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The Folly of Extrapolation

One expression that is sure to catch my attention – with a skeptical eye – is the very common statement “… if present trends continue …” Present trends almost never continue, so making an assumption based on that possibility is usually foolish.

Having written those words, however, I have to wonder if brighter times are, indeed, ahead for commercial and utility arboriculture, because …

If present trends continue, the U.S. stock market will reach new highs in 2012. In late March, Standard & Poor’s 500 index closed above 1,400 for the first time since 2008. The Dow Jones industrial enjoyed its highest close since the last day of 2007. High equity markets and profitable banks free capital for small business lending …

If present trends continue, The Lorax will be the top-grossing film released this year. The movie, based on a Dr. Seuss book that stresses the environmental and social benefits of trees, can only raise appreciation for shade tree care …

If present trends continue, the U.S. economy will add more than 1.5 million jobs before the end of the year. The number of people applying for unemployment aid will fall to a four-year low. The economy is adding jobs at a time when inflation remains relatively mild (outside of higher gas prices). The steady unemployment decline coincides with the best three months of hiring in two years …

If present trends continue, 2012 may see the highest spending levels ever on tree trimming by utilities. The combination of deferred maintenance and long blackouts after storms has raised public awareness and ire. Connecticut Light & Power alone predicts they will need to hire another 100 crews to keep up …

If present trends continue, stabilization and even improvement in the U.S. housing market will endure. With a reduction in inventory and an appreciation of rental rates, investors will be looking for opportunities to buy. New homeowners looking at improving and reshaping their landscapes are usually big spenders on tree work …

If present trends continue, cities will become greener and healthier. According to Husqvarna’s 2012 “Global Garden Report,” the most frequently mentioned feature city dwellers want more of is “green spaces,” which rated ahead of more parking spaces, cultural venues and libraries. More green means more maintenance work for arborists …

The folly of extrapolation is ever present in economics, of course. Present trends can reverse in an instant after negative world events. Stock markets can drop as well as rise, and the housing market has shown false signs of recovery before, only to fall back into stagnation.

In the world or arboriculture, I am more certain that present trends will continue and brighter times are ahead. It’s April, and the present trend of longer days with more sunshine is guaranteed. Bud break followed inevitably by National Arbor Day brings clients outdoors to their landscapes, where they will look up into the canopy and consider calling a tree care professional. A mild winter usually means hordes of insects will emerge, quietly summoning fleets of plant health care trucks to engage once again in a never-ending battle.

Spring is the brightest time for arborists. All of the trends in the world of arboriculture continue to be positive. Let’s help them continue. At a time when more and more people are paying attention to their landscapes and all of the positive attributes of healthy trees, it is arborists who care for the trees. If present trends continue, it’s your time to shine. To quote the Lorax, “speak for the trees, for the trees have no tongues.”

Mark Garvin
Publisher
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Asian Longhorned Beetle: The Threat in Black and White

By Joe Boggs and Amy Stone
On Friday, June 17, 2011, life changed for the residents of the Village of Bethel, a small Ohio town in Tate Township, Clermont County, located about 25 miles east of Cincinnati. On that day, the United States Department of Agriculture, Animal and Plant Health Inspection Service (USDA APHIS) and the Ohio Department of Agriculture (ODA) jointly announced that an Asian longhorned beetle (ALB) (*Anoplophora glabripennis*) infestation had been found near Bethel.

The announcement on that black (and white) Friday also affected the lives of tree care professionals working in southwest Ohio, foresters with the Ohio Department of Natural Resources (ODNR), educators and specialists with Ohio State University Extension, and, most of all, key ODA personnel as well as USDA APHIS program specialists who converged on Bethel to battle this potentially devastating non-native intruder. This was the first ALB infestation to be found in trees in Ohio. The state joined four others where ALB has been found in the U.S.: New York (Brooklyn, 1996); Illinois (Chicago, 1998); New Jersey (Jersey City, 2002); and Massachusetts (Worcester, 2007). ALB was also discovered in 1998 in Toronto, Ontario.

If there was a silver lining in Ohio, it came in the form of the USDA APHIS; they have been waging war against ALB since 1996. Much has been learned over the past 15 years and several battles have been won – ALB has been eradicated in Chicago and in several locations in New York and New Jersey.

**Background and impacts**

ALB is native to China and Korea. The beetle is a major pest in its home territory causing widespread mortality to poplar, willow, elm and maple. Much of the damage in China occurs on street trees, trees in windbreaks and hedgerows, and trees in man-made forests and plantations. Many of the plantations are dedicated to growing trees that are processed into wood packing material including crates and pallets. It is now well known that the beetle is capable of hitch-hiking across the globe as larvae, pupae, and newly developed adults inside the wood of such packing materials. Thankfully, regulations to prevent the import of this and other non-native plant pests and diseases now have a much greater “bite” in terms of fines and penalties.

ALB has the potential to cause an unprecedented catastrophic loss of trees in North America. Unlike other devastating pests and diseases of non-native origins such as emerald ash borer (*Agrilus planipennis*) (EAB), Dutch elm disease, and chestnut blight that kill members in one plant genera, ALB kills trees belonging to 13 plant genera. These include: *Acer* (all maple species); *Aesculus* (horsechestnuts and buckeyes); *Ulmus* (elms); *Salix* (willows); *Betula* (birches); *Platanus* (Sycamore/Planetrees); *Populus* (Poplars); *Albizia* (Mimosas); *Cercidiphyllum* (Katsura); *Fraxinus* (ashes); *Koelreuteria* (goldenraintree); *Sorbus* (mountainash); and *Celtis* (Hackberry). While the first six

in this list of genera are generally considered the trees most commonly attacked by ALB, all of the trees in this list can be attacked and killed by ALB; trees in the first group are like “steak” to ALB while trees in the second group are like “hamburger.” All are considered hosts!

ALB produces a single generation per season. Adults have been reported to emerge in other infestations in North America from July to October; however, adults were found in the Ohio infestation in late-May. No clear phenological indicators have been published for beetle emergence; however, anecdotally in Ohio, it appears that the first bloom of Goldenraintree (*Koelreuteria paniculata*) and the full bloom of Bottlebrush Buckeye (*Aesculus parviflora*) may coincide with adult emergence.

The beetle can successfully spend the winter in all stages (egg, larva, and pupa) except the adult stage; adults are killed in the fall with the first substantial freeze. The immature stages are found inside infested trees, which is why it is important to avoid moving wood (e.g. firewood, logs, etc.) outside ALB quarantine zones; moving infested wood moves the beetle!

**ALB diagnostics**

Much has already been written about how to detect ALB, including an in-depth article in *TCI Magazine* (April 2010). However, given the history of ALB detections in North America, it’s always important to review key diagnostic features. ALB has usually been found in multiple locations within a region. There were five infestations in the Chicago area and after being discovered in Brooklyn, N.Y., ALB was eventually found in Manhattan, Queens, and on Long Island. All of the localized infestations are linked; they all arose from only a few beetles. Indeed, even the New Jersey infestations were found to be associated with introductions that led to the New York infestations.

In fact, a second, much smaller ALB infestation has already been found in Ohio near the original infestation. The second infestation was found to be connected to the first with firewood having been moved prior to the discovery of ALB in Ohio. The take-home message for readers is to never assume ALB is “somewhere else.” The Ohio infestations illustrate how this beetle may pop-up where least expected: Bethel is a rural community located far from major transportation hubs.

Given the proximity of the ALB infesta-
tion to densely forested areas to the east and a major metropolitan area to the west (Cincinnati), OSU Extension in partnership with ODA, USDA APHIS, ODNR and others have been providing “crash courses” on ALB for the public as well as tree care professionals. Since June 2011, 207 training programs have been presented, reaching 10,143 individuals. These programs have included both “classroom” as well as “hands-on” training such as a training event held for tree care professionals in September where two infested trees were taken-down to show up-close the key diagnostic features. The overarching goal is to make certain any additional infestations are quickly exposed – successful eradication depends on rapid detection of ALB.

Key diagnostic features

The Beetle: Many of the North American infestations, including the Worcester, Mass., infestation, were discovered by people finding beetles rather than diagnosing infested trees. ALB is a large, striking looking beetle; adults measure 1-1½ inches in length. The beetle belongs to the family Cerambycidae; beetles in this family are commonly called “longhorned” because of their extremely long antennae. The antennae of ALB have alternating bluish-black and white bands and are longer than the length of the beetle’s body. The bullet-shaped, shiny black beetles are covered with numerous irregularly-shaped and -sized white spots; the spots look like someone has tried to dab white paint onto the beetle using a frayed paint brush. One of the Chinese common names for the beetle translates to the descriptively named “starry night beetle.”

Big Emergence Holes – “Pencil Test”: Adult emergence holes are 3⁄8-½ inches in diameter and the holes extend deep into the xylem. The holes are large enough to easily insert a #2 pencil and this “pencil test” is effective in separating phloem feeding borers from ALB; emergence holes of phloem feeders are much shallower. Of course, ALB holes are on living, healthy branches and trunks; there are a number of native longhorned beetles that infest dead or dying stems.

Oviposition Pits: Every ALB infestation starts with female beetles churning circular to oblong-shaped pits, around ½ inch in diameter, through the bark and down to the white wood of host trees. Pits remain obvious for about a year until wound tissue seals the pit. They are often made more obvious in the spring and fall by sap oozing out of the wound and running down the bark. The beetles will only lay eggs (produce pits) on LIVING stems; new pits will not appear on firewood. Beetles will lay eggs throughout the tree; pits are as likely to be seen at eye-level as they are to be found high in the tree. Trees of all sizes are selected: as long as stem size can support complete larval development.

Coarse Frass: ALB frass consists of very obvious wood shavings; it looks like “wood wool,” or excelsior packing material. The distinctive ALB frass collects on the bark, falls into branch forks, and drops onto the ground around the base of an
infested tree trunk.

**Branch Breakage:** Late instar ALB larval feeding activity into the white wood (xylem) causes substantial structural weakening of infested branches, leading to branch breakage. Always look at the ends of broken branches to see why the branch broke! Look for heavy tunneling across the rings of the white wood. In fact, one of the Worcester infestations was discovered by USDA APHIS personnel examining the ends of branches broken after an ice storm.

**Heavy Woodpecker Damage:** ALB larvae bore into the white wood (xylem); woodpeckers must excavate deeply to extract these larval meat morsels.

**Tree Dieback and Death:** ALB infestations eventually kill trees; however, death comes very slowly. While infested trees will show canopy thinning, this symptom on maple sometimes does not occur until the main stem is riddled with emergence holes. Canopy decline is not a reliable indicator of an ALB infestation.

**ALB myths and misconceptions**

As with any new discovery that finds its way into the news media, science sometimes takes a back-seat to opinions formed out of rampant speculation. The discovery and management of ALB in North America is no exception. Some misconceptions arise from the fact the science is an ever-advancing enterprise based on new discoveries made through research; what we think is true today may be proven untrue tomorrow. (Pruning paint is a perfect example) Other misconceptions about ALB stem from well-intended efforts by non-tree care professionals to understand sometimes complex arboricultural and maple leaf volatiles and male pheromones have been tested for three years in the Worcester, Mass., ALB infestation and traps caught beetles each year. New infestations were also found based on the locations where traps caught beetles. Research continues and while no attractant/trap combinations have yet been released for use with ALB detection, effective ALB traps may be just around the corner.

**ALB traps**

Detecting ALB infestations by solely relying on key diagnostic features is a hit or miss proposition. Every ALB infestation in North America was brewing for years before being detected; beetles were chomping on Ohio trees for at least seven years before they were discovered. ALB traps would provide an obvious advantage in detecting new infestations.

Several research teams are working on ALB attractants as well as trap designs. A team that includes researchers from the U.S. Forest Service Northern Research Station and Penn State University recently announced that they had made a major step forward in being able to detect the beetle. Traps baited with a combination of green

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pest-host concepts. It’s similar to the challenge non-accountants have with understanding tax codes; even tree care professionals may panic each April!

Following are five myths and misconceptions gleaned from Web postings and news reports in southwest Ohio. Most of the misconceptions are directly related to the occurrence of EAB in southwest, Ohio. Understandably, non-professionals may believe all tree borers are equal; a perspective tree care professionals know is not true. Unfortunately, these misconceptions have gained some “traction” based on appearing in multiple venues. As William James said, “There is nothing so absurd that it cannot be believed as truth if repeated often enough.”

1) Myth: “ALB does not kill trees”
   - This myth most likely arose from a misunderstanding based on local citizens observing the rapid tree-killing behavior of EAB. EAB attacks ash trees, which are “ring porous;” water and nutrients are only transported through the outermost xylem ring. EAB is a phloem feeder; however, as the larvae gain size, they start etching the outermost xylem ring. Consequently, trees may die quickly as EAB larvae girdle trees by consuming the phloem and etching the single functioning xylem ring.

   ALB infests some ring-porous trees, however, maples are most commonly attacked and maples are “diffuse porous;” water and nutrients are carried by four to five of the outermost xylem rings. Although ALB larvae bore into the xylem, their tunneling causes less disruption of the xylem vascular flow compared to damage caused by EAB in a ring-porous tree. In the end, the ALB larval damage does kill trees, but infested trees may linger for many years, giving the false impression that they are not being killed. Of course, as they linger, the trees are a constant source of new beetles.

2) Myth: “Asian longhorned beetles behave exactly like emerald ash borers”
   - As noted above, the two beetles are like apples to oranges. The much smaller EAB adults are very good fliers and they easily disperse. While ALB adults are relatively good fliers, they take flight much less frequently compared to EAB, perhaps because their large bodies require much more energy to launch and remain airborne. Thus, ALB tends to stay and continually re-infest trees until the trees die and are no longer able to support a new generation. As a result, ALB does not spread very fast from tree to tree compared to EAB.

   EAB is now found in multiple locations in very large populations in Ohio; the beetle represents a clear and present danger to ash trees throughout the state. ALB has only been found in distinct and mostly small populations; it was first found in North America in 1996 and even now infestations remain confined. Thus, the management strategy for ALB is eradication with the overarching goal to eliminate ALB from all of North America. Eradication of ALB has been successful elsewhere; however, there is no hope for eradicating EAB.

3) Myth: “Insecticides are highly effective in controlling ALB: they make treated trees immune to the beetle”
   - Although EAB is not targeted for eradication, ash trees can be successfully treated to maintain full canopies. EAB larvae feed exclusively on the phloem and this tissue is highly effective in transporting systemic insecticides. Adult EAB beetles are also killed when they feed on the leaves of systemically treated trees. Systemic insecticide treatments are highly effective in EAB suppression; however, the overarching management goal is very different from ALB. Maintaining a full canopy does

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ALB detection – A USDA climber.

insecticides in the five states where ALB has been discovered came directly from Asia. As with all ALB infestations in North America, the Ohio infestation most likely started with only a few beetles, thus all the progeny are closely related. However, this genetic bottleneck produced by the “founder effect” imparts only slight genetic variability; about the same that is used to determine paternity in humans! The variability is not large enough to produce truly different beetles.

5) Myth: “Infested trees are easy to detect” – Damage found on heavily infested trees is easy to detect; the large oviposition pits and emergence holes are hard to miss. However, detecting ALB infections on lightly infested trees is a different matter. Remember that a single oviposition pit means the tree is infested. Imagine spotting a ½-inch diameter pit in the bark high in the canopy of a 70-foot sugar maple... even using good binoculars! In fact, research has shown that well-trained “ground spotters” will only be about 30 percent effective in detecting ALB infestations in lightly infested trees. The detection rate of well-trained tree climbers is around 70 percent. This means that under the best of circumstances, there is a detection error rate on lightly infested trees of around 30 percent.

Successful eradication means 100 percent destruction of the beetles. This is the reason one method for sure-fire eradication is to remove all potential ALB hosts within a prescribed distance of trees that are known to be infested. Confining tree removal to trees that are obviously infested means multiple tree-cutting trips as lightly infested trees eventually become obviously infested. Of course, beetles are continually being produced from the lightly infested trees until they are discovered and removed.

How do we avoid falling into the trap of believing these and other ALB myths and misconceptions? First, keep yourself informed and updated; never miss attending training programs on ALB. Second, always consider the source of your information; does your source have an alternate agenda? Finally, always separate facts from opinions. Daniel Patrick Moynihan said it best: “Everyone is entitled to their own opinions, but not their own facts.”

Joe Boggs is an assistant professor with Ohio State University Extension and the OSU Department of Entomology. He works as a commercial horticulture educator for OSU Extension, Hamilton County (Cincinnati). This article was based in part on his presentations, “Diagnostic Dilemmas” and “Top 10 Tree Pests in 2011,” both presented at TCI EXPO 2011 in Hartford. To listen to the audio recording of either presentation, visit www.tcia.org and click on Podcasts on the homepage. Or, in the digital version of this issue of TCI Magazine, click here.

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**Carhartt rental jacket**

Cintas Corporation has added the Carhartt Rental Active Jacket to its Carhartt Rental Workwear line. Available in Carhartt brown, the new jacket features a quilted flannel lining for warmth, an attached hood, two large, lower outside front pockets and secure inside pockets, triple-stitched seams for added durability and a heavy-duty zipper. It is available in sizes small through 5XL. Workers will appreciate the styling, durability and rugged performance one would expect from Carhartt with the added benefits of laundering, repair and replacement that accompany a Cintas Rental Program. Businesses can now supply Carhartt, a brand that workers recognize and trust, in a cost effective manner, while increasing morale and exuding a professional company image.

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**Terex Woodsman 810 & 830 Trommels**

Terex Woodsman’s new 810 Trommel and 830 Trommel build on and complement the company’s brush chipper and biomass product line. The Terex Woodsman 810 is a mid-sized two-way split trommel screen designed for quick set up and high throughput. Key features include a large screen area, a four-wheel friction drum drive system, a load sensing kick-out control system on the feeder conveyor and hydraulic folding onboard conveyors.

The Terex Woodsman 830 is the larger model. Key features include the largest screen area within the trommel range, a low-maintenance, four-wheel friction drum drive system, proportional load sensing on the feeder conveyor that helps eliminate blockages and downtime, and hydraulic folding conveyors. Both units are designed to work in a variety of applications – wood chips, top soil, compost and recycling, and both hit the market in March 2012.

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**Loftness Carbide Cutter G3 mulching attachment**

Loftness’ new Carbide Cutter G3 high-performance mulching head attachment for skid steers, part of its VMLogix line, is available with 51-, 61- and 71-inch cutting widths, and a variety of carbide-tipped and heat-treated steel teeth to match any job application. The spiral tooth pattern on the rotor ensures continuous tooth contact with the material being cut, and a two-stage cutting chamber with staggered counter teeth and a shear bar provide maximum cutting performance. This combination results in small particle sizes, while eliminating jamming and wrapping issues. The mulching heads operate at 1,700 to 2,150 rpm and feature a four-groove, banded belt drive with spring-loaded tensioner. They come standard with a fixed-displacement, piston-style motor that delivers hydraulic power at 97-percent efficiency, much higher than traditional gear-type motors offer. The motor can be upgraded to the V-Drive system that includes a variable-displacement motor with load-sensing technology. The mulching head offers full rotation, thanks to specially designed hose routing. This feature also allows the unit to easily position trees with the adjustable push bar and welded claw hooks.

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**Maintainer M Series truck-mounted lifts**

Maintainer Corporation of Iowa, Inc.’s new M Series truck-mounted aerial lifts represent a complete new line of custom body related products from Maintainer. The line includes 51 model configurations of insulated, non-insulated, telescopic, material handling, and articulated lifts. The M Series offers operating ranges from 29 feet to 45 feet and lift ratings up to 600 pounds. Standard features include Fiberglass baskets, lower override controls, proportional hydraulic controls, continuous and non-continuous rotation, rubber boom supports, curbside basket entry, and a two-year parts and labor warranty. Options include vinyl and aluminum baskets, 12-volt emergency back-up systems, outrigger and torsion bar stability systems, steel tail shelves, tool circuits, basket rotator and tool trays. Users often want a material-handling option as well; jibs and winches are becoming very popular. Through the use of torsion bars or outrigger assemblies, a 17,500- to 19,000-pound GVWR truck can be equipped to successfully lift material loads up to 1,000 pounds at working heights up to 45 feet, while maintaining a relatively compact footprint. Eight models of the M Series line are dedicated to material handling applications.

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Samson Vortex climbing line

Samson’s Vortex climbing line combines high strength performance with lightweight and flexible ease of use. The 24-strand cover line is a full ½-inch (12.7mm) in diameter, is easy to handle, works well when wet, and is great for footlocking. As a double braid climbing line, Vortex is constructed with a stabilized nylon core and polyester cover that makes it exceptional for knot-holding and integrates well with arborist hardware. Like its counterpart, Velocity, Vortex is part of a family of lightweight Samson climbing lines designed specifically for arborists who often use mechanical ascenders, prusik knots and split tails to safely ascend and descend trees. Available in both Hot and Cool colors, Vortex offers a 25-30 percent lower elongation than ropes of similar size when subjected to the same loads. The fact that Vortex is flexible, naturally twist resistant and lightweight (120 feet polybag spliced/unspliced is 9.1 pounds) means there is greater efficiency when threading through hardware applications.

Easy-Lift Harness

Easy-Lift Products International’s Easy-Lift Harness (Arborist Model) supports the weight of extended power pole saws, giving you full control of the implement. Unlike other harnesses, the Easy-Lift doesn’t pull you forward when operating power equipment. Instead, the patented, ergonomic design encourages the user to maintain proper posture while providing full mobility and safer use of the saw. This means fewer injuries occur on the job and more work is done in a shorter period of time. It is specifically designed for lifting the weight of heavy, extended power pole-pruners that previously made tree trimming a strenuous and back breaking task. Plus, as an added benefit: By simply removing the outer gas spring, the Arborist Model becomes the Landscape Model, which can be used with a power hedger, line trimmer, power pole saw or stick edger.

Circle 94 on RS Card or visit www.tcia.org/Publications
Palfinger, CAT partner on knuckle boom self-loaders

Palfinger Inc. has partnered with Caterpillar Forest Products to distribute a line of knuckle boom self-loaders produced by Epsilon Kran GmbH under the brand name Prentice/Epsilon. The line will be available in North America. In addition to forestry, the self-loader line has many applications for landscapers and others providing tree-related services. Initially, the line will include multiple models and will be marketed through select distributors experienced with truck-mounted loaders.

Palfinger Group is a manufacturer of hydraulic lifting, loading and handling equipment. Caterpillar Forest Products is a manufacturer and marketer of timber harvesting, millyard, road-building and land management equipment. Products are marketed under the Cat, Prentice and CTR brand names through a global independent dealer network.

“We are happy to join forces with the forestry division to expand our market in North America,” said Mark Woody, president of Palfinger North America Group, a first-year TCIA associate member company. “Marrying the Prentice and Epsilon brand names for a line of self-loaders symbolizes the superior quality of the products.”

The Prentice/Epsilon self-loader line features two types: the Z-boom, which folds up to save space on the trailer, and the L-boom, a standard boom. Various lift capacities and operational speeds are available within each type. Palfinger will be exhibiting at TCI EXPO in Baltimore this fall.

Altec chipper rentals available at Home Depot

Altec Industries, Inc. has partnered with Compact Power Equipment Centers (CPEC) to offer Altec chippers in Home Depot Tool Rental stores across the nation and in Canada. Since 2008, CPEC has provided customers with towable rental equipment for a variety of projects, which now includes Altec’s DC610 chipper.

“This partnership with CPEC represents a significant milestone as we continue to expand our environmental product offerings,” said Tony Gann, regional vice president of Altec Industries, a TCIA associate member. “Our new DC610 chipper creates a great opportunity for our products to be used by a new segment of customers.”

A user-friendly design and state-of-the-art safety features make the DC610 ideal for operators looking to tackle tough projects, according to Altec. The 6-inch x 10-inch in-feed chipper incorporates electronic controls with diagnostics capabilities, and the Altec “Panic Bar” system, which provides operators a dedicated stop mechanism for the feed system independent of the feed control bar, and multiple innovative features.

Altec’s DC610 will be available in approximately 50 locations of The Home Depot in the U.S. and Canada, with a 2012 expansion goal of more than 50 additional locations.

“We are excited to be partnering with Altec to provide our customers with high quality chippers,” said Jon Richardson, Corporate Fleet Director for Compact Power Equipment Centers. “The Altec name is highly regarded among contractors in the tree care industry, and the design features of the DC610 are appealing. We’ve begun deploying the new units, with high expectations for high utilization and future growth.”
Man injured while working from ladder
A 54-year-old man was hurt in a tree-cutting incident February 4, 2012, in Hanover, in Anne Arundel County, Maryland.

The victim suffered head trauma while working from a ladder. Investigators said they were unsure if the man was hurt after a part of the tree fell on him or if he was injured by the tree-cutting tool he was using.

The man suffered serious life-threatening injuries, according to a WBAL-TV 11 report.

Man killed cutting trees

People walking a dog found Eric Edelstein's body in a wooded area of the Warren County town around 4:30 p.m. It appears Edelstein was trying to cut a tree when his chain saw kicked back and a piece of splintered wood struck his body. But authorities were still working the next day to determine when the accident occurred and what caused his death.

Edelstein, who lived alone, was last seen the day before he was found. Neighbors say he regularly cut firewood and was often working around the home where he had lived for more than 20 years, according to The Express-Times of Pennsylvania, and The New Jersey Herald.

Two rescued from lift bucket
Firefighters rescued two men trapped in a lift while trimming trees February 5, 2012, in Exeter Township, Pennsylvania.

The men had borrowed the equipment and were using it to trim branches at the home of one of the men. But when they cut the top of the tree, it apparently fell onto the bucket, trapping them in the bucket 30 or 40 feet in the air.

The property owner was not injured but could not get out of the bucket because he was blocked by the tree. The other man, Jeremiah Yoder, 32, of Exeter, was injured when his leg was pinned between the fall-

en tree top and the rest of the trunk.

Yoder was taken to a local hospital with leg injuries. Information on his condition could not immediately be obtained. Firefighters used the bucket on their fire truck to reach the men and remove the tree with ropes, chains and a saw, according to the Reading Eagle report.

Man killed in tree cutting accident
A 57-year-old man was killed February 15, 2012, in Middleburgh, New York, cutting trees that had been damaged by Tropical Storm Irene last summer.

Charalambos Ioannou was working with his 21-year-old son when a tree they were cutting down kicked back and pinned the older man. Deputies say the son cut the tree off the father and drove him to a nearby road. Ioannou was taken to Cobleskill Regional Hospital, where he was pronounced dead, according to the Daily Gazette and The Post-Standard.

Contributed by Brian C. Skinner; senior arborist; National Grid – Central Division, Syracuse, N.Y.

Tree worker killed in struck-by
An eastern Kentucky man cutting trees along a highway was hit by a branch and killed February 28, 2012, in Lee County, Kentucky. Co-workers say the tree limb fell from about 40-feet and landed on top of Roger Roberts, 39.

Roberts was part of a three-man crew on the job. Working at the base of the tree, Roberts heard his co-workers yell and apparently tried to run, but was too late. Roberts’ body lay in the grove of trees for hours as state police, then OSHA, came to investigate.

Roberts, a tree trimmer for seven years, worked for a tree service company based in Georgia that partially specializes in cleaning up storm damage, according to the Lex 18 News report.

Send local accident briefs to editor@tcia.org.

Accidents in the tree care industry that occurred during the month of February 2012. Graphic compiled from reports gathered by, or submitted to, TCIA staff.
The Department of Labor (DOL) recently amended its regulations governing the process by which employers obtain a temporary labor certification to employ a nonimmigrant worker in H-2B status. In addition, DOL created new regulations to provide for increased worker protections for both U.S. and foreign workers. This Final Rule becomes effective April 23.

Under the regulations prior to this final rule, an employer seeking to fill job opportunities through the H-2B program had to demonstrate a temporary need for labor, as defined by one of four standards: 1) a one-time occurrence; 2) a seasonal need; 3) a peak load need; or 4) an intermittent need. The DOL used an “attestation-based filing model,” in which the employer conducted its recruitment with no direct federal or state oversight.

The final rule imposes the following additional requirements:

- Define temporary as less than nine months, except in the case of a one-time occurrence that may last up to three years. If work spans all four seasons, DOL does not feel it is “temporary” or “seasonal.”
- Registration is used to substantiate the employer’s need for temporary workers. Registration is good for three years, provided that employers do not increase the required number of workers by more than 20 percent from year to year (50 percent if they need fewer than 10 workers), if the beginning and end dates of the work do not vary by more than 14 days, or if the job classification does not change. Registration applications can be filed between 75-90 days before the date of need.

Employers must file an Application for Temporary Employment Certification 75-90 days before the date of need for workers.

Jobs must be listed with the State Workforce Agency until 21 days before the H-2B workers are expected to start work. Jobs must be posted on a national electronic job registry and must be offered to qualified U.S. workers who apply for the position up to three days before the H-2B workers are scheduled to begin work. Available jobs must be posted at the place of employment for up to 15 days. The certifying officer can require additional recruitment measures.

- During the recruitment period, employers must contact former U.S. employees and notify them of the job listing.
- Employers must guarantee that workers will be paid for 75 percent of the hours discussed in the contract.
- Employers must advertise in a newspaper of general circulation in the area in two separate days, including a Sunday. The ad must include wage amounts, guaranteed hours, and promote that the employer will pay for transportation costs and any needed tools or equipment.
- Employers must pay H-2B workers’ inbound and outbound transportation costs, subsistence costs, visa and other costs; and, the employer must make similar concessions to U.S. workers who do not live near the place of employment.
- H-2B workers must be given full-time work, defined as more than 35 hours per week, and must be paid every two weeks or in accordance with the prevailing practice in the area.
- Employers may not place H-2B workers in a job not certified on the application.
- Employers must attest that they did not have arbitrary layoffs 120 days before the date of need until the end of the certification period. Layoffs for legitimate, business-related reasons are allowed so long as all H-2Bs are laid off before corresponding U.S. workers.

Peter Gerstenberger is senior advisor for safety, compliance & standards for the Tree Care Industry Association.
Events & Seminar

April 2-3, 2012
L1 Arborist Rigging Applications
2-Day Hands-On Training Module
Biltmore Estate, Asheville, NC
Contact: www.ArborMaster.com; (860) 429-5028

April 23-24, 2012
L2 Tree Climbing Methods
3-Day Hands-On Training Module
Biltmore Estate, Asheville, NC
Contact: www.ArborMaster.com; (860) 429-5028

April 25-27, 2012
L2 Arborist Rigging Applications
3-Day Hands-On Training Module
Biltmore Estate, Asheville, NC
Contact: www.ArborMaster.com; (860) 429-5028

May 1-30, 2012 (Every Tues. & Wed.)
Arboriculture I – Basic Tree Climbing
Committee for the Advancement of Arboriculture
Quail Hill Boy Scout Camp, Manalapan, NJ
Contact: John Perry (732) 833-0325; www.caanj.org

May 11-12, 2012
Northeastern Forest Products Equipment Expo
Essex Junction, VT
Contact: (315) 369-3078; expo@northernlogger.com; nefpexpo.net

May 11-12, 2012
Up By Roots with James Urban
Location: Rochester, MN
Contact: www.rochesterarboristworkshop.com

May 28, 2012
Up By Roots with James Urban
Location: Rochester, MN
Contact: www.rochesterarboristworkshop.com

August 11-15, 2012*
ISA Annual Conference & Trade Show
Oregon Convention Center, Portland, OR
Contact: www.isa-arbor.com; (888) 472-8733

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

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

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

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

* Indicates that TCIA staff will be in attendance

More almanac online! For the most up to date calendar information, visit www.tcia.org ⇒ news ⇒ industry calendar
Send almanac listings to editor@tcia.org.

Upcoming FREE* EHAP grant-funded workshops

April 6, 2012
Sponsor: Tree Care Industry Association
IBEW Local 1245 Headquarters
Vacaville, CA

April 12, 2012
Sponsor: CTPA
Northeast Utilities Corp. Hqtrs
Berlin, CT

April 13, 2012
Sponsor: Tree Care Industry Association
Bozeman City Shop Complex
Bozeman, MT

April 19, 2012 (ENGLISH language)
Sponsor: Illinois Arborist Association
ComEd, Oakbrook Terrace, IL

April 19, 2012 (SPANISH language)
Sponsor: Illinois Arborist Association
ComEd, Oakbrook Terrace, IL

TCIA EHAP grant targeted topic training funds provided by grant SH-22312-60-F-11 from the Occupational Safety and Health Administration, U.S. Department of Labor. Total grant award: $165,000. This workshop provided with 100 percent federal funds.

*A nominal fee is charged for lunch.

For additional workshops listings and details for each workshop, or to register, call 1-800-733-2622, or visit http://www.tcia.org/training/ehap.htm.

Non Grant Workshops

April 10, 2012
Great Lakes Energy & City of Grand Rapids
Grand Rapids, MI
Contact: ASM or MIISA (517) 337-4999; www.asm-isa.org; asm@acd.net

April 12, 2012
Great Lakes Energy
University Center at Gaylord
Gaylord, MI
Contact: ASM or MIISA (517) 337-4999; www.asm-isa.org; asm@acd.net

Send your event information to:
TCI, 136 Harvey Road, Ste. 101
Londonderry, NH 03053
or editor@tcia.org
Kevin Caldwell, president of Caldwell Tree Care in Roswell, Georgia, was installed as Chair of TCIA’s Board of Directors during the annual Winter Management Conference in February in Curaçao. This is the text of his speech.

I am here today because – YOU MADE ME... and somehow here I stand to honorably represent the Tree Care Industry Association as its 2012 chairman.

As I reflect back and recall, I first joined the organization in 1997. My old boss and mentor, a previous National Arborist Association board member, Spence Rosenfeld, explained to me that if I was going to be in the tree business I needed to become a member of the NAA (now TCIA).

At the time, I was uncertain how elated he was with me entering the business just four years after departing his company. But I do believe he understood that as long as Caldwell Tree Care belonged to the NAA, at least it would be done right.

It was 13 years from the time Spence and I parted ways until we actually had a cordial, face-to-face conversation. That was in 2006 at the Winter Management Conference in St. Kitts. We ran into each other at one of the gatherings. A couple of drinks had been consumed, so we were both very candid during our conversation. I explained how I operated my tree business based on many of TCIA’s principles. I lacked some confidence, but felt we were building a credible operation. She encouraged me by saying I was really doing things right,” and she questioned me about whether I had an interest in serving on the Tree Care Industry Association board. I indicated I would be honored, and she said two words: “Be patient.”

Cynthia, You made me...

I took my first step toward serving on the board by becoming involved in the Voice for Trees political action committee, helping decide where to focus TCIA’s political efforts. I really enjoyed serving with this group, since my degree was in political science and politics is my personal hobby. From small beginnings, TCIA’s Voice for Trees PAC quickly gained steam and momentum. We raised money and began making ourselves known in Washington, D.C., which resulted in hiring our lobbyist, Josh Ulman. During this time, Mark Garvin extended me the privilege of personally delivering a check to the late Congressman Charlie Norwood for his work with OSHA on our behalf. Before I knew it, I was meeting with Senator Isakson to do the same thing. WOW, what an honor it was and has been to represent the industry. Mark worked with me carefully during this time to help me further develop myself as a respectable advocate for TCIA.

Mark, You made me...

Around this same time, TCIA launched the CTSP and Accreditation programs. I had some initial understanding of safety operations, regulatory issues, etcetera. However, I had never sat down and written a comprehensive business plan. I had built a business mostly through hard work, but to some degree I was lucky. Today, my company operates with virtually a religious following, utilizing many of the procedural templates for hiring and firing, promoting, testing and just general documentation. Accreditation and CTSP programs have helped save my company financially in both insurance and consulting fees.

TCIA staff – Peter Gerstenberger, Bob Rouse & Accreditation consultant Randall McDonald, You made me...

Somehow along this journey my name did go into the hat to become a board member in 2009. At my first meeting in New Hampshire, a discussion came up regarding a senior board position. Suggestions from others were circulating that I may be considered. Perhaps it was dumb luck, but whatever the case I was subsequently approved by my fellow board members to become your chairman.

Along the way I have been so fortunate to work with brilliant board members from across the country: Scott Packard, Terrill Collier, Randy Oven, Scott Jamieson, Ron Keith, Eric Schneider, Tony Gann, Bill Weber, Will Maley, Ben Tresselt, Steve Sylvester, Peter Sortwell, Phil Chambers, Jack Guffey and my good friend Andy Ross.

You guys made me...

I want to thank my many friends and associates with whom I have had the honor of storm chasing over the years: Erwin Castellanos of Champions Tree in Houston, the “godfather” of storm chasers who taught me so much; Doug Cowles of HMI – I give thanks to you for the many business building opportunities. A big thanks to Andy and Vat Ross of RTEC Tree Care; Pepper de Turo of Woodwinds; Fred Grimshaw; Ed Marchion; Patrick George of Heartwood Tree; Jack Guffey of Carolina Tree; Tony Gann and Dennis Beam of Altec. All of you have helped Caldwell Tree Care throughout the years.

You all made me...
Last but not least, I want to thank my wife, Kristen Caldwell, our company’s CFO, mother to our children – Austin, Emma and William, for being the greatest wife, mother and CFO I could ever have. I want to thank my mother and father, Wanda and Dave, for creating the platform I needed to become a determined entrepreneur in this business. I also need to thank each and every one of my dedicated employees, in particular the “guys” who do all the hard work in the field every day.

Kristen, my children, my mom and dad, my employees – You made me...

In closing, I would like to express a professional goal and a personal challenge to you to help better our industry. My challenge to you as your chairman is to embody a culture of membership and recruitment within TCIA to help grow our membership by 20 percent this year. I want to encourage each and every one of you to reach out to competitors to compel them to become involved in TCIA. Their involvement will add to the credibility in numbers, while introducing them to programs such as CTSP, Accreditation, visionary leadership and peer-influenced professional improvements. Now, I know our business and our competitors can be full of unscrupulous folks, but I want to leave you with some words attributed to Mother Teresa:

“People are often unreasonable, illogical and self-centered: Forgive them anyway. If you are kind, people may accuse you of selfish, ulterior motives: Be kind anyway. If you are successful you will win some false friends and true enemies: Succeed anyway. If you are honest and frank, people will try to cheat you: Be honest anyway. What you spend years building, someone could destroy overnight: Build anyway. If you find serenity and happiness, they may be jealous of you: Be happy anyway.

The good you do today, will often be forgotten by tomorrow: Do good anyway. Give the world the best you have, and it may never be enough: Give your best anyway. You see, in the final analysis, it is between you and God. It was never between you and them anyway.”

It’s a new year and how you lead it is up to you. Thank you.

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Invest in your future for a price that belongs in the past.

Your TCIA membership gives you:

- Increased profits with marketing programs and resources
- Unlimited access to OSHA and regulatory advisors who can help you navigate the rules
- Assistance with business practices that will distinguish your company from the competition
- Training programs to improve worker safety and increase profits

* Plus you get: discounts, giveaways, members-only publications and access to TCIA’s online member resources right away!

For a limited time only we are offering new members 50% OFF of our lowest renewal rates.*

* New membership rate of $195 is available to first-time, new members only. Limited time offer, call Brenda or David for details.

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TREE CARE INDUSTRY – APRIL 2012 23
Modern arboriculture operations are dependent on wood chippers to do the heavy lifting with tree branch and, increasingly, wood-waste disposal. Wood chippers were first introduced by Peter Jensen (Maasbüll, Germany) in 1884. The Asplundh Tree Expert Company introduced the wood chipper here in the United States in 1949 and then began assembling these chippers for commercial sale in 1952 through a subsidiary called Asplundh Chipper Co. It is hard to imagine our industry today without wood chippers.

What a chipper does is ominous. I have never trained anyone new to operating a chipper who was not concerned about what could happen to them after feeding their first branch. Tree workers can become comfortable and less focused over time, becoming complacent about what could go wrong when operating one. I believe that this complacency has led to tree worker injury and even death. Thirty-three people were killed in wood-chipper related accidents between 1992 and 2002 in the U.S., according to a 2005 report by the Journal of the American Medical Association.

This article is a compilation of my personal experiences with chippers and ground operations over the past 25 years. I began writing this article by compiling a list of the things that I know can happen while operating a chipper because it has either happened to me or has happened to a co-worker. As this list came together, it looked different than I expected it would. My list did not include a high frequency of catastrophic injuries but did include lots of near-miss events that could have ended tragically. Looking back, towing chippers causes the highest frequency of accidents, and slipping from chippers while climbing into the truck or while changing the blades causes the most severe injuries.

**Chipper set up**

Keeping the chipper positioned in a productive and efficient manner is an art. I think proper placement can make or break safety and productivity. Proper placement puts the chipper as close to the work operation as possible but out of harm’s way. One accident that occurs when feeding chippers is slips and falls from the same level while dragging brush. Keeping the chipper close to the work zone will mini-
mize the movement of brush and the potential of this occurring. Obviously, too close and you will be at risk of being struck by tree parts or even a misplaced tool from aerial operations. Another consideration is to create enough space to stage brush before it is fed into the chipper. This will be covered later in the article.

Other important considerations to help avoid trips and falls around the chipper include keeping the ground surrounding the feed table area as free of debris as possible. Often small limbs or leaves fall behind the chipper and they can get tangled in the feet of those feeding material. Periodically raking the debris in the area where workers will be traveling can help prevent trips and falls. It is also important to pay close attention to trip hazards on either side of the feed table as it is recommended by most chipper manufacturers that material be fed from the side of the table, not from directly behind the machine. The ground along the side of the feed table should be clear of obstructions to avoid trips and falls, as well.

**Backing a chipper**

One of the most frequent and frustrating accidents I see is chipper being backed into position without a spotter and causing damage. During our company-wide monthly safety conference call, I make it a point to include all the accidents and near misses that occur due to backing and positioning a chipper without a spotter. Chipper is difficult to back because they are so small. By the time you see the unit going the wrong way, it is usually too late. If you want to learn how to back a trailer, start with a chipper as it will make you an expert! One way to increase the visibility of the chipper behind your truck is to install snow plow markers on the fenders. This step appears to get a lot of use.

I am aware of one arborist colleague who in 2011 lost his life while backing a chipper. I have only second- and third-hand knowledge of the events that led up to this accident, but from what I understand this person was run over by the chipper when he was guiding and backing it. It is important to have a spotter guide you into tight areas and you must have agreement on the directional hand signals used. If you lose visual contact with the spotter, you should stop until you can see them again.

I am far from the leading expert in our industry when it comes to safety and chipper use. My hat is off to Dr. John Ball and all the work that he has done and continues to do in the area of tree worker safety. I do not have the statistical evidence, just the industry experience and knowledge I have gained along the way through trial and error. With that said, I have not had a single co-worker go through a wood chipper or ever come close (to my knowledge). I have worked with people who have been cut by the knives when servicing a chipper, seen close calls when the chipper has come apart due to putting metal into the feed chute, and I have seen chipper come off the back of a few trucks because the chipper was not properly secured.

Tragically, I did know one person who lost their life falling from a chipper while changing the blades. All it takes is one missed step or a slippery surface to cause a fall. Step surfaces and platforms on mobile equipment shall be skid resistant. (ANSI Z133, 5.1.7). One area that is often missed is the chipper tongue. This area is stepped on frequently and used when climbing into the truck as a step. We have added a flat, wide surface in that location to provide a larger, more secure step surface (See photo above). As you can see from the picture, this surface gets a lot of traffic.
Chipping contaminated materials

Does a tree make a sound if it falls in the woods and no one is there to hear? Who knows? Does a chipper make a sound when you feed metal and other foreign material into it? Yes! My experience is that this happens often and the results can be catastrophic. A lag bolt that is missed or a tool, such as a metal felling wedge, can turn a perfectly good chipper into a pile of scrap metal. Not standing in the truck bed when the chipper is running is a great safety rule! Besides the obvious exposure to flying wood chips and dust, when metal is chipped it can go straight out the discharge chute. Metal often sticks into or cuts through the bulkhead of the truck when it is discharged from the chipper. If anyone is in the way, it will go right through them.

Being struck by wood and branches

Standing behind a chipper during chipper operations should be discouraged. Small debris coming back at the operator can cause discomfort or even an eye injury if material were to get around your safety glasses. More importantly, though, there is a chance that you can become entangled in a piece that is being fed. I teach feeding the chipper from curb side and, once the piece is in, standing clear.

Different types of chippers: Non hydraulic-feed drum chippers

Known affectionately as “chuck and duck,” this design gave birth to today’s modern chipper. When I look at a Mitts and Merrill chipper, I am reminded of the unique high-pitch buzz the device would give off as branches would feed themselves through. It would also remind me of the pain involved when dead branches were being fed. These stiff, sharp branches would vibrate as they were fed into the machine and would scrape and cut even the toughest tree person’s skin. The non hydraulic-feed drum chipper is still used today and is most commonly found performing road-side utility line-clearance work. These units have no controlled feeding mechanism. The rotor or drum serves two purposes, pulling in and chipping the material. Non hydraulic-feed chippers are limited on chipping capacity because there is no way to control the speed of the material as it is entering the drum. Once the log is engaged in the knife it is pulled in at a high rate of speed, and if the drum loses RPM the feeding continues, often resulting in a plugged chipping chamber.

Hydraulic-feed drum chippers

Hydraulic-feed drum chippers, in my opinion, represent a true safety advancement. If operated properly, they will not allow the tree parts being fed to twist and turn in a way that injures the operator or pushes the operator into traffic, as a disc chipper can often do. I also believe that chips coming back out of the chipper as the feed wheels are open feeding brush helps to discourage the operator from standing directly behind the chipper for very long. Though there’s a risk that small wood chips could find their way past a set of loosely fitting safety glasses, this injury is far less serious than being struck by a crooked piece of wood or, worse yet, becoming ensnared and pulled into the unit itself.

Another drawback to the hydraulic-feed drum design is how quickly a rope can be fed into the unit. It is frightening! You can test this yourself by feeding marking tape into the chipper. As a graphic example, our Norwalk office set up a live demonstration of this during a safety meeting using marking tape. It is a very graphic way to get people’s attention. The speed in which a drum chipper takes in rope is a concern and there are some operational best practices to prevent this. Referred to as “Antonio’s Rule,” due to a tragic accident that occurred by rope being fed into a chipper, placing the brush on the ground and staging it prior to chipping is one way to reduce the likelihood of this happening.

The near miss accidents with ropes and chippers I have seen during my career
always begin with the ground person picking up a pile of brush from the work zone and then feeding it directly into the chipper. By staging it, you have the ability to inspect the pile before it is run through the chipper, increasing the likelihood that a rope or other foreign material will be seen before it is chipped by accident.

Hydraulic-feed disc chippers

When feeding brush and wood into this chipper configuration, the operator needs to be careful and be aware that the piece can turn and twist suddenly. This can cause the operator to step into or be pushed into traffic trying to get out of the way. This twisting can also cause the tree part to strike the operator, injuring them. I have been struck in the chin and face so I can tell you first hand it happens fast and it definitely hurts! Another drawback for me is the angled dead space between the chipping disk and feed rollers. Odd shape pieces of wood will often get jammed there and cause down time while unclogging the chipper. This is not to say that this will not occur with auto-feed drum chippers, but my experience is that this happens more often with the auto-feed disk units.

It is my opinion that chippers are going to continue to be the main tool in our arsenal for disposing of tree branches and wood. Your American National Standards Institute A300 Committee is currently working on a standard draft that will increase the demand for urban forest products. This standard will make your chips more valuable and usable for co-generation and wood power generation facilities in the future. More to come on this in a future article…

Dane Buell, CTSP, is an ISA Certified Arborist, Registered Consulting Arborist and serves as the A300 Committee chair. He is director of general tree care for SavATree out of Bedford Hills, New York.
Spar-pole rigging, or blocking down wood, is one of the most physically demanding activities for the climber and tree alike. Managing the forces of a falling weight captured and arrested with ropes and blocks demands strength and skill from the climber. For years, few options existed to an arborist while spar-pole rigging. Spike up with a buck strap and start cutting was the general work plan. However, with the advent of modern materials and techniques, the dangers of negative blocking from a spar can be mitigated and greater climber comfort and ergonomics can be achieved.

In this article we will look at climber tie-in points (TIPs) for both-single and doubled-line climbing systems. The variations are numerous, so we will focus on the basic benefits and application of a few simple set ups.

Inspection

I would be remiss to not mention proper pre-climbing and pre-rigging inspection. The forces involved in spar-pole rigging can be great. The dynamics and force direction may be entirely different from the rigging that brought the tree to its near completed state. The great majority of the tree structure is gone. This changes the way the forces are dissipated, the way the tree reacts, and this should be reflected in a rigging plan.

So often climbers and riggers are focused on the strength of their lines, blocks and slings, but ignore the most important piece of the rigging puzzle – the tree. If the tree becomes the weakest link in the rigging system and is not compensated for, many bad things can happen.

Thoroughly inspect your rigging and anchor points. Ensure the root system and trunk are sound. Lessen rigging forces whenever possible and rig only as much as you need to.

Tie-in points

ANSI safe work guidelines require an arborist to secure to the tree with two points of attachment while using a chain saw aloft. The reasoning is that if one
point is cut the other will prevent a fall. When spar-pole rigging, often the chain saw is close to life support lines. This makes the two points of attachment even more vital.

Lanyards

The lanyard is one means of attachment. Wire core lanyards may be appropriate in the absence of electrical hazards. If used, it should never be assumed that they are cut proof. While it may take longer for a chain saw to part a wire core than a purely cordage-based lanyard, it can surely do it. Always assume your life support equipment can be severed and endeavor to place it well out of harm’s way through positioning and planning.

In their basic form, lanyards do not cinch tight to the spar pole. Care should be taken to be sure the lanyard stays engaged when cutting. A loose lanyard can fall into the path of running saw or release from the pole entirely if it bounces over the top of the pole.

In the event of a barber chair, the lanyard hooked from side D ring to side D ring can cause the climber to be squeezed between the expanding tree and the back pad of the saddle. Applying straps to the trunk to manage barber chair may be an option. However, using a lanyard that can be cinched to the tree works well, too. (Photo 1)

Be aware, though, that if the lanyard is only going to maintain a single point of attachment to the harness, that attachment needs to be a central one appropriate for a climbing line. Using a side “D” alone is unsafe. Many saddle makers do not rate a single side “D” for life support. Not to mention how uncomfortable you’ll be if you end up suspended by it alone!

While two lanyards would fulfill the two-attachment protocol, that method lacks a means of escape or rapid descent. Another way to look at it is to compare spar-pole rigging to tree felling. The operations are similar. When felling whole trees, an escape route should always be planned and prepared in advance. When spar-pole rigging, the same is true. The escape path is the climbing line. The difference is that when spar-pole rigging, the escape path is generally used only in emergencies.

When looking at systems for use on spar poles, it is best to use something the climber is familiar with. The pole is, obviously, the last rigging work to be done for removals. Climbers may be tired after a long day of hard work. Also, familiar systems will use gear already with the climber. This is efficient as well as practical. Remember that during the course of the rigging, the climbing system may have to be reestablished many times. Familiar, non-complicated systems lend themselves to safety and efficiency.

Doubled-rope systems

Doubled-rope systems are currently the most common systems used for most work positioning and can be applied to spar poles as well. By adding a small ring on a Prusik to a two-ring friction saver, a climber can fashion an excellent doubled-rope system for work and escape if necessary. (Photo 2)

A device such as a pulley saver or rope guide can also be used. While more complicated, many climbers use them during the crown-rigging phase. Therefore they meet the requirement of being familiar and already present. Deployed properly, they work well as spar-pole TIPs. (Photo 3)

The most important requirement for a spar-pole TIP is that it cinch around the trunk tightly when in use, yet release and become retrievable as the climber and the work move down the spar. Simply tying-in to a branch union is not always possible. And, it may not be safe if the branch has been removed, since the rope may not stay in the union should the tree shake or sway during rigging.

Leaving stubs is another possibility, but they often get in the way and can make wood loading on the ground a burden until they are removed. Like false crotches for rigging, TIPs that cinch to the trunk can be placed anywhere, allowing the climber, not the tree, to dictate the flow of the work. For this reason alone, cinching TIPs are superior to more traditional methods.

Single-line systems

Single-line systems (SLS) are rapidly becoming more popular. One basic method for SLS is to use a running bowline with a long tail for a TIP. The tail is left long enough so the climber can reach
it from the next work position. By descending and securing in with a lanyard, the climber can then pull the tail to release the running bowline and bring it to him or herself. Hence, the process starts over again. A smooth pole with stubs removed is a great aid in retrieval. A tail sized to the length of the piece to be lowered also helps the climber remain consistent with rigging loads.

Mechanical descenders, such as the...
Gri-Gri, can work in this situation. (Photo 4) Climbing hitches can also be used, but a device such as a rope wrench should be added to dissipate the weight and consequential heat on the climbing line and hitch. (Photo 5)

Suffice to say many TIP options are available for SLS and more traditional climbing systems. Use what you are most comfortable with, incorporating components fit for the purpose that meet or exceed life support requirements. Also make sure the system allows for rapid descent to the ground in the event your “escape path” becomes necessary.

**Conclusion**

Spar-pole rigging is tough, heavy work. The climber and the crew must work to maintain the proper amount of physical and mental energy to ensure safety. Proper inspection and planning are vital for a safe, efficient job. Using a climbing system that cinches in place is not only possible, but relatively simple to establish and use. Lanyards in their usual set up – from ‘D’ to ‘D’ – provide the second required means of attachment. They, too, can be made cinching and provide more security, convenience and safety.

With experience, creativity and the proper materials, climbers can develop and employ many types and variations of either single-line systems or doubled-rope systems for spar-pole rigging. Maintaining a clear escape route through an established climbing system keeps the work flowing, the climber’s energy expenditure manageable, and greatly aids in rescue should an aerial emergency occur.

As always when trying new systems, practice low and slow!

Tony Tresselt, CTSP, is director of safety and training for Arborist Enterprises, Inc., an accredited TCIA-member company located in Lancaster, Pennsylvania. He discusses this same subject in more detail in a webinar available on demand from TCIA at [www.tcia.org/webinars/](http://www.tcia.org/webinars/).
Today’s businesses are inundated with ways to reach their customers – traditional print outlets, digital media, social networking, and more. Companies must evaluate all these choices and make strategic decisions about what channels will best work for themselves and for their customers.

TCIA’s Professional Communications Awards program honors marketing and communications excellence for the tree care industry. More than 20 years old, the program has steadily grown in size and scope – and the sophistication of the entries has grown as well. The award is open to all Active and Affiliate (International) TCIA Member tree care companies. Winners are selected in four categories: Brochure, Newsletter, Company Website and Special Entry.

The winners of this year’s TCIA Professional Communications Awards exhibited tremendous success in both choosing their channel effectively and building a piece that epitomizes marketing and communication excellence for our industry.

For all of the entries, the panel of judges not only reviewed the appearance, content and adherence to ANSI and OSHA standards, but also carefully took their entry form answers into consideration. Judges wanted to see how their measurable objectives compared to the actual success of the piece; how the total budget of the piece played into the gross sales of the company; how the piece was distributed to the recipients; and so on.

Ultimately, the TCIA panel of judges chose eight winners that rose above the rest of this year’s submissions.

Brochure category

In the Brochure category, the winners were Lucas Tree Experts and Bartlett Tree Experts. Both brochures convey useful consumer information in an attractive aesthetic. Lucas Tree Experts’ brochure “A Cut Above” is an informational vehicle for utility customers. Lucas wanted to enhance their brand and provide more details about their services and capabilities to utility customers. The piece combines details about their company, testimonials, equipment and technology resources, with information on their commitment to safety and the environment. They touch on a number of topics clearly and concisely in an attractive brochure that features attention-grabbing photos of crews and equipment.

Bartlett Tree Experts brochure “Local Tree & Shrub Care Advisory” is a personalized piece with the sole purpose of introducing their newest arborist representative. The piece provides a brief summary of the new employee’s background and also includes a business card magnet attached for easy reference. The quality and presentation of the brochure is very simple, but extremely successful because it is so targeted to homeowners.

Newsletter category

In the Newsletter category, the winners were Wright Tree Service, Inc. and Urban Tree Service/A Tree Health Company, Inc. These companies both submitted newsletters that balance professionalism with a sense of community, a key factor in this type of communications piece.

Wright Tree Service, Inc.’s piece “Our Family Tree” is a newsletter that seeks to share the successes, news and stories about the company. As an employee-owned company, Wright uses the newsletter to promote a positive organizational culture, encourage employees to strive for and be proud of their success, and inform customers and industry contacts of the latest news. The newsletter (both print and digital) features a nice balance of photos and text in an attractive and highly-readable format, leaving readers feeling cheerful.

The newsletter by Urban Tree Service/A Tree Health Company, Inc. is designed to increase customer retention and general top-of-mind awareness through education articles and seasonal services. The information is interesting and diverse, plus includes high-quality graphics and photos. Additionally, a number of the articles are written by staffers and the newsletter includes a trivia game or contest, which effectively projects the character of the company. Urban customers have told the company that they appreciate that the newsletter doesn’t just try to sell services, but addresses their issues and shares relevant information.

Urban Tree Care newsletter.
Website category
In the Website category, the winners were Arborwell and Almstead Tree & Shrub Care Company. These effective websites are easy to navigate, crisp and attractive, and include great information.

Arborwell’s website was recently redesigned to provide a cleaner, more efficient platform for customers and prospects to learn more about the company. The website is easy to navigate, features useful information for customers and is interactive – customers can set up their own accounts, request a consultation, etc. Arborwell was also recently awarded Outstanding Achievement in Web Development by the Web Marketing Association.

Almstead Tree & Shrub Care Company wants their website to make customers feel confident in their company. The layout of the website is easily to digest, features a good balance of content and photography, and is attractive. The site, written and designed in-house, also features interactivity, which has increased both their visitors and sales.

Special Entry category
The Special Entry category encompasses marketing and communications initiatives that don’t quite fit into the traditional categories. The winners this year were Arborwell and Arborist Enterprises, Inc. The special entry campaigns by these two go beyond the traditional and speak effectively to the consumer through multimedia campaigns and/or out-of-the-box thinking.

Arborwell’s well-executed piece was a brochure that sought to entice potential recruits to join the Arborwell team. The piece illustrates the success, vision and growth of the company through statistics, testimonials and effective graphics. It speaks effectively to the audience and manages to cover lots of angles without being cluttered or overwhelming.

The special entry submitted by Arborist Enterprises is a campaign that seeks to increase awareness of emerald ash borer (EAB) and also reach out to potential customers. The strategy informed customers about EAB action through articles, newsletters, postcards, brochures, website alerts and a custom-designed EAB website. This cross-platform approach manages to inform customers in a variety of ways without being too pushy or talking down to customers.

Congratulations to all the winners this year. TCIA looks forward to seeing all of next year’s innovative marketing submissions! Details at www.tcia.org.

Arborist Enterprises won for its “Save Your Ash” multimedia campaign, which included coordinated newsletters, postcard mailings, flyers and Web content.
If you’ve been looking at aerial lifts lately, one thing you’ll notice is that they’re offering more power options in addition to engine sizes, efficiencies and fuel. A closer look reveals that lifts of every configuration are offering multiple power options on the same unit. Today, multiple power options mean hybrid technology with a host of benefits.

Just as with hybrid cars, today’s hybrid lifts are built with a pair of power sources. Typically, there will be one primary source, usually a liquid-fueled (gasoline or diesel-powered) chassis, which drives the lift to or around the worksite, and a secondary one to run an electric system to hoist the lift and do other things. That secondary is designed to run power tools (either electric or hydraulic) as well as provide additional power for things such as cab heat and air conditioning, or outriggers, without running the engine.

Alternatively, you may find one that’s basically battery-powered with a secondary electrical setup, such as a plug-in device or even a gas “pony” motor powering a small generator.

The concept of a hybrid lift may be a little difficult to wrap one’s head around at first, but as the options are explained, the whole idea gets to be more understandable, and the myriad of options may spark ideas about customizing a piece of equipment tailored to your business.

Mark Greer is the Green Fleet market manager for Altec Industries. “Green Fleet is our term for hybrid, electric drive and alternative energy products that improve the operating efficiency of aerials,” he says. We’ve been involved in providing electric...
and hybrid electric systems for more than a decade and have placed more than 200 hybrid-electric chassis into the utility market.”

“As customers have become more aware of integrating hybrid vehicles into their businesses, they have discovered additional things to benefit them, especially off-road,” Greer says. “As users get familiar with hybrids, they are finding that if they had more battery capacity they’d be able to operate more with the main engine off. That means no idling and a dramatic reduction in fuel consumption, tailpipe emissions and noise. Systems with even more and higher-capacity batteries are in development.”

Hybrid technology, as far as aerial lifts are concerned, is all about energy management on the job.

Mark Greer, Altec

Hybrid technology, as far as aerial lifts are concerned, is all about energy management on the job. To that end, according to Greer, “About three years ago, Altec established our Jobsite Energy Management System, or JEMS, and so far have deployed about 300 units to investor-owned utilities, municipalities and government agencies. These hybrids are typically class 5 vehicles with 37- to 40-foot aerial devices. They are principally used on trouble trucks, allowing an operator to move around to investigate and repair telecom and utility line problems.”

“Altec also offers auxiliary power units in cases that have higher power requirements than a battery system can provide. Operating on either gasoline or diesel, these auxiliary (formerly called “pony” motor) power units can deliver direct power or charge a battery.

Greer describes them as either APU or APG units, and the differentiation is important to keep in mind when shopping for a lift. The APU powers hydraulic equipment. The APG is an electrical generator. Some companies also provide crossovers with both hydraulic and electric auxiliary power, kind of a “hybrid” hybrid.

“Initiatives like JEMS grow out of the old days of letting a truck idle eight hours a day and the need to eliminate or reduce noise and emissions,” Greer states. “The APU and APG engines consume far less energy (and fuel) and were a step in helping the lift market move to battery power that has virtually no emissions.”

According to Greer, “Our Green Fleet initiative works to find the right mix of power sources based on the customer’s duty cycle or work practices. We are not a one-trick pony. We want to place the right technology with a customer that is right for their business. This is a rapidly evolving market. Sometimes the choice is made by the customer based on efficiency or performance, or in some cases it must be made based on government incentive or a directive, such as regulatory compliance.”

“Tree care presents an interesting application. Because, as a part of the process, workers move the boom a lot, the duty cycle puts a lot of load on the system. With a hybrid system, they can go to a (gas) chain saw, for example, versus running a

The Terex HyPower hybrid system uses stored energy from rechargeable batteries to power the non-propulsion functions of the vehicle, potentially reducing fuel consumption by up to 1,200 gallons per truck per year, according to the company.
continually powered hydraulic (chain saw) that draws down a battery system quicker,” Greer says. “By electrifying a vehicle and running a (gas) chain saw only when needed, we are being more energy efficient.”

While the duty cycle for tree care is complex, it offers major opportunities for savings. For example, a diesel-powered truck or chassis platform may no longer be required. Since it no longer has to run all day, a less expensive gasoline version using less expensive gasoline may be an option.

For Terex, the answer to improving fuel economy, reducing emissions and increasing productivity for the aerial lift market is the Terex HyPower hybrid system. It was initially designed for the utility industry to enable trucks to become plug-in hybrid electric vehicles, allowing operation of outriggers, booms, lights, flashers and other accessories without having to start the truck’s engine. The HyPower hybrid system uses stored energy from rechargeable batteries to power the non-propulsion functions of the vehicle, providing quiet boom operation at the worksite and capable of reducing fuel consumption by up to 1,200 gallons per truck per year, according to company calculations.

“We offer the Terex HyPower system to customers through new equipment or retrofit,” says Jon Promersberger, who works in engineering research and development for Terex, adding that the HyPower system can be fitted to most existing chassis with a Terex boom. “The main basis for our system is that it be a battery-power hydraulic system for operating the aerial lift.”

The process is simple, he says, “To recharge the batteries, simply plug the system into a standard 110-volt outlet. It takes about six hours for a full charge. If you’re in the field and cannot plug in, the lift’s main engine can temporarily charge the hybrid system by running the diesel engine for five minutes. If you use a lot of power or could not recharge the system overnight, running the diesel engine for 30-minutes can provide the equivalent of a full night’s charge.”

“In tree care, if you are using saws that are powered by the vehicle’s hydraulic system, that will use energy and require more recharges,” Promersberger says.

Major system components of the kit include battery packs on each side of the vehicle chassis frame, standard power take-off (PTO), standard hydraulic pump, combination motor/generator unit, hybrid system controller, all-electronic chassis cabin HVAC system and inverter for exportable power (extra plug-in ports).

Man Lift Mfg. Co. (formerly MLE) is a manufacturer of specialty mobile hydraulic equipment and aerial work platforms located in Milwaukee, Wisconsin, where all of their products are made.

“We introduced track-drive lifts to the tree care industry at TCI EXPO four years ago, and two years ago focused on the A73TDi insulated model” says Sarah Fronczak, Man Lift sales engineer. “We
listened to the tree industry to determine what users wanted. The result is a working height of 79 feet. That’s a sweet spot for tree care,” Fronczak says. She says this unit only comes insulated. “Not everyone works around power lines all the time, but eventually you will, so we have that extra safety option now standard. The jib is fiberglass, the boom is steel which adds durability and stability” she says. Both lower and upper booms are telescoping and the fiberglass jib is articulated.

Standard power is via a small but efficient 14.5-horse Kubota diesel. Fronczak says, “Even with the smaller, more efficient engine, we still have power for sufficient boom speed.”

One of the things Man Lift accomplished in designing this lift was to build one machine specially for tree work rather than compromising by having it do other commercial work, such as window cleaning or building maintenance, because specific needs for each are quite different. The company looked at features needed by each industry and while the units they came up with are very much alike with respect to the lift, the power drives are different.

Fronczak says, “For indoors, we offer a full electric system version and for outdoors, full diesel. In the off season, some tree care users may want to use an electric setup, such as in courtyards, because it is quiet and non-emitting. So, we offer an AC power plug-in as an option. This provides full operational capability and close to same speed.”

For a similar electric but non-tethered setup, we can fit the A73TDi with battery pack if you want,” says Fronczak. “Our atrium version has a 48-volt battery system and does not have diesel. When indoors (you may not want to be stuck to a cord), but you can plug in and charge while operating or you can also plug into a generator on the machine and charge the unit.”

And the company is planning to continue to develop equipment specifically for the industry, according to Phil Sprio, the company’s new president and CEO, who says, “Man Lift Mfg. Co. has made a long-term commitment to the tree care industry. Our approach is to provide our owner operators with the tools they need to be more productive and increase their bottom line while using technology to keep them safe.”

With regard to power options, Scott Reynolds, president of Teupen USA Inc., maker of mini or crawler lifts, says, “Teupen chose, as our prime engine or drive mechanism, the Kubota. Smaller machines, such as on the LEO13, are electric.”

Of the smaller units, he says, “Using a 110 AC plug-in electric motor is primarily for interior facility or close-in applications, such as having to drive outside to fix a light or flagpole.” These provide a 42-foot working height (platform height plus 6-foot worker reach). “We also actually offer a piggyback system to add a generator to make for a self-contained unit to run off a 4.3kW inverter.” Silenced and sound atten-
uated, this setup allows an operator to work un-tethered in electric mode, which has appeal for urban neighborhoods, he says.

“Our eight other units run with Kubota engines ranging from 13.5 horsepower on the smallest to 48 horsepower on largest. For the North American market we find it best to specify a single engine option, though we can put small gasoline engines on our machines, such as Hondas. But we find that for long-term durability and fuel efficiency the Kubota is the one we use to best match our design and meet horsepower requirements.”

“We do not need to be overpowering and delivering big horsepower to run our tracks, outriggers and booms. We think Teupen excels with low energy-use machines, from the design of our booms to the mechanicals needed to operate the boom. We think low energy can go with low flow yet be efficient and have a positive green impact,” maintains Reynolds.

He adds, “Every machine also comes with a standard AC electric motor, so every machine can also plug into 20-amp outlet with an extension cord to run the track, outrigger and boom. This might be enough to get that extra contract, such as light maintenance, to be able to plug in indoors on electric power.”

“From a pure fuel efficiency standpoint, if you are set up in a backyard, you can run an extension cord to a building.

“What we are seeing is some users plugging in for the sake of emissions and fuel consumption. Everything can start and stop from the basket. You can position the machine by driving up to the work, hit the engine-off, elevate the boom and run a saw, for example, then move to the next position. Anything to conserve,”” he says.

“For tree care in the mid-range we offer the LEO 23GT, and the 25T, 30T and 36T (numbers refer to height in meters). All have options for DC battery system and AC plug-in, though we have not yet sold one to the tree care industry. So far it is not the right application. You typically see these in convention centers, on airport tarmacs or in shopping centers where you’d not want to run diesel,” Reynolds says.

One conclusion to draw is that hybrid aerial lifts are not a coming thing, they are here. And they are a proven technology, not only in terms of eco-responsibility, but also in functionality and bottom-line efficiencies.
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Patrick “Tim” DeCoste, founder of The Arborist Inc. in Bristow, Virginia, has spent much of his time observing trees.

“I think, in general, that there isn’t a solid understanding of what trees can take,” he says. “Some arborists do a lot of things they think are good for trees, but are not, such as lion’s-tailing for wind resistance; there’s no scientific support for that. Trees protect themselves. The wind goes around them, not through them.”

DeCoste, president and general manager of the company, has a degree in biology and worked for years in residential and commercial tree care before founding The Arborist in 1997. He’s an ISA-certified arborist and a CTSP. He has a Maryland arborist license and has customers in Washington, D.C., northern Virginia and Maryland. Close to 98 percent are residential.

The company does general tree care, very conservatively and often in different ways than customers expect, he says. “One of the ways we handle things differently is when it comes to pruning and IPM (integrated pest management),” he says. “I tell customers daily that trees have been trees for several million years; my specialty is looking at tree care without trying to sell stuff. Still, things need to be done.”

Seventy percent of their work is removals. Thirty percent is pruning, which he considers both an art and a science. Most of their work is on urban trees, often in tight quarters such as the backyards of townhouses. Almost all their removals are done by hand. They only use cranes once or twice a year.

“Our climbers are very proficient,” DeCoste says. “We’re technically proficient when it comes to pruning, too. We do pruning exceptionally well. In the past, it’s been too expensive for most people, but it’s been increasing in recent years.”

The Arborist is a licensed pesticide business in Virginia, the only state that requires the license. For pest control, they evaluate the tree species, its environment and condition, and are very conservative in deciding whether to use a chemical or not.

For many years, soil scientists recommended that tree care companies do soil tests before they fertilized a tree, he says, but that practice often has fallen by the wayside. The problem is that whenever any kind of chemical is applied to the soil, there’s a potential to change the tree’s environment, and we don’t have a good enough understanding of the dynamics of soil, DeCoste says. When an all-purpose N-P-K fertilizer is applied, other compounds are applied in with it. Often the soil doesn’t need all these compounds and the tree can become overloaded. The Arborist always does soil tests before fertilizing.

“That’s what you get when you call me,” DeCoste says. “I’m going to accomplish what you want, but not in a way that will damage trees. We take a conservative approach to it.”

DeCoste is also a member of the American Society of Consulting Arborists (ASCA). He does hazard tree evaluations and tree preservation during construction as well as meets with homeowners’ associations to train them in the care of their trees.

The company also does a small number of tree installations, and some cabling and bracing, lightning protection, tree lighting and emergency services. It has six employees in the winter, including DeCoste, and 10 in the summer. Two have been with the company for 13 of its 14 years. He treats employees well, he says, with a competitive benefits package, safety training sessions and maintained and modern equipment.

His customers also are loyal. “For the most part, we get our customers through word-of-mouth,” he says. “We’re in a couple of publications, but it’s mostly through
customer satisfaction. We take responsibility for what we’re doing. When there’s a problem, we fix it as soon as we find out about it.”

The company became accredited, in October 2011, for a number of reasons.

“You start a business and no one really tells you how to do it,” says DeCoste, who is also a volunteer firefighter and emergency medical technician (EMT). “No one checks to make sure you’re doing things, for example, using safety protocols. The only way I can see to get that is to get accredited. I’m doing this to protect my guys. I want them to be healthy and safe and to have a good job.”

Accreditation also protects companies. Being accredited ensures that they’re complying with all the relevant laws. If you’re doing things right, he says, you don’t get sued.

In addition, he wanted all the employees in the company to be on the same page with the office policies, DeCoste says, and he wanted to differentiate the company from other companies that aren’t accredited.

“Our biggest industry problem is that we sometimes don’t operate in the right way, for example, on bid specs,” he says. “I think Accreditation needs to be made a big deal of so everyone is on the same page. It should be more of a standard. The government isn’t doing the job. And if the government isn’t, then somebody has to, so TCIA is doing it.”

DeCoste undertook the whole Accreditation process himself. It took about a year.

“A crew for The Arborist sets up the work site. Being accredited helps ensures a company is complying with all the relevant laws, says Tim DeCoste.

“The business plan was the hardest,” he says. “I’d been operating for 14 years without one.” And in fact, documentation was the only process he had to change. The safety policies, the operations and the processes, such as dispute resolution, were already in place.

“There are a lot of things in the Accreditation program, from safety to policies and procedures to documentation. Being accredited separates the men from the boys.”

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TREE CARE INDUSTRY – APRIL 2012

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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.

For the previous pic, above, which ran in the March 2012 issue, safety violations include:

Worker on the left:
1) no eye protection (ANSI Z133, 3.4.7) (We gave you that one!)
2) no fall protection – lanyard or harness (5.2.2)
3) He appears to be making a dangerous overhead cut with not supportive line on the limb. It will fall on his head.

Worker on the right:
3) free climbing/no fall protection – lanyard or harness (5.2.2)
2) Inappropriate clothing for arboricultural operations (shorts instead of long pants).

Z133, paragraph 8.1.20 says, “While ascending a ladder to gain access to a tree, the arborist shall not work from or leave the ladder until he or she is tied in or otherwise secured.” In the photo, the arborist on the left is clearly working off an orchard ladder and is accessing (although not entering) the tree canopy. Arguably, he should be secured from falling.

Congratulations to Billy Jones, foreman, Townsend Tree Service, whose name was drawn from our group of February respondents. He wins a copy of TCIA’s new Pro Arborist Series Volume 1: Climber Safety, a $44.99 value ($34.99 Member price).
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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 Chicagoland base for upper Midwest area, Southern California base for West coast area and Atlanta to Charlotte corridor base for the Southeast area. Other locations will be considered depending on the 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.

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Promoting a Sustainable Future through Education

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**Thursday, August 9**
CTSP Workshop

**Friday, August 10**
CTSP Exam

**Saturday, August 11**
ITCC Masters' Qualifying Events
Tree Academy Workshops
Arbor Fair, Arbor Market, and Fun Climb

**Sunday, August 12**
ITCC Masters' Challenge and Head-to-Head Footlock
Tree Academy Workshops
Student and Early Career Networking Reception
Opening Ceremony and Welcome Reception

**Monday, August 13**
Educational Sessions
Trade Show
Climbers’ Corner

**Tuesday, August 14**
Educational Sessions
Women in Arboriculture Breakfast
Trade Show
Student and Early Career Mentoring Lunch
Climbers’ Corner

**Wednesday, August 15**
Professional Affiliate Educational Sessions
SCA Tour
SMA Tour
AREA Lunch
EAA Lunch

**Full-conference registration:**
Includes Sunday Opening Ceremony and Welcome Reception,
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**Register by May 31 and save.**

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*(Includes an ISA Professional Membership for the 2013 membership year, which begins on September 1, 2012)*

For detailed conference information visit www.isa-arbor.com/conference.
By Tamsin Venn

Executive Profile

James Pennefeather, vice president of sales & marketing, has been with the company for 37 years.

What is Buckingham Manufacturing all about?

We’re a very service oriented company with an emphasis on safety, and that is why we are involved in the consensus standards such as ANSI and ASTM. Buckingham is an ISO 9001:2008 certified company and proud of the testing and training we do on all our products. We pride ourselves on innovation for safety and to make the job easier and more comfortable. We’re always looking at improving products and we continually talk to the end user to address concerns they may have.

What is your newest product for tree care?

We work with ArborMaster® and C.O.R. Ergonomic Solutions, who assist us in developing products. An example is the Ergovation Tree Saddle, designed so the user can make it fit his or her body rather than have the body adapt to saddle. It is the first product I know of where the work-positioning D rings are adjustable. It provides lumbar support with a stabilizing strap to keep tension on the lower back, and extra padding under the D rings to prevent pressure on the hip bones. The new ErgoLite is a scaled down version, with fewer ergonomic features and benefits.

A concern for the industry is working over power lines using a full body harness and 6-foot lanyard and falling into an energized line. The new Buck-It Restraint System moves the anchor to the bucket and, when connected directly with a carabiner to the anchor loop, reduces the potential of being catapulted. There is also a back-up anchor strap that prevents the bucket and person from hitting the ground.

The Buck RigidLine is a work-positioning lanyard that acts like a wire core flipline, but without the metal core, making it easier to flip the lanyard in the tree because of its rigidity, which is good for large diameter trees.

For the person working at heights there is a need to have a means to rescue oneself or another person who maybe injured. The new high-elevation Self Rescue System (301SR) comes in a lightweight, compact design; the descent line has a locking brake that, if released or squeezed, stops you from descending. There is a sweet spot that allows a person to descend to safety.

For climbing and rigging, the BuckBlocks are a new concept that allow the user to install and remove a climbing line while standing on the ground. The new blocks are a time saver because the user can install a line high into a tree without climbing. The BuckBlocks have a high tensile rating and provide an ideal bend radius of the line.

Our ideas are generated from customers and everyone at Buckingham. No one person can do it all. We have engineering, manufacturing, sales personnel all get together and review customer ideas and product improvements to see how we can collectively take our ideas and build the best product. We even use the engineering department at SUNY Binghamton to help test some of our products, such as our titanium climbers.

What image does your company look to portray?

One of safety, which would go with quality and innovation.

Does your company have a Mission Statement or Statement of Values that you promote and follow?

There’s a joke around here of, “Yes we can.” We’re really geared so that, if
customers need something, we can help solve the problem, and get it to them when they need it. But safety is number one; everything we make, we test from a lot of different angles. We have everything we need to test things here before we put the product on the market.

What is greatest challenge your business is currently facing?

One of the things we do, and what a lot of people accuse us of, is over-building our equipment, making it last too long. A guy will call up and say his climbers are 35 years old. For the user’s safety, they should replace a saddle or climbers that are old, especially considering your life depends on them. It’s a matter of educating people: not to punch extra holes in the material or modify a safety feature, and to use the gear the way it was intended.

Manufacturers have to meet higher standards now. Standards change and you have to stay on top of what is required. It used to be that snap hooks and the gateloads had a much lower rating. We follow consensus standards such as ANSI and ASTM, plus OSHA regulations. We have someone attend all standard-making bodies that pertain to our products. One of the bigger problems is to get people to be cautious about their safety equipment. Some companies are really safety conscious, checking it daily, but some will continue to use a product that is badly worn or cut; safety is not always their priority.

We partner with training companies, such as ArborMaster, C.O.R., and Arboriculture Canada Training & Education, and have brought in such experts to help train our personnel. So, if a customer calls up and says he wants a split tail or a Port-a-Wrap, they are knowledgeable about the product.

Does your company use Social Media for marketing?

Some but we’re looking into it more, and we’re planning to post a training video on sizing of the Ergovation on YouTube. It helps the customer if they can see a visual rather than read how to do it.

If we interviewed your customers, what would they say?

I would hope they would say that Buckingham makes quality products, is service oriented with many innovative ideas.

Why does your company support TCIA as the industry’s trade association?

TCIA’s main function is to help the tree

(Continued on page 52)
Fewer broken baseball bats thanks to USDA Forestry lab

There has been a 50 percent reduction in the occurrence of certain types of broken bats in Major League Baseball since 2008 thanks to research by the USDA Forest Service.

“Since Major League Baseball’s partnership with the USDA Forest Service began in 2008, we have witnessed a dramatic decrease in the number of broken bats thanks to the extensive efforts of the scientists from the Forest Products Laboratory, especially Dave Kretschmann,” said Dan Halem, MLB’s senior VP of labor relations.

There has been a 50 percent reduction in multiple-piece failure (MPF) rates in baseball bats in three straight seasons, a 2011 report stated.

Kretschmann, a research engineer at the FPL in Madison, Wisconsin, has seen video of every shattered bat. He’s tested and analyzed hundreds of bats, and recorded the who, when and how of every breakage in 2009, 2010, and through the early parts of the 2011 season. Through his recommendations and the cooperative work of TECO, an independent certification and testing agency for wood products overseeing changes from the factory to the dugout, baseball players, owners and fans have reaped the rewards of increased safety through practical science.

“Most of my initial recommendations addressed “slope of grain” issues,” says Kretschmann. Slope of grain refers to the straightness of the wood grain along the length of a bat. Straighter grain lengthwise is associated with less likelihood for breakage.

“One change made to address this issue, something that players and fans can easily see,” says Kretschmann, “is a small ink dot placed on the face-grain of bat handles. This helps identify grain characteristics at just a glance.”

While broken bats have always been part of the game, MPF is something relatively new. With recent changes in bat geometry, wood species used to manufacture bats, and inconsistencies in the grain of the wood itself, up until 2008 there had been an increase not only in cracked or broken bats, but also in bats dangerously shattering into multiple pieces on contact.

One particular modern bat design feature, a thick barrel tapering quickly to a much thinner handle, is also associated with increased multiple-piece failure. All MLB bats need to weigh about the same, so a bat using a larger volume of wood needs to use lower density wood, which is also weaker. Over-drying during the production process, says Kretschmann, can create weaknesses and affect a bat’s strength integrity.

Thanks to these findings, the 2010 season saw limits to bat geometry dimensions, wood density restrictions, and wood drying recommendations. Shattered bat incidents continued to decrease under these new limits, and the trend continued into the early parts of the 2011 season.

iPhone app helps Identify harmful, nonnative plants

U.S. Forest Service research and funding have led to the development of a free software application that will help people identify and control destructive invasive plants in Southern forests and grasslands.

Development of the app is part of the USFS’s multi-faceted strategy to reduce the impact of nonnative species — animals, pathogens and plants. These invaders deplete water supplies, poison wildlife and livestock, and damage property in urban and rural areas at a cost of about $138 billion annually. Congrassgrass, nonnative privets, autumn olive and tallowtree are among the most common plants plaguing the South.

The Invasive Plants in Southern Forests: Identification and Management application is currently only compatible with Apple products – iPad, iPhone and iPod Touch – and available through iTunes. The software provides photos and information that allow users to identify the 56 nonnative plants and plant groups currently invading the forests of the 13 Southern states. Versions for other operating systems are being explored.

A grant from the Southern Research Station funded the application, which was developed by the University of Georgia Center for Invasive Species and Ecosystem Health. The software is based on Southern Research Station field and management invasive plant guides.

Like the guides, the app divides invasive plants into trees, shrubs, vines, grasses, ferns and forbs and provides identification keys, photos and management recommendations. App users also get simple, on-the-spot options for treating invasive plants. Future versions will include the ability to directly report new sightings of select species into the Georgia Center’s Early Detection and Distribution Mapping System, which provides a quick way to submit photos and report new sightings of invasive plants on the spot throughout the United States.

Suggestions for improving the application can be emailed to the app’s creator, Chuck Bargeron, at cbargero@uga.edu or submitted to the iTunes Website.

Buckingham

(Continued from page 51)

care companies function better. We sponsor both TCIA and ISA because they’re well recognized in the arborist industry. They serve different functions, but both are essential.

What TCIA programs is your company involved with?

Crown sponsor in the Partners Advancing Commercial Treecare (PACT) program, TCI EXPO exhibitor, TCI Magazine advertiser, Winter Management Conference attendee. I have served on the TCIA Nominations and Safety committees. Buckingham educated the industry on keeping up to date with ANSI Z359 (fall protection systems and equipment used in general industry).

Other comments?

We’re not trying to be a fall protection company for everyone. We want to stay with the core, and focus on what we’re good at.
Letters & Emails

Word Usage: Electrocuted or electric shock?

In your January issue of Tree Care Industry Magazine, I noticed you used the word electrocution, on page 28, in the context of a tree trimmer who was “rescued after being electrocuted.” I have seen the word “electrocuted” used before where the electric shock did not result in a fatality, but I think you will find that this use is in error.

I believe if you will check your definitions, the word “electrocuted” only applies in the case where there is “death.” If a death is not the result, my understanding is that the term “received an electric shock” should be used.

A. Definition of electrocution by

B. Definition of electrocution in the medical-dictionary.thefreedictionary.com/electrocution

e lec tro cute (-l k tr -ky t ). tr.v. e lec tro cut ed, e lec tro cut ing, e lec tro cut es.
1. To kill with electricity: a worker who was electrocuted by a high-tension wire.

Duke Energy Corporation

Brian: My bad. Consensus here is that you are correct. I think I was being lazy; but also I don’t think I was sure that it was that clear cut, the right/wrong use. Now I do. Thanks for the feedback! – Don Staruk, editor, Tree Care Industry Magazine.

Accident Survey for 2010-2011 operations is underway

Please participate in the accident survey for 2010-2011 operations, now underway.

Please complete the survey online at www.tcia.org under the Safety tab, or find a self mailer version of the survey wrapped around your March issue of TCI Magazine. Or, call 1-800-733-2622 to have a form sent to you.

Please complete and return it by April 15. Thank you, in advance, for participating.

Send letters and e-mails to: editor@tcia.org, or tweet to @voiceoftreecare
Who’s Afraid of a Little Old Snake?

By Larry R. Phillips

I’ve been working in the tree business for 41 years and have been incorporated since 1985. I’ve seen and experienced all sorts of situations, with employees, wildlife in trees and with customers, but my true and most universal—and “now” funny—experience included all three.

I was employed by the kindest elderly lady anyone could ever meet. She wanted her favorite tree to be deadwooded, this tree being a large elm. I gave her a senior discount price and she was more than happy and ready for me to do the work ASAP.

I showed up bright and early on her scheduled day with two employees ready to work. I positioned the bucket truck next to the elm.

Once in the bucket, I noted that I needed to inch a bit closer to the tree, so I move the bucket closer, but in doing so, I bumped a large limb. Normally that would pose no particular problem, but I awoke a long, black sleeping snake. Not only did I awaken it abruptly, but I jarred it off the limb, landing it in my bucket.

I’m not a fan of snakes anyway, and here I am 30 feet in the air screaming and doing a jig with this snake crawling up my pant leg.

The customer came out of the house in a flash; she’s screaming “Are you alright?”

My employees absolutely are afraid of snakes so they’re no help at all, but what could anyone do? My employees were jumping up and laughing, while my elderly customer was concerned for me. I did what any sensible man would, lose my ego and bail out.

So I jumped out of the bucket and hugged the limb of the tree. The snake and I traded positions. I climbed down the tree and when I was on the ground with my pride barely intact, walked over to the bucket truck and lowered the bucket to the ground, the over-anxious snake gratefully slithering away.

I joke to this day that, “I know I was stressed out after this surprise, but I could swear I saw that snake smiling as it crawled away.”

Larry R. Phillips is president of All Professional Tree Service, Inc. in Fisherville, Kentucky.

TCIA will pay $100 for published “From the Field” articles. Submissions become the property of TCI and are subject to editing for grammar, style and length. Entries must include the name of a company and a contact person. Send to: Tree Care Industry, 136 Harvey Road, Suite 101, Londonderry, NH 03053, or editor@tcia.org.
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Although the last bill anyone should ignore is a tax bill, that is exactly what many foresters, arborists and other tree care professionals – and their businesses – are doing. What will happen and what should you do if you cannot pay your taxes on time?

It is well documented that the Internal Revenue Service wants “its” money immediately and has many tools at its disposal for collecting any and all tax debts. Less well-known are the legitimate options that can help avoid the trouble, interest and penalties that accompany unpaid tax bills.

There are procedures for requesting payment extensions as well as installment payment arrangements that will keep the IRS from instituting its collection process (liens, property seizures, etc.) against the tree care business – or its owners.

Penalyzing penalties
The IRS is only too happy calculate the penalties and interest for all unpaid tax bills since few taxpayers are aware that there are, in general, three separate penalties:
- Failure to file penalty
- Failure to pay penalty
- Interest

The “failure to file” penalty accrues at the rate of 5 percent per month or part of a month (to a maximum of 25 percent, reached after five months) on the amount of tax the return should show as owed. The “failure to pay” penalty is gentler, accruing at the rate of only 0.5 percent per month or part of a month (to a maximum of 25 percent reached after 50 months) on the amount actually shown as due on the return.

If both apply, the failure to file penalty drops to 4.5 percent per month, so the total combined penalty remains at 5 percent. Thus, the maximum combined penalty for the first five months is 25 percent. Thereafter, the failure to pay penalty can continue at 0.5 percent per month for 45 more months, yielding an additional 22.5 percent. In total, these combined penalties can reach 47.5 percent of the unpaid liability in less than five years.

Both of these penalties are in addition to interest charged for all late payments. If estimated tax payments were also missed, an additional penalty is tacked on for missed estimated tax payments. This penalty is computed at 3 percent above the fluctuating federal short-term interest rate for the period.

When it comes to paying the tax bill, and hopefully avoiding penalties and interest, the options include borrowing or paying by credit card.

Borrowing to pay taxes
Given the rate at which the above-mentioned penalties and interest grow, many tree care business owners and managers borrow money to pay their taxes. In many situations, the rate of interest paid to a family member, or even to a bank, is less overall than that which would have to be paid to the IRS.

Loans from relatives or friends are often the simplest method to pay the bill. When loans from relatives, friends or the operation’s owners/shareholders are not available, a loan from a bank or other commercial lender might be the answer, although such loans are unlikely to be made on favorable terms to any hard-pressed taxpayer. Moreover, unless business related, interest on a loan to pay taxes is usually nondeductible personal interest.

Charge it
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ness or its owners can file early and make a payment by credit or debit card later, thus delaying out-of-pocket expenses.

Credit card loans are however, likely to carry high rates of interest, interest that is in most cases, not tax deductible. While the IRS does not receive or charge any fees for card payments, so-called “convenience” fees are charged by the service providers.

While the IRS cannot pay or reimburse any convenience fee to taxpayers, service providers “convenience fees” are a deductible business and individual expense.

Keep in mind that federal tax deposits cannot be made through these options. Furthermore, amounts not properly deposited may be subject to a 10 percent penalty for failure to deposit through an authorized financial institution or the IRS’s Electronic Federal Tax Payment system (EFTPS).

Procrastinate

The IRS is quite clear: it wants all taxes paid when due or sooner, even demanding immediate payment when granting exten-
sions of time in which to file the tax return. Under some circumstances, however, a short-term (120 day) extension may be arranged. A short-term extension gives a tree care business or its owner up to 120 days to pay. No fee is charged, but the late-payment penalty plus interest will apply.

An extension of time to pay is also available to those who can show that payment would cause “undue hardship.” Qualifying for an undue hardship extension means an extra six months in which to pay the tax shown as due on the tax return. The failure to pay penalty will be avoided although interest will still be charged.

Should the IRS determine a “deficiency,” i.e., taxes owed are in excess of the amount shown on the return, the undue hardship extension can be as long as 18 months and, in exceptional cases, another 12 months can be tacked on. However, no extension will be granted if the deficiency was the result of negligence, intentional disregard of the tax rules, or fraud.

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would just be inconvenient to pay your tax when due; payment must be shown to be a real hardship.

Time trap
The IRS will often accept installment payments for some tax debts. Generally, the IRS allows taxpayers to make installment payments on the taxes owed – if $25,000 or less. In fact, the IRS is required to enter into a “guaranteed installment agreement” where the tax liability is $10,000 or less (not counting interest and penalties).

If more than $25,000 is due, payment plan options also exist, although the IRS must first determine eligibility.

Unfortunately, while partial-pay installment agreements are relatively easy to obtain, the IRS can re-evaluate the terms every two years. If, for example, the IRS thinks a taxpayer can afford bigger payments, then the partial-pay installment agreement might have to be re-negotiated.
The taxpayer can also request re-evaluation at any time should circumstances change to such a degree that the agreed upon payment can no longer be made.

Making the IRS an offer
Yes, negotiating is an acceptable practice when it comes to tax bills. An offer-in-compromise is an IRS program that many arborists, tree care professionals and businesses have used to settle their tax debts for a fraction of face value. It cannot, however, be requested beforehand.

Naturally, the taxpayer must be in compliance and must have the ability to pay and to borrow. For example, the taxpayer must be current on estimated tax payments or federal income tax withholding, must be making payroll tax deposits on time, and must have filed all tax returns when making an offer-in-compromise.

Like any creditor, the IRS prefers a partial payment to no payment at all. Thus, the IRS might be willing to settle a tax bill for less than the full amount if: a) the owner or the tree care business is unable to pay the full amount, b) there is doubt as to how much the tax liability is, c) collection of the liability would create economic hardship, or d) due to exceptional circumstances, such as a medical condition that prevents proper management of financial affairs or reliance on erroneous advice.
from the IRS, the IRS’s collection of the full liability would be detrimental to the fair and equitable administration of tax laws.

Reasonable cause

If the owner or the tree care business can demonstrate that a reasonable cause exists to abate or remove tax penalties, they may be surprised to find those penalties forgiven by the IRS. The IRS determines if reasonable cause exists by considering all the facts and circumstances.

Ignorance of the law is generally not an excuse to avoid meeting one’s tax obligations. However, when combined with other factors, such as the taxpayer’s level of education, whether the taxpayer was subject to this tax before, if the taxpayer was previously penalized by the IRS, if there were recent changes in the law or forms that the taxpayer could not reasonably have known, or if the complexity of the issue involved was substantial, penalties may be abated.

Serious consequence avoidance

No business or business owner should allow an inability to pay their tax liability in full to keep them from filing all tax returns properly and on time. It is also important to remember that an extension of time to file tax returns does not extend the time to pay the tax bill.

Generally, tree care businesses and/or their owners have several alternatives for resolving unpaid taxes: installment agreements, partial-pay installment agreements, or an offer-in-compromise. Two other options, filing for bankruptcy or being declared “not currently collectible” by the IRS, are far less desirable strategies.

The complexity of the tax rules and the many options available to every tree care professional, arborist and business owner unable to pay their tax bills obviously require professional guidance.

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