper optimized. This plan must include daily maintenance along with scheduled services.

“Two, use qualified personnel. It is tempting to allow the ground men to become the maintenance men. Just because they run it every day does not mean they are qualified to work on it. This doesn’t mean you need an engineer to do your maintenance – but it should be a trade mechanic.

“Three, use the correct parts for repairs. Too often parts are replaced in the field with ones that look similar and bolt up. There many variations of these components that the manufacturer evaluated before selecting the proper component. Oftentimes these ‘will-fit’ components do not have the performance of the original part and even more often they do not give the service life.”

J.R. Bowling, Rayco Manufacturing, Inc.: Oftentimes, the items that get neglected in chipper maintenance and repair are those items that do not shut down the chipper and actually prevent it from working. This is including, but not limited to, the following: Broken safety switches get bypassed rather than repaired/replaced; feed-wheel yoke lock bars get lost and not replaced; engine air filters get blown out too often when they should be replaced; dual-element air filters often get only the outer element replaced and the inner element gets used beyond what it should be; and, clutch and belt adjustment.

Sal Rizzo, Salsco, Inc.: “Sharpening the blades, sharpening the blades, and sharpening the blades.”
he explains. “Increasing airflow may help in discharging the chips, but it may also create some blowback. The exclusive, patented Power Slot on Bandit chippers increases the discharge power of our machines by supplying air on the backside of the drum, eliminating the vacuum effect that can be created there.”

14. Check the tire pressure, brakes, and axles. “Anything that makes the chipper tow easier helps the tow vehicle save fuel,” Bird explains, adding that en-route expenses are becoming a more significant piece of the cost formula for tree care companies.

Who has the better mousetrap?

While the experts’ opinions sometimes overlapped, there was one area they all seemed to be in agreement on. Not surprisingly, they felt that their company’s “mousetrap” was better than the others on the market.

Their designs offered the most effective performance, and therefore the most efficient use of fuel.

Many manufacturers have blade design and other options that make a difference in the fuel efficiency as well. Kainz notes that his companies chipping blades are reversible and forged from heat treated, machined tool steel to provide prolonged performance under the harshest conditions. Rizzo says that his chipper blades are angled differently than others, making them able to chip significant amounts with less horsepower.

Burton states that the patented cone drum on Dynamic chippers saves fuels because it cuts more efficiently.

“It does save fuel because it uses less energy by making slicing cuts instead of chopping,” Burton notes. “Other cone drum benefits are that the knives stay sharp longer (because they slice, not chop), the actual chipping is quieter and vibrates less.”

Design of the blades is one of the big differences between different makes of chippers, says Campbell. Another is reducing moving components, which is why Terex Woodsman uses an electric-powered design over hydraulics, so there are fewer components in the in-feed system, making it easier to maintain. Terex Woodsman also has a different cutting system that Campbell says is a fuller and more efficient system, which has the additional benefit of packing a higher volume of wood chips into a smaller area.

As a result, he says, “At the end of the day you can get more material in the back of the truck, therefore you have less travel time, less dumping, so you’re burning less fuel in your truck.”

Ultimately, it’s up to the consumer to study the options and decide which chipper is right for them.

In general terms, Rizzo says, the best bet to keep any machine running efficiently is to take care of it.

“Keeping things sharp, clean and in the proper adjustment is the best thing anybody can do,” he says, “and choose the right tool for the job.”

Bowling agrees. “The most important thing is keeping them sharp,” he says. “There may be gimmicks and tricks, but keep them sharp and your chipper will have an easier time slicing through the wood.”

Most modern chippers are equipped with an autofeed system, such as JP Carlton’s Model 2018 18-inch capacity chipper above, optimized to allow the engines to work in their most efficient zones. “Mechanics need to verify that the autofeed system is functioning correctly and the parameters are set to factory specifications,” Carlton’s John Bird cautions.
How do customers choose a tree care company? The decision is often the result of a process involving both logical and emotional factors such as location and the recommendations of influential people, namely friends.

These days fear may also be part of the equation, because in a restrictive economy such as this, the desire to minimize downside risk may often outweigh other factors, including price.

This shift in buying behavior indicates consumers are placing a premium on peace of mind, something that is a byproduct of personal relationships that are grounded in trust. Smart companies know trustworthiness is vital for sustaining a business in both prosperous and challenging times.

**Design your business around your customers**

People are hardwired to connect and engage with others. This is why it is important to understand the influences of social media on business in general, as well as using it to better understand and serve your customers.

Embracing social marketing is much more than adding a social layer on top of what used to work. It is essential to start fresh by redesigning traditional practices so that social is baked into every aspect of the business, from sales and marketing to customer service.

Here are the relevant social qualities that are now part of the fabric of our business environment. Integrate them into your business process to make it relevant for the trust economy.

1. **Visibility** – What makes social media effective for small businesses are the countless ways it enhances their visibility. Creating a distributed presence on multiple social networks is necessary for ensuring the future relevance of your business.
2. **Authenticity** – Customers want to have a relationship with you and your company. They want to know what’s going on behind the scenes. They are curious, and that curiosity has to be fed for those relationships to flourish.
3. **Accessibility** – The Web gives everyone more access to people, companies and causes. This has conditioned consumers to expect to have open access to your business – and especially with you, if you are the owner or one of its leaders.
4. **Community** – It is no longer possible to be successful without a meaningful relationship with the communities you serve, the author says. That may just be an old idea newly applied with social media.
5. **Relevance** – Savvy businesses understand their communities care most about the little things that only an insider would know. When you speak the language of your communities, a bond is created that supports the ongoing relevance of your business.

**Social Media**

Four tree care companies, including three TCIA members, took part in an Arbor Day volunteer project in Portsmouth, New Hampshire this year. It is no longer possible to be successful without a meaningful relationship with the communities you serve, the author says. That may just be an old idea newly applied with social media. TCIA staff photo by Kathleen Costello.

Trees are social objects

Ford Motor Company has been a leader in shifting marketing dollars from tradi-
tional channels to social media. They scored a notable success with a $15,000 investment in a video that has earned more than 40 million YouTube views.

One of the lessons to learn from Ford’s experience is people instinctively engage with and share anything that is interesting, entertaining, educational or useful in some way. This is what lubricates the social networks. The challenge is to learn how to do this with your brand.

Jim Farley, Ford Motor Company chief marketing officer, notes that cars are social objects. People often have a special relationship with their automobiles – making them much more than transportation. They are indeed opportunities for the social engagement and sharing that is traditionally referred to as word-of-mouth advertising.

If cars and trucks are the social objects for Ford Motor Company, trees are most certainly the social objects of your business. People are often emotionally attached to their trees. They have a relationship with them, and that should be reflected in the marketing, sales and customer service of every tree care company that wants to be relevant in the trust economy.

Take care of your customers and their trees and they just may share your good work with friends, including their social media friends. The stories, photos, videos and other digital social objects that are shared on the social networks all create nodes that are potential connections to new relationships and business opportunities.

Meet your new business partners

The customer may not always be right, but they have a voice – and that gives them influence over your brand. Traditional marketing and advertising was a process in which the enterprise controlled the brand. Now customers have access to information and media, too, which collectively gives them tremendous leverage.

What matters most in a trust economy is not what the business is saying, but what customers are saying, whether that is within local communities or on the social networks. Businesses that are succeeding today have acknowledged that as a result of new media they are in shared relationships with customers, employees and other influencers in the community – even competitors.

Respecting these quasi-partnerships is smart business. As Ford CMO Farley suggests, let your customers own your brand, because the truth is they already do. The paradox is by letting go of your brand you will naturally focus your business to be more customer-centric, with your loyal customers then doing your marketing for you.

Marketing today is driven by the customer. The old mindset was one of finding customers for your products and services. The new one is to find products and services for the customers whose trust you have earned. It’s a fundamental shift that when embraced will grow and sustain your business in the trust economy.

Jeff Korhan is a professional speaker and digital marketing consultant who helps green industry businesses use social media and Internet marketing to enhance customer relationships and accelerate business growth. He will be speaking on this same subject at TCI EXPO 2012 in Baltimore this fall, November 8-10. For a full TCI EXPO schedule or to register online, visit expo.tcia.org.
By Rick Howland

While it’s true that mini or backyard aerial lifts have revolutionized the tree care industry in just a few years by eliminating many climbing hazards and increasing productivity, it’s important – critical actually – to note that they present their own set of safety concerns.

Virtually all the safety issues surrounding mini aerial lifts have to do with their operation, as opposed to the lifts themselves. Overcoming those issues, therefore, becomes a function of training.

Most reported mini aerial lift mishaps have to do with transportation and setup. Two of the major issues “in the trees” are using the lift as a crane to lift or lower material, and trying to muscle the lift and platform into and out of the branches. Either maneuver can cause the lift to tip and, in most cases, to automatically shut down. This can leave the operator safe, but stranded.

Ebbe Christensen, president & CEO of Reachmaster, a TCIA associate member company, assessed the use of these aerial lifts in tree care by saying, “These lifts are not entirely minis as some people call them, given reaches from 39 to 170 feet.” He adds, “The main focus we have seen recently (among tree care buyers) is in the smaller ones in the 39- to 123-foot class.”

Reachmaster offers lifts ranging in reach from 39 to 121 feet. “For a lot of applications, especially with many trees in the 50-foot range, a 72-foot lift is fine; that’s where we have seen the most interest,” he says. “There is no doubt the lift is one of the safest ways to get in and around trees.” He cites as an example of a popular lift among tree care users the ReachMaster BlueLift, with four models ranging from 39 feet to 72 feet. They feature dual power with 110V AC current and the Honda 440ix or Hatz diesel engine.

“What accidents we see are mostly getting to and from the worksite. With our product line, we have never had accident at the worksite. Mostly accidents occur on transportation and setup. This is common, not only for our brand,” says Christiansen.

According to Christiansen, “We typically see three activities as dangerous.” “One is offloading the lift from the trailer to the worksite,” he says. “Most lifts have settings on their tracks” (to narrow the lift’s footprint so it can pass through a gate, for example, and to widen them to standard width for stability while moving, especially on irregular terrain). “The operator may forget to set the tracks on the wide (more stable) position when moving, which can present a tilt risk.”

Second, Christiansen says, “One of the things we really see as an issue is the need to use footplates under the outriggers. At
the worksite, the unit needs to be secured with the outrigger pads set on large plates.”

The purpose of these footings, larger than and placed under the outrigger pads, is to spread the unit’s weight over a larger area, he explains. He adds that creating a larger footprint helps prevent the lift from settling into soft ground or even into the macadam of a parking lot, which can get soft on a hot day. They can also help prevent the outrigger feet from sinking into unseen subsurface gaps caused by underground pipes, etc.

Third he says is the use of harnesses. Christiansen is a member of the International Powered Access Federation (IPAF) and its North American subsidiary, American Work Platform Training (AWPT). The IPAF promotes the safe and effective use of powered access equipment worldwide, provides technical support, legislative and standards support as well as safety initiatives and training programs.

Says Christiansen, “I serve on the AWPT’s North American council on safety and have seen the success achieved in using harnesses. Unfortunately in this (tree care) industry, operators tend to get cavalier about going up only 30 feet. The lanyard needs to be correct, and it needs to be used,” he says, “no matter the lift height.”

Tony Grout is executive VP of the Schenectady, New York-based AWPT. His group reports that there are nearly a half million aerial lifts in use in North America.

“These types of so-called backyard aerial lifts are convenient, and the tree care industry sees them as a very safe way to operate,” he says. “Though they come with an outrigger plate (a stabilizing foot), that is not enough, especially when the lift is used outdoors and in the differing locations one finds in the tree care business, where you may not know what’s beneath the surface. These machines are sensitive to unbalance, especially if the ground gives way as the outrigger compresses the surface. They note the slightest movements and will shut down the lift.”

“That usually tells us the operator used only the outrigger foot plate but not the support plate. Once the outrigger compresses the surface, it will kick in the safety system and stop the machine. The real danger is not knowing what is beneath the outrigger and thus the risk of tip-over. This is extremely important outdoors. Even on asphalt, depending on circumstances, the surface can be soft. We promote the use of lifts outdoors always with a footplate. It can be any material, from fancy to wood,” Grout says. “When rotating a lift, you can transfer as much as 80 percent of its weight onto one outrigger, so you need to know the ground beneath will support the weight.”

He continues, “Another problem area is when the lift is in the air in the top of a tree. After accomplishing their tasks, operators sometimes have a tendency to want the machine to simply pull out. If the tree is strong, the boom is likely to get caught among the branches as the power source retracts it, and an outrigger will lift off the ground. NEVER try to get out of the branches this way.”

Grout explains that while the machine might free itself, it might not. If not, the tip-over warning and shutdown systems may become activated and the operator will be stuck if one or more outriggers lift and shuts down the machine.

He adds that there are emergency systems and procedures in place to bring the operator safely to ground. “The key in situations like this is to never force a machine to do what it is not intended to do. Instead, look at situation, how you got into the bind, and reverse the procedure.”

“Another thing,” says Grout, “When you go into a jobsite, walk your route first. Look for changes in elevation, potholes. Even sidewalks are not always safe with gaps or vines beneath. Look at the surface you’ll be traveling over as you go in. Simply driving off the edge of a sidewalk or curb can cause it to tip over.”

As an expert in aerial lift safety, Grout states that work platform safety is almost identical regardless of what you have for a machine – truck-mounted, self-propelled boom, scissor lift or backyard lift. “Safety is generic over all kinds of aerial work platforms,” he says. “The first thing is to follow ANSI and OSHA standards, then (get) a defined level of training for the equipment you are using.” He warns that training should be ongoing. “What you learned a year ago will not keep you safe in
more than 85 percent of aerial work plating to the insurance industry statistics, And only dummies don’t wear harnesses.”

that these lifts are not to be used as a crane.
equipment or the workers below. Know
ards that can occur when you are in the air,
and electric power. Look for potential haz-
ations where bodies were in direct contact
50 percent of fatalities involve electrocu-
tions where bodies were in direct contact
move slowly and lightly on interior floors.

“Because, in the tree care industry especially, these machines wind up in the worst possible locations, outrigger pads are very important. Always make sure the ground is firm and solid and your machine is not exceeding the manufacturer’s recommended slope.”

Lenny Polonski

form accidents are the fault of the operator.
“So, as an industry, the operator is the last line of defense. The employer needs to know the operator is properly trained, has the equipment and is in complete safety compliance.”

Lenny Polonski, president at All Access Equipment, is of the opinion that, “If you can’t get the lift to the jobsite, any lift is useless, (truck-mounted) bucket or mini. My first priority would be to ensure that my lift fits through that 3-foot gate.”

“Did you know that 60 to 80 percent of privately owned trees are inaccessible with a (truck-mounted) bucket and that 90 percent are never near energized lines. So, even though dielectric protection is important, (under OSHA and ANSI regulations) unless you are a certified line worker, you are supposed to stay at least 10 feet from any energized line, and all overhead lines – even guy wires – should be considered energized with potentially fatal voltage.

“All in all, a lift makes more sense than climbing,” Polonski says. “When you climb, you tend to just drop cut material, as much or more than lowering it with a rope. But with a lift, operators tend to be safer in at least guiding cut material.”

For Polonski, one of the biggest safety issues is related to the lifts themselves. “They need to be beefy and heavy duty. Small lifts were initially built to be light, originally designed to clean glass and to move slowly and lightly on interior floors. Speed is another issue. Tree guys want to move fast-fast-fast. A good lift is a balance of weight and speed.”

He adds, “A safety monitoring system is also important. Reason being is, if you are operating a machine that relies only on weight for safety, you get limited protection. For example, you can even flip a bucket truck, but these smaller lifts that are much lighter. A 78-foot lift might weight 7,500 pounds and a 75-foot bucket weighs nearly 31,000 pounds. Our 78-foot lift weighs 7,495 pounds, and the optional retractable tracks bring it to 8,731 pounds. These systems monitor all the lift’s functions and can shut it down if a danger, like imbalance, is detected. Most (mini or backyard) lifts have these computer monitoring systems, and some are better than others,” Polonski adds

“Because, in the tree care industry especially, these machines wind up in the worst possible locations, outrigger pads are very important. Always make sure the ground is firm and solid and your machine is not exceeding the manufacturer’s recommended slope,” he adds.

Polonski’s company sells 50-, 60- and 78-foot Crawler Lift units, which he favors because they are “beefier than the competition,” he says, which helps them stand up to the rugged demands of the tree business and allows them to move faster safely.

According to Curt Blank, president of TCIA associate member All Terrain Aerial Lifts and a tree care professional himself for three decades, “We are working around high voltage and obviously need something to keep us from being electrocuted. This is the most critical thing in tree care.”

“However, there are other things we have developed such as ground stability sensing,” he notes. “As the lift reaches out, it senses if the ground is unstable. One guy called me; he had been using another lift and, not realizing it, set it up above a septic tank. When he reached out with the boom and put weight on the side above the septic tank, the ground collapsed and sent him flying. (Blank did say if the operator was wearing a harness.) He was in rehab a long time. Our machine would have prevented that, sensing immediately as the ground began to sink and freezing the lift. The sensing system locks the machine only in the ‘in’ and ‘down’ modes, and will not
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allow it to go ‘up’ and ‘out’ further,” Blank says. “Of course, this costs more to engineer-in, but that can save how many lives?”

Blank also promotes the fact his machine is made of all steel. “This is important to the tree care industry compared to machines made of aluminum. Steel has less flex and is therefore stronger and safer,” he concludes.

All Terrain Aerial Lifts offers an extensive line of lifts ranging from 20- to 133-foot working heights, including trailer-mounted, wheeled and tracked lifts. The company specializes in compact versatile lifts that can go through a 36-inch gate or door. These include the MLE/ATAL line of insulated compact lifts with working heights of 80 feet and a 34½-inch width, and the 40- to 70-foot trailer-mounted or self-propelled NiftyLift line, plus the Snorkel lifts boom and scissor lifts. The recently added Oil and Steel line of aerial lifts offer a reach 40 to 60 feet and are just 31 inches wide.

According to Andy Price, market manager for tree care for Altec Environmental Products, “Safety-wise, we begin with training as we do for any of our products. That includes a video and manuals. Our Birmingham group offers extended training for any company that requests it. That’s in addition to the service training we do on delivery, usually through the account manager.

Right now, Altec offers one model of mini lift, the AT37-GW, an insulated model with a 40.3-foot reach. Price says Altec’s lift was adapted from a truck-mount version. Enhanced outriggers were added for better stability along with an adjustable, narrow-to-wide track drive. But, Price says, “We have plans for another product in the preliminary stages. We are exploring a taller unit.”

The Altec lift has a side-to-side alarm. Used only while moving under its own power, an alarm sounds when the lift gets close to its stability limits when under way. Price warns that, “any time the unit is moved, all manuals and training recommend keeping tracks at the widest possible settings for stability. The only reason to bring the tracks in is to get through an opening like a gate. After that, return them to the full extension for transport.”

The Altec lift also features an outrigger and boom interlock system, which means the boom cannot be deployed from its stored position until the outriggers are fully extended and the outriggers cannot be retracted until the boom is retracted and in its stored position. The bottom line is that while these mini or backyard aerial lifts eliminate many of the safety concerns inherent in climbing and rigging, they come with a different set of concerns, most if not all of which can be addressed with three things: training…training…training.
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Beginning in November at TCI EXPO, tree workers will be able to obtain “free or almost free” training in brush chipper operation through a series of regional workshops organized by TCIA. What’s more, the training will use a nationally recognized curriculum, provide the tree worker with a certificate of attendance, and be offered in English as well as Spanish in selected locations.

This training would not have been possible without manufacturers’ generous support and assistance. TCIA thanks Altec Industries, Bandit Industries, Morbark Inc. and Vermeer Corporation for their support of this project.

TCIA’s safety department created the workshop curriculum, the Chipper Operator Specialist program. TCIA is recruiting and training a group of qualified instructors to disseminate training around the country. The training and all collateral materials will be made available in English and Spanish. Arborists who attend this mini-workshop will earn a meaningful credential that they can be proud of, and that follows them in their career advancement in arboriculture.

The typical tree crew is made up of two to three individuals, with the brunt of the brush chipping duties typically assigned to the person with the least experience. Strong anecdotal information from the field tells us that chipper operators receive little or no formal training on chipper operation and field maintenance. This knowledge gap is aggravated by annual employee turnover rates as high as 100 percent in some sectors of the profession. Unfortunately, much of this turnover is concentrated among entry-level employees, the very same people most likely to be operating chippers! Furthermore, cultural and language barriers can get in the way of effective training.

The first Chipper Operator Specialist training event will be held on Friday, November 9, 2012, at TCI EXPO in Baltimore. In this pilot training event, all four sponsoring manufacturers will have their safety specialists and, of course, their equipment on hand to enhance the workshop experience. In approximately 20 regional workshops that will follow, each sponsoring manufacturer will take its turn hosting events.

For more information about the upcoming TCI EXPO workshop, go to www.tcia.org and under the Training tab, click on Tree Care Academy, and stay tuned for more details on regional workshops.
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Contractor killed in fall while removing limb from tree

A contractor removing limbs from a storm-damaged tree July 2, 2012, in Garrett County, Maryland, fell 30 to 40 feet and died, according to The Washington Post.

Bystander struck by cut tree

A 72-year-old Simsbury, Connecticut, man was flown to the hospital after part of a tree being removed by tree workers hit him on the head July 3, 2012.

George Craig Roselli was out for a walk and was in his driveway when he was struck in the head and shoulder. Workers from a tree service who were cutting down trees and limbs along a driveway in the development cut a part of the tree that fell and hit Roselli. Roselli was conscious, alert and talking, when taken from the scene, but was later reported to be in critical condition, according to NBC Connecticut.

Crane operator hurt in collapse

A crane operator suffered a broken leg after a crane working on an oak removal with a tree crew tipped over in Bethesda, Maryland, July 7, 2012.

Contributed by Rich Godwin, CTSP, operations manager for Mead Tree & Turf Care, Inc. in Lisbon, Maryland.

Worker hospitalized after fall from tree

A tree service worker was taken to the hospital after falling several feet from a tree in Springfield, Massachusetts, July 9, 2012. The worker’s injuries were believed to be minor, though no other details were immediately available, according to a WWLP-22 News report.

Man shocked trimming tree

A 44-year-old man was listed in critical condition July 9, 2012, after sustaining serious burns to his body when his hand touched a high-voltage power line as he attempted to trim a tree in Glen Head, New York, on Long Island. Firefighters removed the worker from the tree, who was then airlifted to the hospital, according to a report on glencove.patch.com.

Shock victim suffers amputation

A Torrington, Wyoming, man who suffered severe burns after a tree-trimming accident July 16, 2012, lost part of his arm but is recovering. Zacharia Chavez was working out of an aerial lift bucket when he and/or the bucket made contact with electrical wires, according to The Torrington Telegram report.

Tree worker found dead in tree

Emergency workers found a tree worker unconscious about 100 feet in a tree in Willow Spring, North Carolina, July 16, 2012. Johnny B. Blackman, 44, was brought down from the tree and paramedics pronounced him dead at the scene.

The sheriff’s office received a call in late morning about a man stuck in a tree who appeared to be passed out. It was unclear if Blackman, who was working for a family who wanted the tree cut down, was self-employed or working for a tree care company, according to The News & Observer report.

It was unclear how long Blackman had been in the tree or how he died, but authorities said it appears his death was accidental, according to a www.wral.com report.

According to his obituary, Blackman served on the North Carolina State Highway Patrol for nearly 20 years and was employed with the North Carolina Department of Correction for two years.

Tree worker hurt in struck-by

A tree service worker was seriously injured July 18, 2012, in Raleigh County, West Virginia, when part of a tree fell on him while he was trying to remove a fallen tree from a power line.

Emergency responders found the tree service worker unconscious upon arrival at the scene. Part of a tree, approximately 40 inches in diameter, fell on the victim.

The extent of the victim’s injuries were unknown at the time, but he was responsive when transported to the hospital, according to The Register-Herald report.
Tree worker stung by bee swarm

A 52-year-old tree worker was stung possibly hundreds of times and found unconscious after a bee attack July 18, 2012, in Las Cruces, New Mexico.

The man was one of four workers with a tree removal company attacked by the swarm while they were cutting down an old cottonwood. The man was covered in bees and lying unconscious on a driveway when firefighters arrived. Firefighters used foam and water to scatter the bees. The man was taken to a medical center where he was in serious but stable condition.

Two other workers were also stung. One man was treated at the scene and the other was treated at a hospital and then released. Authorities were working to find out how to deal with the bee colony living in the tree, according to the El Paso Times.

Tree worker hurt in 60-foot fall

A man was injured July 19, 2012, after falling about 60 feet while trimming a tree in Lexington, Kentucky. Ray Neal, who was working for a tree service company, was wearing a harness, but something apparently went wrong and he fell. Neal was unconscious for a time, but had regained consciousness by the time emergency officials took him to the hospital, according to co-workers. He was listed in serious condition at the hospital, according to a www.lex18.com report.

Three injured when cut tree hits home

Three people were recovering after a large tree fell on a Jacksonville, Florida, home July 20, 2012, causing the roof to collapse. Workers were cutting down a tree on a neighboring property when it crashed into the home. Three persons in the home, including at least one child, were hospitalized after they were hit with falling debris. Their condition was not known.

A witness reported that one of the tree workers got into his truck and fled after the tree hit the house, according to The Sacramento Bee.

Tree worker hurt in 20-foot fall

A tree service employee fell more than 20 feet in Annapolis, Maryland, July 20, 2012, suffering serious injuries. Emergency responders found the man awake, but with multiple, serious injuries.

It was not known how the 47-year-old fell out of the tree he was working on, according to an annapolis.patch.com report.

Landscaper killed in skid-steer mishap

A landscape company worker died July 23, 2012, in Indianapolis, Indiana, after the arms of a skid loader were lowered on him, pinning him between the arms and the frame of the machine.

Ronald Davenport, 53, of Indianapolis, had been standing on the side of the skid loader when the operator lowered the arms without knowing that Davenport was in the way. Davenport later died at a hospital.

Davenport and the skid-steer operator worked for a landscape company and were at the job site to remove a fallen tree, according to the WRTV Channel 6.
1. What was the leading cause of occupational (non-civilian) fatal accidents in “Accident Briefs” this month?
   a. Falls (any type)
   b. Electrocutions
   c. Struck-by
   d. All other causes combined

2. In “Get Your Mind Right,” the author says that the main reason for his accident was:
   a. His “tree frog” ascent system
   b. Trying to transition from an SRT to a DdRT climbing system
   c. His mental state at the time
   d. None of the above

3. Studies have shown that approximately _______ of all accidents can be attributed to human error.
   a. One-third
   b. 90 percent
   c. Half
   d. 25 percent

4. The following is a shortened anecdote from “Accident Briefs”: “The victim … cutting trees … from an aerial lift basket when the pole saw he was working with made contact with the…power line.” This is an example of direct contact with a conductor.
   a. True
   b. False

5. As indicated in several “Accident Briefs” anecdotes, burns are also a very serious concern when accidental contact is made with a conductor.
   a. True
   b. False

Certified Treecare Safety Professionals can earn one (1.0) “professional development” CEU toward their recertification by taking this short comprehension quiz that is tied to this month’s safety articles in this issue of TCI Magazine. The CTSP CEU Quiz is a bimonthly feature in TCI. This quiz is based upon information in the article: “Get Your Mind Right,” the author by Steve Castrogiovanni, page 14, and “Accident Briefs,” page 46.

To obtain CEU credit, you may copy this page, answer the questions and either fax the answer sheet to TCIA at (603) 314-5386, or mail to: TCIA - CTSP, 136 Harvey Road - Ste 101, Londonderry, NH 03053.

1 Only current CTSPs in good standing who qualify for professional development CEUs may obtain CEUs for this quiz. Other readers are encouraged to use TCI’s safety articles for training and may wish to use this quiz to test comprehension.

Company owner killed when boom fails
An Auburn, Indiana, tree service owner was killed July 25, 2012, in Holiday Lakes, Indiana, after falling from the bucket of an aerial lift. Paul Graber, 56, died instantly of major internal injuries from the fall.

Graber and co-workers had used a logging chain to connect the bucket of the lift to a tree that had fallen into a lake in an attempt to raise the tree. The weight of the tree apparently led to something breaking in the machinery and the bucket fell, according to a WANE TV, Channel 15 report.

Man hurt in 35-foot fall
A man doing yard work was injured July 25, 2012, after he fell 35 feet from a tree in Shelton, Connecticut. The man was in the tree, cutting a limb off. The limb swung down and knocked into the ladder the man was on, causing him to fall about 35 feet.

One killed, one hurt after lift tips
One tree worker died and another was in the hospital after the bucket lift they were working from tipped over in Tignall, Wilkes County, Georgia, on July 26, 2012.

The two men were working to cut a tree when the bucket truck tilted and flipped over. When its boom hit the ground, it buckled and the two men were tossed across the road.

Mike Tanner, owner of Tanner’s Tree Service, was pronounced dead at the scene. The other man, Ben Combs, was taken to the hospital and was reported to be in fair condition the next day, according to the WRDW-TV News 12 report.

Trimmer electrocuted when pole saw hits power line
A 28-year-old tree trimmer was electrocuted while trimming trees July 25, 2012, in St. Joseph, Missouri. The victim was employed by a private tree company and had apparently been cutting trees over a property from an aerial lift basket when the pole saw he was working with made contact with the high-voltage power line.

Fellow workers started a backup (power source), were able to get the basket lowered, get him out of it and attempted to revive the unconscious worker, according to a police officer quoted in a St. Joseph News-Press report. Emergency responders rushed the unresponsive man to the hospital, but he died.

Trimmer dies in palm, electrocution suspected
A 31-year-old tree trimmer died after apparently being electrocuted and falling from a palm July 28, 2012, in Arcadia, California. Responding firefighters found the palm on fire with the trimmer, who appeared to have been electrocuted, harnessed approximately 20 feet up in the palm. Within moments of arrival, the fire (Continued on page 65)
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The ALVEO – because the best helmet is the one you forget you’re wearing
Training young trees is arguably the most important tree care management treatment we have to prolong the lifespan of a tree. It is also likely the most cost effective. In spite of these facts, it is a treatment that is overlooked by professionals or, even worse, not completed properly.

We see examples of poor pruning practices on young trees every day. Why is this? Most young and small tree pruning is not completed by the professional, rather it is completed by laypeople such as public works personnel, grounds maintenance staff and homeowners. Regardless who is completing the pruning, professionals and laypeople alike, it is in most cases not being completed properly, so perhaps it is how pruning is taught and presented that is the problem.

One of the limitations of the pruning methods taught today is the awkward blend of art and science. We’re sure you have heard the saying, “pruning is an art.” We believe that one of the most difficult concepts in teaching pruning is asking that the pruner visualize or imagine what the tree should look like when the pruning is finished or in the distant future. How are you at predicting the future?!

Enter The ABCs Field Guide of Young & Small Tree Pruning, illustrating our new method to pruning young and small trees. The ABCs uses an acronym system to lead you through the pruning process that is easy to recall. Forget trying to imagine what this tree “should” look like tomorrow or 10 years from now; the ABCs directs you to prune the tree based on indicators that are on the tree that is in front of you right now.

The following pointers highlight the basics of the ABCs.

**Bring your tools**

A sharp hand pruner, lopper, handsaw, pole pruner and clip should be it, right? Well, in addition to reviewing these needs, you need to understand pruning cut types and the objectives for making these cuts as “tools” required to complete proper pruning. In the ABCs Field Guide, pruning cut methods and objectives are clearly illustrated and defined. Several “rules of pruning” are standardized for repeatability throughout the pruning process. For example, pruning cut angles and the live branch area removal percentages, which are a melding of techniques from scientific research literature.
and industry practices, are standardized across various applications for ease of recall and use.

The ABCs of pruning

Our method follows each step, A through C, stopping when you have reached D – a prescribed dose. In each step, you will be asked to complete specific tasks, identify and prune specific problem branches, if they are present on the tree, with a brief description, pictures and illustrations. We have built redundancy into the pruning process, so all problem branches will be addressed to some degree, provided the prescribed dose will not be exceeded as you complete a step.

A – Assess the Tree

The first step is to evaluate the health of the tree. Visual indicators such as twig elongation, leaf color and size and crown density will result in specifying a prescribed dose of low, normal or high. The pruner will be asked to measure the dose as pruning proceeds and stop when the dose is reached.

The second assessment step asks the pruner to assign the tree to one of two pruning forms based on the tree’s present branching structure: A-Form or B-Form. As arborist, we know that different tree species have a genetic code that directs the tree toward being an excurrent or decurrent form. The truth is, though, that the individual tree in front of us is telling us its natural form based on the environment it is living in and its own genetic signature. As a result, we suggest pruning the tree based how it is presently expressing growth. If the tree is an A-Form the pruner proceeds to Step A-Apical Dominance. If it is a B-Form, tree the pruner skips the apical dominance step and proceeds to the B-Bad Branches step.

A-Apical Dominance

A-Form trees will be pruned to a single central stem. In this step, the pruner will select a central stem and suppress any branches competing for apical dominance with the central stem using heading cuts.

B-Bad Branches

Branches that are dead, damaged, diseased, rubbing or have bad branch attachments will be identified and pruned.

C-Competing Branches

The competing branches section includes the largest number of steps beginning with Clearance. The pruner is asked to decide if the tree will be a raised-branch tree or remain a low-branched tree. For raised-branched trees, branches in the lower one
third of the total height of the tree may be removed for clearance purposes. Branches above this height will be suppressed if they are causing clearance issues.

Next, codominant stems are identified and removed or suppressed. Competing laterals, which are lateral branches competing by virtue of their size relative to the central stem or symmetry on the tree, are the next step. Next is Multiple Branch Attachments, branches attached at the same or nearly the same point on the central stem, followed by Vertical Spacing. Rather than specifying a spacing requirement that is challenging to recall, branches whose branch collars are touching or nearly touching in the same vertical plane are addressed. Finally, branches that are crossing but not yet touching will be pruned to complete the ABCs.

The final two sections of the field guide provide additional guidance, including the time of year to prune, a more detailed illustration of determining branching height, the “Don’ts” of pruning, and before and after photos of trees pruned using the ABCs.

We have been pruning trees and training people to prune trees for many years. There are numerous good guides to pruning trees available today. It has been our experience and observation that in spite of this information, trees are most often over-pruned, over-raised and critical defects, such as codominant stems, are left, resulting in subsequent problems. Perhaps in our interest to be thorough, the industry has inadvertently blinded our trainees with science and they can’t see the trees for the forest.

The ABCs is a simpler approach, blending just enough science and presenting the pruning task in a format that addresses the pruning needs of most trees in the landscape in a manner that is logical and is easy to repeat and recall.

Andrew G. Pleninger is a vice president and consulting arborist with Urban Forestry LLC in Palmyra, New York. Christopher J. Luley, Ph.D. is a vice president and pathologist with Urban Forestry LLC, in Naples, N.Y. The ABCs Field Guide of Young & Small Tree Pruning can be purchased from TCIA’s online store at www.tcia.org.
Are all tree accidents tree care industry accidents?

When TCI comes in the mail, the very first article I review is the Accident Briefs that Peter Gerstenberger and the TCI Magazine staff put together each month. Some of these accidents are very clearly accidents that involve homeowners and other nonprofessionals. But many are listed as happening to a “tree worker.” The question is, what is a tree worker?

The accompanying photo (at right) was taken near Boston in July 2012 and you can see from the truck that this company does everything from, “clean outs” of barns to tree “takedowns,” and they are “fully insured.” The question is, when a worker on this crew gets hurt, will this “accident” be listed as happening to a “tree worker”?

On the day I saw this truck, I was waiting for my wife when I heard a chain saw. When I walked over to see the “tree crew,” I found this truck and three workers removing a tree from the ground that was growing into the utility lines. All three workers had on a T-shirt, shorts and sneakers. No hard hat, no safety glasses, no work boots, no hearing protection and no chain saw chaps. The man using the saw to fell the tree had one worker pushing the tree by hand while he cut; remember this tree was in the wires. The chain saw was about 18 inches from the workers’ legs, and a kick back would have taken out the worker pushing the tree.

I informed the crew leader of what I thought of his operation and left the work site as fast as I could. There is no question in my mind that it is only a matter of time before one member of this crew is going to be seriously hurt and Peter and TCI will be listing the “accident” in the Accident Briefs.

The question is, are these people “tree workers”?

I don’t think so, but will OSHA and the insurance industry list this accident as happening to a “tree worker”? When accidents take place in a company like this and they are listed as a tree company, it has a negative effect on all of the professional tree companies. There is no question that it will at the very least affect our relationship with OSHA and our/your workers’ comp insurance rates.

In Massachusetts and in most states, if you can buy a chain saw, you can be in the tree business, sad but true. H. Dennis Ryan, Massachusetts Certified Arborist, Chair Z-133 Committee, Amherst, Massachusetts

Safety violation in TCI photo

We received the July issue of the TCI Magazine and were somewhat stunned and appalled at what we saw. On page 12 there is an image demonstrating that the tires of the crane truck should be off the ground. In this photo, there is a crew member operating a chain saw above his shoulders; a clear violation. For an industry that requires us to follow OSHA standards and laws to perfection, we found it rather odd that you would publish a photo that so clearly violates one of the biggest rules...

Also, this is not the first safety violation we have discovered in TCI Magazine; a photo related to chain saw use showed an operator with his thumb resting on the handle rather than wrapping it! We’d appreciate your attention to this matter.

Race Mountain Tree Service crew, Sheffield, Massachusetts

Peter Gerstenberger TCIA’s senior advisor for safety, compliance & standards, responds:

Thank for your letter. Indeed there is an arborist operating a chain saw over shoulder height – over his head in fact – to trim a limb being lowered by a crane. While technically it isn’t an OSHA or ANSI violation to operate a saw over shoulder height, it is certainly an unsafe practice that is...
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Climbing, rigging, selective pruning, crane work, tree removal, new installation & basic care & equipment maint. Customer service, problem solving ability, & special attention to detail & safety. Good driving record a must. Arborist/Tree Expert cert. a plus. Salary & benefits based on experience. Fax resume to (301) 774-9406, or email kkey@ashtonmanorenv.com

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We are looking for Estimators, Groundspeople, Climbers, and Foremen to join our team of ISA Certified Arborists in California.

Contact us at 888.969.8733 or email us at hr@arborwell.com. Hablamos español.


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Part-Time Regional Outreach Coordinators

TCIA’s newly created outreach coordinator positions will concentrate on creating groups of tree care business owners who meet and interact regularly (face-to-face and online) and facilitating increased participation in TCIA programs via regional workshops that address both owner and employee needs (EHAP, CTSP, etc.). Regional coordinators will live and work in their assigned regions to organize member gatherings (breakfasts, after hour’s gatherings, etc) where current members interact prospective members are invited to see what they are missing. Coordinators will work to strengthen the visibility of professional tree care through consumer awareness opportunities at events, via social media, and traditional press. Target areas for coordinators are Southern California base for West coast area and Atlanta to Charlotte corridor base for the Southeast area. Other locations will be considered depending on strength of the candidate, local industry, location, and TCIA strategic plans. To read the complete job description, requirements and application details, visit www.jobs.tcia.org. Resume and cover letter to: Bob Rouse, Rouse@tcia.org.

Tree Climber

Exp Tree Climber wanted for est tree co. Team player, motivated, cert arborist a plus, valid drivers license. Email resume to acorntreecare@comcast.net.

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Take Your Career a Mile High. With roots proudly planted in Colorado’s soil since 1947, we’ve grown into one of America’s most respected landscape care services. We’re searching for a Trim Field Supervisor to join our more than 200 passionate green-industry professionals in Denver. Swingle offers year-round employment in the sunny Colorado outdoors, plus top industry wages and benefits. If you are a results-oriented, motivated individual looking for a growing company recognized for safety and legendary service – we need to talk to you.

- 2-5 yrs’ climbing & pruning
- Supervising 5-15 treecare employees
- CDL (or ability to obtain in 90 days)
- ISA Certification, Degree & CTSP preferred

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- ISA Certification, Degree & CTSP preferred

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Experienced Bucket Truck Operator/Climbers, Salem, OR

We provide high quality tree care for residential and commercial clients. We offer a 4-day work week (10 hrs), benefits and vacation. Email ftreei@proaxis.com Attn: Elwood.

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**Plant Health Care Manager**

Plant Health Care Manager/Sales Arborist for small but growing tree care company dedicated to excellence. Must possess or soon obtain ISA Certification, a Maine Pesticide License and CDL. Extensive knowledge and experience in plant health care and GTW necessary. Excellent organizational and communication skills necessary as well as a supportive team attitude. Competitive compensation packages offered. Contact Jeff info@welltreeinc.com or apply www.welltreeinc.com.

**Sales Arborist, CT**

Growing tree and lawn care company in business since 1957 looking for an experienced, goal driven sales arborist with more than 3 years’ experience. Offering highly competitive benefit packages including health insurance, disability insurance, profit sharing, and 401(k). Base salary plus commission and a signing bonus. Please fax or email resume to (203) 272-0393 or hr@totaltreecare.com.

**Nels J. Johnson Tree Experts**

One of Chicago land’s premier arboricultural firms, has an excellent opportunity for a Certified Arborist/Client Representative: ISA Certification, experience in Arboriculture, excellent knowledge of tree physiology and application of arboriculture terminology. Excellent tree identification skills, clean driving record, attention to detail, excellent communication skills, self-motivated & goal oriented and computer experience. Additional Information: Salary commensurate with qualifications and experience. Nels J. Johnson Tree Experts offers excellent benefits package which includes 401(k), full medical, company vehicle, cell phone and possibility of housing. Pre-employment drug screen & E-Verify Social Security Number verification required. Apply to hr@nelsjohnsontree.com Phone (847) 475-1877 or fax (847) 475-0037.

**Utility Line Clearance Supervisor/General Foreman**

Energy Group, Inc. currently has openings in Michigan, Ohio and Indiana for a Utility Line Clearance Supervisor/General Foreman, for trimming operations with a major electric utility provider. Qualified candidates will possess: extensive experience estimating projects; interpersonal skills to build solid business relationships; ability to provide direct supervision of field personal and communicate and assess their work quality and production rates. Minimum of 5 years’ work experience in a similar position. Certified/Utility Arborist, Forestry Degree, or similar credentials preferred. Energy Group, Inc. offers a highly competitive benefits package including top industry pay. Company will assist with re-location costs. We are interested in ambitious candidates seeking career growth. Please forward your resume with references and salary requirements to: Fax (313) 491-1482, Email: mdonnellon@energygroupusa.com

**Certified Arborist/Production Supervisor**

We are looking for an exciting new member for our dynamic team of arborists. How would you like to be with a company that is at the very beginning of a significant growth phase? A company that is willing and able to teach you everything you need to know to succeed? A company that wants to give you the training and the opportunity you’ve been looking for? With hard work and a willingness to learn, you will have the opportunity for exponential growth. Join us and grow with us! We are hiring a skilled, bright, committed ISA certified arborist who is a natural people person, talented climber and able to manage others effectively. Inspire. Be inspired. Capital Arborists, Inc., “Inspired Tree Care” Send resume to: info@capitalarborists.com; P. O. Box 276023 Sacramento, CA 95827; or fax: (916) 400-4770.

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**Maintenance Worker Public Works Dept. Mount Prospect, IL**

Skills include parkway tree maintenance (including pruning, removal, cabling, climbing, aerial truck operations, etc.), inspection of contractual tree services, street tree data collection, answering public inquiries, and tree insect and disease abatement. Associate’s or four-year degree in forestry or related field required. Must be ISA Cert. Arborist or ability to obtain within 1 year of hire. Perform a variety of tasks necessary to achieve goals of the department, as determined by the Director, using manual labor and construction trade skills; operates one or more types of equipment including motorized tools, saws, etc.; and other duties as assigned. The work often requires extensive physical strength and endurance, including the ability to stand, bend, pull, push, kneel and regularly lift more than 100lbs at any time and to withstand extended exposure to the elements. May be assigned and rotated at the employer’s option to any job assignment or any shift. On-call and overtime work assigned by rotation among all maintenance employees. Must obtain a valid Illinois CDL Class B vehicle operator’s license within 90 days and an Illinois pesticide operator’s license within six months. Starting Rate: $24.29 - $32.97 depending on qualifications. Any offer of employment will be conditioned upon the successful completion of a pre-employment physical, which includes a drug and alcohol screen. Probationary period of one year. To apply, submit an application and resume to the Mount Prospect Public Works Department, 1700 W. Central Rd., Mount Prospect, IL 60056 fax: (847) 253-9377; phone: (847) 870-5640; pwjobs@mountprospect.org. Application forms are available for download at www.mount-prospect.org.

**Sales, Climbing & Plant Health Care**

Sales, Climbing & Plant Health Care

**EQUIPMENT FOR SALE**

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**Tree Care Manager in the San Francisco CA area**

We offer job stability in addition to a competitive pay pkg. Includes promotion opportunities, health benefits, paid holidays & paid vacation. Must be highly motivated, cert. arborists with 3-5 years’ industry experience. Previous tree care & management experience a must. Skills include computer competency and possess a clean MVR. Drug Screen required. No phone calls please. Email resume & cover letter via http://jobs.tcia.org/jobseeker/job/9615329.

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**Fulltime Tree Climber, Oakland County, MI**

Must have 3 years of professional experience, valid driver’s license, reliable transportation & ability to pass a drug test. Pay based on experience & knowledge of the tree industry. Email your past experience and contact info to kountoup@hotmail.com.
Equipment for Sale, Dubuque, IA

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'99 GMC 1 Ton 4x4 w/dump box
'91 GMC Dump Truck
'91 GMC Dump Truck w/ 20ft bed
'90 GMC High Ranger
'02 Falcon 125 Portable Lift
'93 Vermeer Stump Machine SC-752
'04 Vermeer Stump Machine SC-352
'03 Bandit Chipper 1850 w/Grapple

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Gross over $1M per year, turnkey operation, 56-year tradition. Owner retiring, available immediately. For sale: property, name, clientele and equipment. For serious inquiries call (908) 482-8855. Owner available w/transition.
Earning an ISA credential is voluntary and it demonstrates that you have the proper knowledge and skills, as well as a high level of commitment to your profession and your community. Set yourself apart from the competition and let your passion lead you to success. Become certified and join us in making the world a better place, one tree at a time.

**ISA Certified Arborist**
Candidates must be trained and knowledgeable in all aspects of arboriculture. This credential requires three or more years of full-time, eligible, practical work experience, or a degree in the field of arboriculture, horticulture, landscape architecture, or forestry from a nationally accredited educational institute with one to two years of practical experience. This certification covers a large number of topics giving the candidates flexibility in the arboricultural profession.

**ISA Certified Arborist Utility Specialist™**
Available to current ISA Certified Arborists® who have a minimum of 2000 hours (over 2 years) of electric/utility vegetation management experience or who have served as a consultant to a utility with a minimum of 4,000 hours (over 10 years). The candidate must work in utility vegetation management and will be tested on topics such as electric utility pruning, program management, integrated vegetation management, electrical knowledge, customer relations, and storm response.

**ISA Certified Arborist Municipal Specialist®**
This credential is for current ISA Certified Arborists® who have chosen municipal arboriculture or urban forestry as a career path. They have obtained a minimum of three additional years of work experience managing the establishment and maintenance of urban trees. Experience requirements include communication skills, public relations, administration, risk management, arboricultural practices, and policy planning in a municipal setting.

**ISA Certified Tree Worker Climber Specialist®**
To be a ISA Certified Tree Worker Climber Specialist®, candidates must have the skill and endurance to climb trees, demonstrate high regard for safety, and be able to get the job done off the ground. The Tree Worker credentials are different from the other certifications because you're tested in both a classroom and field setting. Candidates must have training in aerial rescue, CPR, and First Aid to obtain this certification.

**ISA Certified Tree Worker Aerial Lift Specialist®**
The ISA Certified Tree Worker Aerial Lift Specialist® certification requires candidates to demonstrate their ability to operate an aerial lift. The knowledge gained with this certification can improve the productivity, quality of care, and safety practices of those who earn the credential. Along with proven knowledge of CPR and first aid, candidates will be tested on safety procedures, and must be able to complete a thorough truck and tree inspection.

**ISA Board Certified Master Arborist®**
The ISA Board Certified Master Arborist® credential is the highest level of certification offered by ISA. ISA Certified Arborists® in good standing will be required to meet specific requirements from the following categories: measurable experience, formal education, related credentials, and professional experience. Passing an extensive scenario-based exam will make you part of the fewer than two percent of all ISA Certified Arborists® currently hold this credential.
Marc and Shuree Wesley, owners of M & S Wesley Tree Service in Chico, California, joined TCIA because they wanted to become accredited.

“It changed us in a positive way,” Marc says. “We became more educated and more able to educate our employees. That’s what we were looking for.”

The couple was married in 2008 and founded their company the same year. “We began with Marc cutting the brush and me dragging it and handing out flyers,” Shuree says.

They only had one chain saw, says Marc, who was already a certified arborist. They had to buy a second, smaller one and borrow a friend’s trailer to put the brush in.”

Four years later, the company has grown to between two and four employees, depending on the amount of work they have. They have two boom trucks, a chipper truck, two chippers, two stump grinders and a dump trailer – and they’re all paid for.

In 2011, they joined TCIA and the company became accredited. “We’re really determined,” Shuree says. “Once we set our minds to something, there’s not much that can stop us.”

Marc was in the tree industry for many years before the couple started their company and he still does a lot of the tree work. He also handles the sales and is a CTSP. “I have a lot of help from my wife,” he says.

Shuree works in the office, handles the marketing, and is becoming a CTSP. “This is all I do,” she says. “I eat, sleep and breathe this. It’s important for my husband. We’re partners.”

While the company does removals and stump grinding, their focus is on tree health. They follow ANSI pruning standards and do aeration, root collar excavations and annual deep-root fertilization. They’re also expanding their PHC program to include a lab where Marc can diagnose pest and insect problems.

“We’re trying to be the most knowledgeable tree service around,” he says. He’s done some consultations regarding Raywood ash [a cultivar of ash, a seedling variant of the Caucasian ash (Fraxinus angustifolia subsp. oxycarpa)] in the area, which are having problems, but, “I’m still new to all this. I’m trying to educate myself and then educate my clients.”

He talks to clients about other tree-related issues as well, such as safety and the proper way to prune trees, especially the importance of not topping them.

“I was doing a job today and the neighbor asked me to take the tops off his trees,” Marc says. “He had never been told that topping was bad. I sat with him for about 45 minutes and told him about problems with topping. And then I told him that the cabling done by his tree service was wrong. He had a maze of cable running through his trees – it was horrible.”

Marc and Shuree seem to be as enthusiastic about marketing as they are about trees.

The company’s current mix of business is approximately 90 percent residential and the rest, commercial and municipal. Some 50 to 60 percent comes from repeat customers and referrals. Their goal is to expand into more counties and do more work with municipalities.

“We’re doing everything we can do to be a recognizable fixture that people can trust,” Marc says. “It’s hard to get people to trust you. We keep our prices really low because we still have something to prove.”

He writes articles about tree care for a local magazine. Shuree is a member of a few local chambers of commerce. She also writes articles on tree care and is on committees of the North Valley Property...
Owners’ Association (NVPOA) in Chico, which offers support services for professional property management companies and rental owners who self-manage their residential income properties.

“I’m very proud of my wife,” Marc says. “She does all marketing. She takes a lot on.”

“We do a lot of volunteer work,” Shuree says. “We began by getting a cat out of a tree.” Among the organizations they volunteer for are March of Dimes, the Relay for Life, and the local Science Park.

When M & S Wesley was accredited in 2011, they had most of the requirements in place, although they had to write a business plan.

“It took three to four months, with a lot of night work,” Shuree says. “The hardest part was waiting for the auditor to come out and the anticipation of knowing we were going to be accredited.”

Being accredited will help the company in a number of ways, Marc says. “I learned a lot from it. It got us to where we wanted to be.”

Their standards in pruning and safety are higher. The appearance of their employees and equipment is more professional. In addition, the brochures they bought about Accreditation are very helpful in marketing.

“It’s hard to explain why everyone should go with an accredited tree company,” he says. “The brochure just nails it on the head. It’s a really good tool for education.”

It’s also a very good selling tool because they can put the company name and logo on them.

“We need more accredited tree companies to raise the standard of tree care in our community,” he says. “Now there are only two. We need at least one more. That will push other companies to become accredited and do things the right way. There’s plenty of work to go around as long as we’re competing on the same playing field.”

Business strong.

Before accreditation we had 6 climbers that had a “job” trimming trees. Since accreditation, we have 14 climbers who have a “career” and a passion for what they do.

Bryan Moller | President
Four Seasons Tree Care, Vista, CA
Accredited since 2009

Call Charlie Tentas for your free assessment and to see what TCIA Accreditation can do for your business.
Many people don’t like standing in front of a group and speaking. I love it and want to help you love it, too. Speaking/teaching/presenting is a skill like playing guitar, shooting free throws, or climbing. You can learn the skill and become a great speaker. Practice may not make perfect, but it does make better. In this world the ability to stand up... speak... and be heard can change your world, if not the entire world.

I am a tree geek. Family legend has it that I planted my first tree from a sprouted acorn I found in the woods while I was 18 months old. After a few missteps, I earned my degree in forestry from Oklahoma State and bounced around for a while from one job to another, stocking groceries overnight, mowing lawns, installing irrigation systems – until my future began at a tree care and landscape firm in Tulsa, Oklahoma. I started out dragging brush, planting trees and worked my way up into the trees. I earned my Certified Arborist credential and moved into the office to consult and sell. One of the owners would often agree to speak, get busy, and send me in his place. The opportunity to speak came up occasionally, but not often enough to consider it a skill to be developed.

Speaking led me to become an Extension horticulturist in Oklahoma City. Those four years were some of the most engaging, fulfilling, and frustrating of my life. I coordinated the Master Gardener program, spoke at classes, seminars and workshops, hosted three garden-related radio shows and a regular spot on local TV, wrote for newspapers and magazines, and taught “Intro to Horticulture” at OSU-Oklahoma City.

I joined the Texas Forest Service to concentrate on the largest, longest-lived and most valuable part of our landscape – our trees. I have now spoken more than 500 times about 75 different topics on the local, state, regional and national levels, earned my Board Certified Master Arborist, and have recently been elected to the ISA Board of Directors. All of this has been possible because of my willingness to stand up and speak in front of people. Public speaking has shaped my career and life for the better. It can do the same for you, and I can help.

I listened to a famous arboricultural speaker a couple of years ago who I really wanted to hear because his information is great. Wow, was I underwhelmed – not by the information, which is world class, but by the delivery. I must admit, I have a pet peeve against filler words – you know them: the uhs, ahs, ohs, ums and others. A few of them are acceptable, but this gentleman had 150 of them in a 45 minute talk… yes, I counted. It was extremely distracting and diluted his very important message. I’ve heard him speak again and he is much better now. It just goes to show that the first key to improving is to practice.

You can build good speaking habits that will enable you to do a great job and have fun while you are doing it. We need to make sure our customers have a high qual-
Do your homework

A scouting report for a sports team or an intel report for an army is vital to their success. Why would you put yourself at risk without asking a few questions?

Questions to ask the organizer

What topic would they like?
When and where?
How much time do you have?
Are there other speakers?
Who is the audience?
How many attendees?
What equipment is available?

Additional resources:

“Why Bad Presentations Happen to Good Causes” by Andy Goodman bit.ly/ITCMnV
“Eliminate Death By PowerPoint” Dolan and Naidu bit.ly/Jh4UDy
“Made to Stick” by Chip and Dan Heath
“Presentation Zen” by Garr Reynolds
ToastMasters.org to find a local group

Remember to smile, people respond to a smile by smiling, and that will make you feel better. If you feel better you will perform better and their smiles will get bigger – it is a feedback loop, but you need to start it.

Stand still unless your moving helps you make a point or transition to your next thought. Don’t sway, wander or shift back and forth. Make eye contact so you make a connection with the audience.

Modulate your voice; variety in volume, pace and pitch will keep the audience interested.

Also, please respect time limits. Trying to squeeze 45 minutes of information into a 30 minute slot leaves the audience feeling like they were short changed or steals time from the next speaker.

Paul Johnson, BCMA, is a regional urban forester with the Texas Forest Service in San Antonio, Texas. He will be speaking on this same subject at TCI EXPO 2012 in Baltimore this fall, November 8-10. For a full TCI EXPO schedule or to register online, visit expo.tcia.org.

For the purpose of this short article, let’s concentrate on the execution.

A great speaker has energy and enthusiasm. Dr Kim Coder is a good example. He is a great speaker even though (maybe because) he doesn’t have elaborate PowerPoint presentations. You can tell from his voice and delivery that he is passionate about his topic. This passion draws us in and helps him influence our thinking.

Remember to smile, people respond to a smile by smiling, and that will make you feel better. If you feel better you will perform better and their smiles will get bigger – it is a feedback loop, but you need to start it.

Stand still unless your moving helps you make a point or transition to your next thought. Don’t sway, wander or shift back and forth. Make eye contact so you make a connection with the audience.

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Paul Johnson, BCMA, is a regional urban forester with the Texas Forest Service in San Antonio, Texas. He will be speaking on this same subject at TCI EXPO 2012 in Baltimore this fall, November 8-10. For a full TCI EXPO schedule or to register online, visit expo.tcia.org.
Kudos for TCI

This magazine you put out is incredible! Thank you so much for all of the tips and tricks. I couldn’t believe how information-al and valuable your publications are. Especially to anyone who loves tree work such as us! I borrowed your magazine from a friend of mine. I hope you will put us on your list.

We will definately be joining soon.

Thanks so much for such an incredible source of information. Outstanding work!

James D. Hamm,
Hamm’s Tree Service
San Bernardino, California

List of war dog memorials

Here is a list of 27 war dog memorials that you asked for: http://vdha.us/memorials. There is one in New Hampshire, too!

Thank you for a fantastic article (“Three TCIA Companies Take Part In Pet Project,” TCI August 2012) – we are all thrilled that TCIA carried it this far. I will send you a photo of the “honors ceremo-

ny” on August 28.

Dawn Thierbach, CTSP
Victorian Gardens
White Lake, Michigan

Connecticut EAB quarantine and firewood regs

An EAB quarantine order for New Haven County, Connecticut, was issued in August, along with the emergency regulations regarding firewood. The quarantine affects anyone who does tree work in New Haven County – especially anyone who ends up moving wood or chips out of the county. The emergency regulations affect anyone who moves firewood anywhere in, or into, Connecticut.

Both were issued by the Connecticut Agricultural Experiment Station in response to the recent discovery of emerald ash borer in the state. Details regarding each order can be found www.ct.gov/caes.
**Accident Briefs**

(Continued from page 48)

burned through the harness and the tree trimmer fell to the ground. He was pronounced dead at the scene, according to the *Pasadena Star-News* report.

**Lawn care worker electrocuted on ladder**

A 23-year-old Providence, Rhode Island, man died July 30, 2012, after he was electrocuted while trimming branches near electrical wires in Johnston, Rhode Island. Leonardo Estrada was on an aluminum ladder using an aluminum extension trimmer to cut maple-tree branches growing near electrical wires when the trimmer touched the wires.

The bolt of electricity threw Estrada from the ladder. His boss called 911 and tried to give him CPR while rescue came. Estrada was taken to Rhode Island Hospital, where he was declared dead. National Grid told police the electrical wire carries 12,500 volts of electricity, according to a report in *The Providence Journal*.

*Called in by David Schwartz, president, Schwartz Tree Care, Inc., Cranston, R.I.*

**Tree worker killed by cut limb**

A tree company worker was killed July 31, 2012, in Berks County, Pennsylvania, when a cut limb he was lowering swung free and struck him. Martin David Reusing, 49, who was working on an 80-foot tree at a private residence, was killed instantly when the 15-foot-long limb struck him in the neck.

Reusing was on the ground using ropes to make sure the cut limbs were brought to ground in a controlled manner. But this particular limb may have had too much slack, causing it to swing, striking Reusing, according to police reports quoted by *The Mercury* (www.pottsmerc.com).

Reusing was an employee of a Reading, Pa., tree service company, and the owner of the tree service was in the tree at the time of the accident. A second employee was on the ground.

Neither were injured by the falling limb, according to an NBC10 Philadelphia report.

*Send your local accident reports to editor@tcia.org.*
In this feature, a take-off of the Highlights Magazine children’s puzzles, our goal is to point out unsafe behaviors that can, and have, led to injuries or deaths in the tree care industry.

One month we run the image and challenge readers to identify one or more hazards depicted. The next month we identify the hazards and run a new picture. The intent is that these will be used individually and/or by crews, for tailgate safety sessions or in other training.

Email your name, title/job and company name along with the hazards you find to editor@tcia.org. Each month we will draw a name from the list of those who submit the correct hazards and award a prize to one winner.

Extra Credit: Point out any Z133 Standard section numbers violated.

Caution: This is a staged photo intended to show one or more ANSI, OSHA violations, or other hazards. Activities shown are NOT approved practices.

Cuidado: Esta es una foto para mostrar una o mas ANSI, OSHA u otras infracciones de seguridad. Las actividades mostradas no son practicas approvadas.

For the previous Hi-Lights picture, at left, which ran in the July 2012 issue, unsafe behaviors (and related ANSI Z133 standard) include:

- Earmuffs over the stocking cap. That affects the “seal” and the effectiveness of the hearing protection.
  Z133: 3.4.6
- There may be no cleared escape route, but we don’t see enough of the work site to know that for sure.
  Z133: 8.5.15
- Possibly no chaps. (hard to tell if those are chaps)
  Z133: 3.4.8
- Looks like the face cut may be on its way to being way too deep.
  Z133: 8.5.15.3
- Ergonomically, bad positioning.

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