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Outlook

All it would have taken was Just One More Step ...

ike most of you out there, I lead a very busy, very complicated life. When it comes to taking care of myself, I have to start the day out right—or it’s not going to happen. There is a declining likelihood throughout the day that once I’ve finished working for you that I’m going to go home and exercise for over an hour. So I’m up before the sun and get that ticked off the day’s list before I get started, and it’s often when some of my most creative thinking for TCIA gets done, in that solitude.

My habit is to go downstairs, do Pilates for 40 minutes, change into some appropriate shoes, and then it’s onto the stepper or the treadmill for another 30 minutes. About a month ago, I had a moment when everything about what TCIA is trying to do to Transform the Industry’s safety record became crystal clear to me in a very personal way.

I was stepping away and had been going at it for about 10 minutes. I happened to glance down, and I noticed that I still had my slippers on—not the “appropriate shoes for exercise equipment”—otherwise known as appropriate PPE for the situation. In that moment, my mind went, “I don’t want to stop, get off, and change shoes. I’ll just keep going. I probably won’t slip.” And then, it happened. I heard Peter Gerstenberger’s voice and the voices of the safety professionals who had helped to build our new Certified Treecare Safety Professional program, and I heard the many voices of the members of TCIA’s Safety Committee and Task Forces who have educated me now for seven years.

In that moment, I had behaved in the manner in which we fear that all of our employees are going to behave in the field. “I’ll just reach over and cut that one branch with the chain saw one-handed.” “I’ll just go ahead and reach into the chipper feed table—it’s only a small branch.” “I’ll just get on with this job without doing the job briefing; I’ve done this type of work 100 times.” “I know I should put my chaps on, but the tree is flat on the ground and there are only a few cuts to make.”

That moment is what we are all working hard to train for in developing a safety culture throughout all tree care companies. It’s because I have been fortunate enough to be around top-notch safety professionals from around the country for seven years who have instilled in me that safety practice is an ever present, constant assessment and decision-making process that I stopped and got off the stepper and put on appropriate shoes for the activity that I was doing. But for having the benefit of their counsel and advice and understanding that all it takes is a moment for your life to change, my behavior probably would have remained inappropriate, and I could have paid the price for my entire life with busted knees or worse.

So, first, a personal thanks to TCIA’s staff and volunteer team for teaching me something that prevented me from being personally injured. Most importantly, it proved to me that safety is about constantly hearing and reiterating what best practices are all about. It has to become ingrained in every one’s mind that safety is the first thing that should be talked about when the day starts and the last thing that should be discussed, including near misses, before everyone goes home at the end of the day. It is a culture. It is a mindset. It is a practice. It is a best practice.

TCIA is partnering with every tree care company out there to establish a safety culture that lives every day, so that when your team faces “the moment,” they’ll stop and do everything that the situation calls for to complete a job safely.

All it takes is one more step. Let that step be the one that leads your company to having a Certified Treecare Safety Professional on staff—not the step that leads everyone to a hospital room or a funeral home. Don’t let your company make another misstep.

Cynthia Mills, CAE
Publisher

TCIA’s mission is to engage and enlighten readers with the latest industry news and information on regulations, standards, practices, safety, innovations, products and equipment. We strive to serve as the definitive resource for commercial, residential, municipal and utility arborists, as well as for others involved in the care and maintenance of trees. The official publication of the non-profit Tree Care Industry Association, we vow to sustain the same uncompromising standards of excellence as our members in the field, who adhere to the highest professional practices worldwide.
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This project earned Downey Trees Inc., of Cumming, Ga., a Grand Award in TCIA’s 2005 Excellence in Arboriculture program. The award was presented at TCI EXPO in Columbus in November.

Entry Category: Technical Rigging
Size of project: Under $5,000
Type of project: Golf Course
Client: Course Superintendent
Date project started: October 15, 2004
Date completed: October 18, 2004

The goal of this project was to remove trees damaged in a series of storms in the fall 2004. The client was a prestigious golf course that hosts one of the tournaments for the Professional Golfers Association tour. The course is meticulously maintained and the cleanup had to be performed without creating any impact or disturbance to the area of play.

The trees were located on a hillside in a natural area that ran alongside a row of tees. The only route to remove the fallen/damaged trees was to go down the hill on which the trees lay, cross the tees, cross a stream, and go up a short embankment to a cart path. To accomplish this we set up a controlled speed line to move both the brush and the wood. The material was cut into small, manageable pieces, tied to a tag line, dragged across the hillside and lifted approximately 25 feet onto the speed line. Once elevated, the material was transported over the fairway, across the stream and up the embankment to the landing zone next to the cart path. The brush was chipped and wood was staged for pickup with a grapple truck.

Trees impacted by the project
Several trees damaged by the storm were removed. They included white oak, Quercus alba; southern red oak, Quercus falcata; flowering dogwood, Cornus florida; and sourwood, Oxydendrum arboreum.

Two of the trees were completely uprooted by the storm, one was partially uprooted and leaning into another tree, and one had a large broken lead that had fallen and needed to be removed. All of these stood on a steep bank and were part of a natural area that was immediately adjacent to the golf course.

Challenges in the project
The challenge was not in getting the trees down, but in moving them out of the area. The damaged trees and natural area were on one side of a row of tees (men’s, women’s, tournament, and an alternate) that stretched for about 150 feet at the beginning of one hole. We could not walk on any of the tees at any time (unless we were wearing golf shoes), and we could only walk on the grass between and around the tees as long as we did not cause any damage to the grass. On the other (left) side of the course was a stream that could be crossed by two different bridges in the area in which we were working. The terrain sloped up from the stream to where the cart path was, approximately 10-15 feet higher.
above the level of the course.

There was a large amount of material from the trees and it was spread for a length of about 100 feet along the tees. Carrying the material out by hand would have required literally hundreds of trips across the grass and up the embankment to the cart path. The material could have been cut and placed in a golf cart type vehicle, but this would also have required many trips across the grass. Either method would have created worn areas on the grass around the tees so we had to find some other way to get the material off of the hillsides and over to the cart path.

Overcoming the challenges

We set up a controlled speed line that allowed us to lift and transport the material over the tees and stream, and then lower it into the landing zone.

A speed line is typically used to move material from somewhere in the tree top to an area that is adjacent to, but not immediately below, the tree. In this instance the material was already on the ground, spread out over a hillside, and was over 200 feet from the landing zone where the material was to be processed. We designed a system that would allow us to drag the material to the tree where the speed line was anchored, lift the material into the air, transport the material down the speed line, and then release the material at the landing zone. Because the material was spread out over such a long distance, we set up the whole system twice so that we could have two different landing zones and use two different anchor points. (All the photographs show the setup for the second work area.)

Hazards and accident prevention

This job presented two areas of concern that were different from routine climbing and rigging. The first included the dangers of working on a hillside. The second was the speed line itself, which was closer than usual to ground level, was frequently under tension and had a redirect near the landing zone. Workers were made aware of the dangers of walking, cutting and moving wood and brush on a hillside. They were told to always position themselves outside of all parts of the rigging, and not to go below the suspended material, except when necessary to release it from the speed line.

Rigging methods used

A ¾-ton pickup truck with a front-mounted winch was positioned on the cart path on the far left side of the tees. The winch line was attached to the speed line, which ran from the winch line through a redirect pulley mounted on either a tree (for the first set up) or a chip truck (for the second set up), across the tees, and was anchored approximately 30 feet high on a tree in the middle of the hillside. The tension of the speed line could thus be monitored and controlled by the winch of the pickup truck for every piece that was moved across the tees.
A pulley placed on the speed line served as both (1) the anchor point for the pulley that would drag and lift the material and (2) as the speed line pulley to move the material across the tees. The speed line pulley had two work lines attached to it. One of the work lines ran through a Pro-Traxion (ratcheting clamp) that was attached to the speed line pulley with a carabiner. The Pro-Traxion was used to drag the material to the base of the tree where the speed line was terminated and then lift and suspend the material in the air. This line could run freely in one direction (when the material was ulled along the ground and then into the air), but would hold securely in the other direction when tension was released.

Pulling and lifting the material was accomplished with a small, walk behind skid steer. The skid steer was positioned at the end of one of the bridges, just at the edge of the course proper. The pull line ran from the skid steer, through the Pro-Traxion, and was then tied to the piece that was to be moved. Once the material was tied off, the skid steer would back across the bridge, pulling the material across the hill and then lifting it into the air. The skid steer would continue to back up, going along the embankment beside the stream as far as was needed to lift the material up to the speed line. If the piece that was being moved was a long way from the anchor tree (and thus had to be dragged a long distance before it was lifted into the air) the skid steer would have to stop, untie the pull line, drive forward, retie the pull line, and then continue to back up and lift the piece.

A second line was used to hold the speed line pulley in place while the material was being dragged and lifted, and this same line was used to control the descent of the material as it traveled above and across the tees and the stream. The redirect on the landing zone had been positioned so that after the material crossed the stream and reached that side, the material would be only about 4 to 6 feet above the ground. The tension on the winch line was relaxed and the material was lowered. Wood was caught with a small skid steer and brush was directed toward the cart path where it could be chipped. After the material was detached from the pulley, a sufficient amount of the pull line was run back through the Pro-Traxion so that the workers on the hillside would have enough slack to walk the rope to the next load of material and tie it with the pull line.

Ropes and equipment

The speed line itself was a piece of 7x7x19 wire rope that had been cut to length for this specific job. The pulley that ran on the speed line was made for running on wire rope. It had a single, closed eye that pivoted 360 degrees. The speed line was attached to the anchor tree with a Tuflex sling, EN 60.

The pull line was ½-inch 12-strand (Samson Arborplex). We debated using ½
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inch double braid for the pull line, but this line would be dragged through mud and dirt and would be exposed to the toothed cam of the Pro-Traxion. The 12-strand has more abrasion resistance than double braid and it was not felt that the extra strength of the double braid was necessary.

The pull line had to run freely in one direction (so that the material could be pulled along the ground and then into the air), but had to hold securely in the other direction when tension was released. We used two different methods for this purpose. For the first setup, a large rescue pulley was attached to the eye of the speed line pulley with a steel carabiner. A friction hitch with a slack tender was placed on the pull line and anchored to the carabiner that attached the rescue pulley to the eye of the speed line pulley. The friction hitch functioned just as an arborist’s climbing hitch. The rescue pulley allowed us to pull and lift the material, and the friction hitch held whatever amount of line had been pulled through the rescue pulley to that point. Thus the material could be moved across the ground, lifted into the air, and the friction hitch would keep the material suspended when the pull line was slackened and untied from the skid steer. For the second setup the friction hitch/slack tender was replaced with a Pro-Traxion. This is a device that contains both a pulley and a cam and is described as a “swing-sided, self jamming pulley.” Because the side of the pulley swings, the Pro-Traxion can easily be placed anywhere on the line. The line can run freely over the pulley in one direction, but is prevented from running in the other direction by the cam.

The control/haul back line was ½-inch double-braid. The control line was redirected with a ¾-inch block that was attached to the anchor tree with a 5/8-inch, 2- to 6-foot Tenex whoopie sling. The friction device that held the control line was a Port-a-Wrap III.

Determining safe working loads

A green log weight table was referenced to help gauge the weight of the logs. The weight and appropriate size of the loads of brush were estimated based on our experience with using a Load Moment Indicator during crane removals and by observing the speed line system as it was in use. We aimed to keep all of the material that was lifted with the pull line and transported with the speed line at less than 600 pounds. This would keep all of the loads within the safe working load (SWL) for each of the different components of the system.

Calculations for estimating the force on a speed line are quite complicated and depend upon a number of variables. In order to keep the calculations reasonably accurate, but not overly complicated, we figured forces for two main scenarios – lifting the material, and running the material down the speed line. Also, although we wanted to keep loads at or below 600 pounds, there is some variability and subjectivity involved with guessing loads. We therefore used 700 pounds as the basis for our calculations.

When the material was being held in the air by the skid steer and the speed line pulley was close to the anchor tree, the pull...
I'd rather be swaying
in a saddle 50 feet in the air
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line was under tension as it held the material in the air and the control/haul back line was under tension as it prevented the material from running down the speed line. The angle formed by the pull line was approximately 120 degrees and the angle formed by the control line was approximately 90 degrees. When there is an object hanging on a block, the resultant force on the block is more than the actual weight of the object. The resultant force depends on the angle of the two legs of the rope. We used a “Resultant Force on Block” chart that shows that when the angle of the rope is 120 degrees the resultant force on the block is 1.73 times the weight of the piece. For the 700 pound piece that is used as the example in this case the resultant force would be 700 x 1.73 = 1,211 pounds. The Pro-Traxion and the carabiner that held the Pro-Traxion experienced all of this force. The Pro-Traxion is the weaker of these items, with a tensile strength of 22kN. A force of 1,211 pounds means that there was a safety factor of 4:1.

Because of the vectors involved, the speed line, speed line pulley and control line all shared the load of 1,211 pounds as they held the Pro-Traxion in place. Since all have a higher rating than the Pro-Traxion, the Pro-Traxion was the limiting factor.

The control line formed a 90 degree angle as it was redirected through the pulley on the anchor tree and down to the Port-a-Wrap at the base of the tree. The same chart shows that a rope bent to 90 degrees exerts a force on the block/pulley that is equal to 1.41 times the weight of the load. If we assume that the control line held the full force that was on the Pro-Traxion, then the force on the redirect pulley of the control line would be 1,211 pounds times 1.41 = 1,707 pounds. This estimate is probably high, but it is still well within the capacity of the block (SWL = 4,000 pounds) and sling (SWL = 2,560 pounds) and yields a safety factor that is higher than the 4:1 of the Pro-Traxion.

When the skid steer relaxed its pull and the material was simply hanging on the pull line the forces on the various parts of the system changed. The force on the Pro-Traxion would now be simply the weight of the piece, 700 pounds. Because the vector forces had changed, the control line would experience less force, but the speed line pulley would experience virtually all of the force of the weight of the piece. The SWL for the speed line pulley was 1,500 pounds, so the 700 pounds force of the weight of the piece would be well within this limit.

We used a second chart, “Sling Angles and Resulting Tension,” that shows that as the angle of the legs of a sling becomes more obtuse, the force on the legs becomes greater. In the case of the speed line, the legs of the sling equate to the angles of the legs of the speed line on either side of the speed line pulley. The legs of the speed line were estimated to be at an angle of about 150 degrees. The “Sling Angles and Resulting Tension” chart shows that this angle produces a force on the sling/speed line that is twice the actual weight of the piece. Thus the force on the speed line, with the piece just hanging on the Pro-Traxion, is twice the weight of the piece, 700 pounds x 2 = 1,400 pounds. The manufacturer’s recommended SWL for the cable used for the speed line was 3,500 pounds. (We carefully checked the ratings for all of the equipment and found that the manufacturer’s recommended SWL of 3,500 pounds for the cable was based on a safety factor of only 2:1. By keeping our material loads at a (high) estimate of 700 pounds, we maintained a safety factor of 5:1 for the speed line cable.)

A SWL of 600 pounds would provide a safety factor of 4:1, and, considering all the factors discussed above, we determined this was a reasonable SWL for this system. The material was all lifted in a controlled, methodical manner so no part of the system was subjected to any dynamic loading. After each piece was lowered into the landing zone, the pull line had to be run back through the Pro-Traxion, so this gave an opportunity to closely inspect the pull line, Pro-Traxion, speed line pulley and associated connectors. We also closely inspected the cable when moving it from the first to the second work area and found no signs of abrasion, overload or excessive wear.

The rigging greatly lessened the project’s impact to the surroundings

The speed line allowed us to move two truck loads of wood and one load of chips from the hillside, across the fairway to the other side without creating any impact at all to the tees or the surrounding turf. The tees received absolutely no damage or wear and could be used for play as soon as the work was completed.
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Crysteel’s new Landscape Trio product group includes three dump bodies: Landscape Tipper, E-Series Tipper, and The Deuce™. Each offers standard features as well as options such as integrated tarp systems and perfectly matched hoists. The Landscape Tipper, the most accessible body in the industry, has a swing-out side door with a built-in retractable ladder for easy entry. A removable upper tailgate functions as a ramp for easy loading/unloading of materials and tools. The Deuce™ two-way dump body allows operators to dump to the rear as well as to the side. The side dumping feature lets an equipment trailer stay attached to the truck. The Deuce comes in 9-foot and 11-foot lengths and is equipped with a Crysteel Lo-Boy double-acting hoist. For conventional body style, the Tipper E-Series has a 2-to 4-cubic-yard body designed for landscape contractors who want style, strength and economy, but also has custom option packages available. Contact Crysteel at 1-800-533-0494 or via www.crysteel.com.

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Herbicidal Soap

Monterey’s new Herbicidal Soap is a contact herbicide based on naturally occurring fatty acids. It is designed to control algae, moss and annual weeds and gives fast burn-down even in cool weather. Moss and algae are often a problem in or on flowerbeds, sidewalks, roofs, buildings, patios, fences, driveways, etc. Herbicidal Soap does an excellent job of controlling these pests. Annual weeds in flowerbeds, around trees and shrubs, and in non-planted areas are controlled with this environmentally friendly herbicide. In areas where bermudagrass goes dormant (and is not over seeded), Herbicidal Soap will do an excellent job of controlling the weeds that appear without bermuda turf injury. Use Herbicidal Soap at a rate of 26 ounces per gallon of water. It is packaged in a 130 ounce container, so each bottle will make 6 gallons of finished spray. Herbicidal Soap is also labeled in both English and Spanish. Contact Monterey Lawn and Garden Products at (559) 499-2100, or visit www.montereylawngarden.com.

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Teupen updates LEO 25T lift

Teupen America’s redesigned LEO 25T spider lift has improved and faster hydraulic proportional controls for dependable, smooth movement. A fail-safe control system monitors the lift 60 times per minute, keeping the operator within safety parameters. Lift side reach has been increased to 51 feet (still with 82 foot vertical height). A new basket drive-control system allows operation of the lift tracks from the basket control station, and setting of outriggers with the now-standard automatic outrigger leveling system which also raises and levels the lift in seconds automatically, even on steep, uneven terrain. A new vertical-track adjustment system allows the lift to safely travel on a side slope up to 30 percent grade. Standard hard-wired remotes allow precise steering of the chassis from outside the basket during travel in tight quarters. A new, standard quick-change basket system allows the use of multiple size baskets, changed in seconds for different applications. The basket retains 180 degree rotation and 528 pounds capacity. Turret, chassis frame and boom reinforcements make the unit stiffer for a smoother ride. Outriggers can now be set up in three positions for tight area deployment. Contact Teupen at 1-800-944-5898 or visit www.spiderlifts.com.

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Swingle’s Steve Geist named ASCA president for 2006

The American Society of Consulting Arborists has named Steve Geist its president for 2006 and installed its new Board of Directors.

Geist is a plant pathologist at Swingle Lawn, Tree & Landscape Care in Denver. He has worked for Swingle, a long-time TCIA member, for 23 years. Geist is a Certified Arborist, Registered Consulting Arborist and a Certified Professional Agronomist. He also holds a double major from Colorado State University’s class of ’83 and has accumulated over 1,000 hours in continuing education.

Geist, an ASCA member since 1993, has led the ASCA in many agendas and initiatives. Geist will lead an aggressive membership campaign to increase the number of consulting arborists to serve as consultants. This is due to a growing need in litigation and ordinances in the green industry. ASCA has 500 members.

“The organization’s goal is to double its membership by 2010,” says Geist. “We will also rewrite the organization’s strategic plan as well as planning numerous collaborative projects with other green industry organizations.”

ASCA also installed its newly-elected Board of Directors during the Society’s annual meeting in Palm Springs, Calif. In addition to Geist, board members are as follows:

Vice President: Judson Scott, RCA #392, Carmel, IN
Treasurer: John Lichter, RCA #375, Winters, CA
Immediate Past President: Torrey Young, RCA #282, Oakland, CA

Directors:
James Allen, RCA #390, Santa Cruz, CA
David Hucker, RCA #388, Berwyn, PA
Alan Jones, RCA #364, Charlottesville, VA
Ed Milhous, RCA #350, Haymarket, VA
Thomas Mugridge, RCA #306, South Euclid, OH

Sherrill Inc. launches new brand identity

After more than 20 years serving the tree care industry, Sherrill Inc. is putting “tree” into their name and is now officially doing business as SherrillTree. On Friday, December 9, the new logo for SherrillTree was unveiled to employees. A new Web site is planned to go live early this year.

“As a company dedicated to the care and appreciation of trees, we see this as a natural evolution of our brand,” says Tobe Sherrill, owner and CEO of SherrillTree. “Although our name and look have changed, our commitment to service and quality at a competitive price will never change.”

The new and improved Web site will feature a more user-friendly interface for an
easier shopping experience. The site will also offer more of the tips and illustrations SherrillTree customers have grown to expect from the catalogs as well other upgrades and benefits.

Bartlett promotes Stephen Johnston to Vice President

The F.A. Bartlett Tree Expert Company has promoted Stephen J. Johnston to vice president and Southeast Division manager. Johnston has been responsible for the company’s operations in the Southeast United States for more than five years. As vice president, he will continue this work and further the company’s growth and development in this area of the country.

Johnston joined Bartlett in 1994 as an arborist representative. Three years later, he was promoted to local manager and then district manager in 2000. Prior to joining the company, he owned Johnston Tree for six years, serving customers in the Boca Raton, Fla., area.

“Steve’s pursuit of continued growth and commitment to safety for all his employees are just a few of the attributes we are acknowledging through this promotion,” said Greg Daniels, president of Bartlett Tree Experts.

As a member of the American Society of Consulting Arborists and both the Georgia and South Carolina Urban Community Forest Councils, Johnston is dedicated to preserving the health of local forests and urban landscapes. He is an ISA Certified Arborist and active participant in his local ISA Chapter, where he serves on the annual conference planning committee.

Johnston holds an associate’s degree in Horticulture/Turf Management from the Stockbridge School of Agriculture at the University of Massachusetts. He and his wife, Michelle, reside in Mansfield, Ga., with their three children.

Samson reorganizes with new COO, VP Operations

Samson has promoted Tony Bon to chief operating officer. Bon has been a valued member of the Samson team for more than 30 years. His background and experience are well suited to his new role with the company and to Samson’s future growth. As COO, Bon will have overall responsibility for Samson’s sales, operations, and research & development activities.

Mark Swiackey has been promoted to vice president of operations. Previously the vice president of Manufacturing, Swiackey will be responsible for overseeing manufacturing plants in Ferndale, Wash., and Lafayette, La., as well as purchasing, logistics and manufacturing engineering.

Dolmar, Makita make chain saw recall

The U.S. consumer Product Safety Commission, in cooperation with Makita and Dolmar, has announced a voluntary recall of 3,400 and 1,300 of the companies’ chain saw units, respectively, after learning that the flywheels on some of the chain saws can come apart during use, which could cause serious personal injury. The companies have received three reports of the flywheel coming apart. There have been no reports of injury.

The recall involves Makita chain saw models DC6401 (with the last five serial numbers 41915 to 45612 or 81722-82057) and DCS7901 (serial numbers 31182-31491), and the Dolmar models PS6400 (last five serial numbers 71998 to 79250) and PS7900 (40156-43009).

The Makita saws have a teal housing with “Makita” written on it. The Dolmar saws have a red housing with “DOLMAR” written on it. Any chain saw with the letter “N” preceding the serial number on the nameplate and a blue dot on the shipping carton has been repaired and is not part of the recall. The saws were sold by power equipment distributors and industrial contractor supply houses nationwide from October 2004 through August 2005.

Contact Makita at 1-866-714-3860, ext. 232, or go to www.makitatools.com. Contact Dolmar at 1-888-673-7278 or www.dolmarusa.com. All repairs will be made free of charge.

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TREE CARE INDUSTRY – MARCH 2006

19
Events & Seminars

March 4, 2006
NJ Forestry Association Annual Meeting
Prallsville Mill, Stockton, NJ
Contact: (908) 832-2400; www.NJForestry.org

March 6, 2006
NYSTA Western Regional Conference
NY State Turfgrass Assoc., Cornell Coop., Western NY GC Super. Assoc., West. NYS Nursery/Lndscp Assoc.
Buffalo/Niagara Marriott, Amherst, NY
Contact: NYSTA 1-800-873-8873; (518) 783-1229; nysta@nysta.org; www.nysta.org

March 7, 2006
38th Annual Professional Plant, Turf & Tree Conference
Nassau Suffolk Landscape Gardeners Assoc-L.I.
Huntington Town House, Huntington, NY
Cont: Pat Voges (631) 665-2250; NSLGA2@optonline.net

March 7, 2006
Introduction to Pruning Techniques
Rutgers Office of Cont. Prof. Education
New Brunswick, NJ
Contact: (732) 932-9271; fax 732-932-8726; www.cookce.rutgers.edu

March 7-8, 2006
Trees, People and The Law Symposium
Sponsored by The National Arbor Day Foundation
Holiday Inn Columbia, Columbia, Maryland
Contact: www.arborday.org/TP LISymposium

March 7, 2006
Urban Tree Care Workshop
Lake & Porter Cty Ext., Lowell Pub. Library, Lowell, IN
Cont: Stan Simz (219) 755-3240; or Russell Hodge (219) 406-0431

March 7 - 8, 2006
Trees, People and The Law Symposium
Sponsored by The National Arbor Day Foundation
Holiday Inn Columbia, Columbia, Maryland
Contact: www.arborday.org/TP LISymposium

March 14-16, 2006
CARTS-Cert. Pest. Applicator or Regist. Tech training
MGIA – Oakland CC, Orchard Ridge Campus
Farmington Hills, MI
Contact: MGIA at (248) 646-4992

March 17, 2006
Urban Tree Care Workshop
Chesterton Public Library.
Cheserton, IN
Contact: Stan Simz (219) 755-3240; or Russell Hodge (219) 406-0431

March 21, 2006
Roadside Right of Way Management
Rutgers Office of Cont. Prof. Education
New Brunswick, NJ
Contact: (732) 932-9271; fax 732-932-8726; www.cookce.rutgers.edu.

March 21 - 22, 2006
Modern Techniques for Large Tree Climbing & Rigging
Rutgers Office of Cont. Prof. Education
New Brunswick, NJ
Contact: (732) 932-9271; fax 732-932-8726; www.cookce.rutgers.edu.

March 21, 2006
Advanced Pruning Techniques
Rutgers Office of Cont. Prof. Education
New Brunswick, NJ
Contact: (732) 932-9271; fax 732-932-8726; www.cookce.rutgers.edu.

March 30, 2006
Garden State Tree Conference, NJAISA Annual Conf.
Rutgers University.
New Brunswick, NJ.
Contact: www.NJ Arborists ISA.com

March 30, 2006
NYSTA Adirondack Regional Conference
NY State Turfgrass Assoc. w/ Cornell Coop. Ext.,
Adirondack GC Super. Assoc., Adirondack Park Agency
Crowne Plaza Resort and Golf Club,
Lake Placid, NY
Contact: NYSTA 1-800-873-8873; (518) 783-1229; nysta@nysta.org; www.nysta.org

April 1-4, 2006
ISA Southern Chapter Annual Conference & Trade Show
The Wynfrey Hotel,
Birmingham, AL
Contact: 1-888-339-8733; dcarter@isasouthern.org

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Biltmore Estates, Asheville, NC
Contact: (860) 429-5028; Info@ArborMaster.com; www.ArborMaster.com

April 4-5, 2006
Spanish CARTS-Certified Pesticide Applicator or Registered Technician training
MGIA – Bingham Center, Bingham Farms, MI
Contact: MGIA at (248) 646-4992

April 10-12, 2006
13th Annual Trees and Utilities National Conference
National Arbor Day Foundation
Crowne Plaza Chicago O’Hare, Chicago, IL
Contact: www.arborday.org/TUconference, 1-888-448-7337

April 28-29, 2006
PHC’s Plant Biology Workshop 2006
Presented by Dr. Donald H. Marx
Frogmore, SC
Contact: www.planthealthcare.com

May 1-2, 2006
Landscape IPA Workshop
Oklahoma State University, Stillwater Campus
Stillwater, OK
Contact: Mike Schnelle (405) 744-7361; mike.schnelle@okstate.edu

June 2-3, 2006
ArborMaster Training Programs
Two 2-day, Level 1 modules: Climbing, Precision Felling
Richmond, VA
Contact: (860) 429-5028; Info@ArborMaster.com; www.ArborMaster.com

July 25-27, 2006
10th Annual Woody Plant Conference
Scott Arboretum, Swarthmore College, Swarthmore, PA
Contact: Bill Porter or Donna Massa (732) 246-3210

October 27-28, 2006
PHC’s Plant Biology Workshop
Presented by Dr. Donald H. Marx
Frogmore, SC
Contact: www.planthealthcare.com

November 9-11, 2006
TCI EXPO 2006
Tree Care Industry Association
Baltimore, MD
Contact: Deb Cyr 1-800-733-2622, Ext. 106; cyr@treecareindustry.org; or www.tcia.org

After continued success with the Loftness Timber Ax using sharpened knives, Loftness is expanding their line of forestry tree and brush cutters to include carbide tooth models with cutting widths of 53 and 63 inches. The carbide cutters efficiently cut to ground level and mulches up to 6 inch trees with minimum 48 hydraulic HP and reserve capacity to handle larger trees when needed. Rough cut applications would include: R.O.W. (pipeline/highline), invasive species, seismic exploration, lot clearing/mulching, wildlife habitats, park maintenance, pasture renovation, fire breaks, and land development.

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Are We Having Fun Yet?
A Tour des Trees Memoir

By Terrill Collier

It’s 10 a.m. on a hot August morning in Mississippi. The sound of cicadas in the surrounding trees creates a stereophonic buzzing in contrast to your rhythmic heavy breathing. Trees arch over the Natchez Trace Parkway, creating some badly-needed patches of shade. Glancing up, you see you are only halfway up one of the rolling hills that have been coming at you for the last 15 miles. Gazing down at the odometer you see you have another five miles to go before the next rest stop. Noticing you have lagged a little behind the riders in front, you stand on your pedals, climbing faster now to catch up.

“No way are they going to beat me to the top,” you think to yourself. Cresting the hill, you relax a bit as the pedaling gets easier and you pick up speed on the downward descent. A welcome breeze from your faster velocity gives some minor relief from the sizzling, sticky air. You smile to yourself thinking, “At least on the downhills I can ride as fast as Lance Armstrong.”

Suddenly from behind a voice calls out “on your left!” A group of strong riders in a pace line shoots past. It’s the Hammerheads – the fastest cyclists in the Tour. Flying by, they make your effort seem sluggish all of a sudden. “Hop on the end of the line,” a good-natured voice calls out, “if you think you can keep up.” Quickly realizing that this is not a race, but a fundraiser for tree research, you yell back, “Knock yourselves out!”

Are we having fun yet? You bet! This is the TREE Fund’s Tour des Trees!

Senting most parts of North America, as well as Puerto Rico. Actually, Tour des Trees riders are you and me – like-minded people who are passionate about trees and are willing to endure a little pain and suffering to raise money for a cause they believe in.

It’s also about family – the family of riders who participate in the Tour. The friendships you develop from sweating, riding, laughing and encouraging one another bond you together in a special fellowship.

The rewards are many. For me, the rewards include having my 16-year-old son, Logan, ride the Tour with me. It’s a special thing to see him ride with the Hammerheads, shouting those encouraging words like, “You’re getting older and slower, Dad,” or “You’re going to have to train harder to keep up with me!” Other rewards include being with my Tour buddies, mak-

TERRILL COLLIER (REDHELMET) grasps hand with his 16-year-old son, Logan, at the conclusion of the 2005 Tour des Trees in Nashville, Tennessee.

Terry Collier of National Grid shows off his new Tour des Trees logo tattoo!

Who are these crazy people that ride under such conditions? This past summer we were 55 riders of all abilities, ranging in age from 16 to 60-something, and representing most parts of North America, as well as Puerto Rico. Actually, Tour des Trees riders are you and me – like-minded people who are passionate about trees and are willing to endure a little pain and suffering to raise money for a cause they believe in.

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Two years ago, my wife Janet and both teenage sons rode with me in Canada. The Tours have provided special times and precious memories for us.

Not everything about the Tour is fun and games. This year, we had a tragedy. Before the Tour started, one of our long time participants, John White, died of a heart attack while on a training ride with other Tour riders. This was not the start of the Tour we wanted. However, out of this misfortune came the realization that John was doing what he loved, with people he cared for, and he would want us to continue the Tour. As we rode that week, we felt John’s presence with us, in the trees, on the bikes. This was the way he would have wanted it. We all drew closer as a Tour family and took some consolation in the act of planting a memorial dogwood tree on the peaceful grounds of Warner Park Nature Center in Nashville, Tennessee, at the end of the Tour.

To join the Tour des Trees family takes a personal commitment to sign up, train and start raising some money NOW. Your Tour buddies and the TREE Fund staff can help you along the way. However, if the Tour sounds like more of a commitment than you can make, please support one of the riders in your state or donate to the TREE Fund directly. The mission of the organization is to identify and fund projects and programs that advance knowledge in the field of arboriculture and urban forestry to benefit people, trees and the environment. The TREE Fund supports commercial arborists through research endeavors, as well as providing scholarships to students through the Robert Felix Memorial Scholarship.

As the TCIA board representative to the Tree Fund board, one of my goals is to increase participation of TCIA members in support of the TREE Fund. Additional fun ways to show support is to play in the annual Robert Felix Memorial Golf Tournament at the TCIA Winter Management Conference or participate in the Robert Felix Silent Auction and Raffle at TCI EXPO. I thank all industry members, TCIA and ISA, who supported Tour des Trees riders and the TREE Fund this past year. I hope to see you all on a future Tour!

For more information about Tour des Trees, please contact Lynn Day, special events manager, at the TREE Fund office in Wheaton, Illinois – phone (630) 221-8127, e-mail lday@treefund.org, or visit www.treefund.org.

Terrill Collier is TCIA’s board member representative on the TREE Fund board, and president of Collier Arbor Care in Clackamas, Oregon.
This is an excerpt from the draft version of the ANSI standard for supplemental support systems – cabling and bracing – used in tree care that is currently open for public review. The review period opened Feb. 10 and closes March 27, 2006. The entire proposed revision, along with instructions for submitting comments, can be downloaded on the Web at www.treescareindustry.org/Public/gov_standards_review.htm. Scroll down to “Current Public Review Documents” and click as directed.

30 Part 3 – Supplemental Support Systems standards

30.1 Purpose
The purpose of this clause is to provide standards for writing specifications for supplemental support systems.

30.2 Reasons for supplemental support systems
Supplemental support systems are used to provide additional support or limit movement of a tree or tree part.

30.3 Safety
30.3.1 Tree maintenance shall only be performed by an arborist or arborist trainee.
30.3.2 This standard shall not take precedence over arboricultural safe work practices.

30.3.3 Operations shall comply with applicable Occupational Safety and Health Administration (OSHA) standards, ANSI Z133.1, as well as state and local regulations.

31 Normative references
The following standards contain provisions which, through reference in the text, constitute provisions of this American National Standard. All standards are subject to revision, and parties to agreements based on this American National Standard shall apply the most recent edition of the standards indicated below. (See entire revision for list of references)

32 Definitions
32.1 amon-eye nut: A drop-forged eye nut.
32.2 anchor: A cable to tree attachment.
32.3 anchor-tree: A tree used as an anchor in guying.
32.4 arborist: An individual engaged in the profession of arboriculture who, through experience, education and related training, possesses the competence required to provide for, or supervise the management of, trees and other woody ornamentals.
32.5 arborist trainee: An individual undergoing on-the-job training to obtain the experience and the competence required to provide for, or supervise the management of, trees and woody ornamentals. Such trainees shall be under the direct supervision of an arborist.

32.6 bond: An electrical connection between an electrically conductive object and a component of a lightning protection system that is intended to significantly reduce potential differences created by lightning currents.
32.7 bracing: The installation of lag-thread screw or threaded-steel rods in limbs, leaders, or trunks to provide supplemental support.
32.8 cable: 1) Zinc coated strand per ASTM A-475 for dead-end grip applications. 2) Wire rope or strand for general applications. 3) Synthetic-fiber rope or synthetic-fiber webbing for general applications.
32.9 cable grip: A mechanical device that temporarily grasps and holds a cable during installation.
32.10 cabling: The installation of a steel wire rope, steel strand, or synthetic fiber system between leaders, limbs, and branches within a tree.
32.11 compartmentalization: Physiological process that creates the chemical and physical boundaries that act to limit the spread of disease and decay organisms.
32.12 connector clamp: A device meeting ANSI/UL-96 standard, used to bond a conductor to a steel cable.
32.13 dead-end brace: A brace formed by threading a lag-thread screw rod directly into the limb, leader, or trunk, but not through the side opposite the installation.
32.14 dead-end grip: A manufactured wire wrap designed to form a termination in the end.
of 1 x 7, left-hand lay cable that meets the specifications of ASTM A-475 for zinc coated strand.

32.15 dead-end hardware: Anchors or braces that are threaded directly into the tree but not through the side opposite the installation. Dead-end hardware includes but is not limited to: lag hooks, lag eyes, and lag-thread screw rod.

32.16 eye bolt: A drop-forged, closed-eye bolt.

32.17 eye splice: A closed-eye termination formed into common grade cable by bending it back on itself and winding each wire around the cable a minimum of two complete turns.

32.18 ground anchor: A cable to ground attachment.

32.19 guying: The installation of a steel cable or synthetic-fiber cable system between a tree and an external anchor to provide supplemental support.

32.20 lag eye: A lag-thread, drop-forged, closed-eye anchor.

32.21 lag hook (J-hook): A lag-thread, J-shaped anchor.

32.22 lag thread: A coarse screw thread designed for self tapping.

32.23 lag-thread hardware: Anchors or braces with lag threads. Lag-thread hardware includes, but is not limited to, lag hooks, lag eyes, and lag-thread screw rod.

32.24 lag-thread screw rod: A lag-thread, steel rod used for dead-end and through-brace installations.

32.25 machine thread: A fine screw thread designed for fittings (such as nuts).

32.26 machine-threaded rod: A machine-threaded, steel rod used for throughbrace installations.

32.27 peen: The act of bending, rounding or flattening the fastening end(s) of through-hardware for the purpose of preventing a nut from “backing-off.”

32.28 prop: Rigid support placed between a trunk, limb, or branch and the ground.

32.29 propping: The installation of a prop.

32.30 shall: As used in this standard, denotes a mandatory requirement.

32.31 should: As used in this standard, denotes an advisory recommendation.

32.32 specifications: A document stating a detailed, measurable plan or proposal for provision of a product or service.

32.33 standards, ANSI A300: Performance parameters established by industry consensus as a rule for the measure of quantity, weight, extent, value, or quality.

32.34 supplemental support system: A system designed to provide additional support or limit movement of a tree or tree part.

32.35 swage: A crimp-type holding device for wire rope.

32.36 swage stop: A device used to seal the end of cable.

32.37 taut: Tightened to the point of eliminating visible slack.

32.38 termination: A device or configuration that secures the end of a cable to the anchor in a cabling or guying installation.

32.39 termination hardware: Hardware used to form a termination. Termination hardware includes, but is not limited to, dead-end grips, thimbles used in eye-splice configurations, and swages.

32.40 thimble: An oblong galvanized or stainless steel fitting with flared margins and an open-ended base.

32.41 through-brace: A brace formed by installing through-hardware into a limb, leader, or trunk completely through the side opposite the installation.

32.42 through-hardware: Anchors or braces that pass completely through the limb, leader, or trunk, secured with nuts and heavy-duty washers. Throughhardware includes but is not limited to: eyebolts, lag-thread screw rod, and threaded-steel rod.

32.43 turnbuckle: A drop-forged, closed-eye device for adjusting tension.

32.44 wedge-type ferrule: A tapered device for terminating and anchoring a cable or strand.

32.45 wire rope clamps: A clamp consisting of a “U” bolt, saddle plate, and fastening nuts.

33 Supplemental support system practices

33.1 Supplemental support system objectives

Objectives for supplemental support systems shall be clearly defined prior to installation.

33.2 Tree inspection

33.2.1 A qualified arborist or arborist trainee shall visually inspect each tree before beginning work.

33.2.2 Structural integrity and potential changes in tree dynamics shall be considered prior to installing a supplemental support system.

33.2.3 If a condition is observed requiring attention beyond the original scope of work, the condition shall be reported to an immediate supervisor, the owner, or the person responsible for authorizing the work.

33.3 Tools and equipment

33.3.1 Climbing spurs shall not be used when climbing trees to install supplemental support systems, except in the case of emergencies, such as...
### 33.4 General

**33.4.1** System design shall be specified.

**33.4.2** When necessary to reach the objective, pruning should be performed prior to installing a supplemental support system. Pruning shall be in accordance with ANSI A300 Part 1 – Pruning.

**33.4.3** Prior to installation, the owner or owner’s agent should be notified of the need for periodic inspection by an arborist. Inspections shall be the responsibility of the tree owner and should include supplemental support system: condition; position; cable tension; and the tree’s structural integrity.

**33.4.4** Anchors and braces shall not be installed into decayed areas where sound wood is less than 30 percent of the trunk or branch diameter (refer to Fig. 33.4.4).

**33.4.5** Steel cables or guys in trees with existing lightning protection conductors, shall be bonded to the lightning protection system. A connector clamp, designed for use in lightning protection systems, shall be used to bond steel cables or guys to the lightning protection system refer to ANSI A300 Part 4 – Lightning Protection Systems.

**33.4.6** Supplemental support systems shall be installed in compliance with minimum distance Table 1 in ANSI Z133.1 for overhead, energized conductors.

**33.4.7** Steel hardware shall be corrosion resistant. Synthetic fiber cable systems shall be ultra-violet (UV) light resistant.

**33.4.8** Wire rope clamps shall not be used to form terminations in cables larger than 1/8 inch (3 mm).

**33.4.9** Treatment of cavities by filling, shall not be considered to provide support.

**33.5 Installation practices**

**33.5.1** Holes should not be drilled closer together than the diameter of the branch or trunk being drilled or 12 inches whichever is less. The diameter of the hole shall not be greater than 1/6 the diameter of the limb, trunk, or branch at the point of installation.

**33.5.2** Longitudinal alignment of anchors and/or braces should be avoided.

### 33.6 Cabling

**33.6.1** Cabling objectives

Cabling objectives shall be established prior to beginning any cabling operation.

**33.6.2** Cabling types

Cabling system specifications should include one or more of the following types:

**33.6.2.1** Direct: Direct cabling consists of a single cable between two tree parts (three direct cables shown).

**33.6.2.1.1** Location of hardware shall be specified.
33.6.2.2 Triangular: Consists of connecting tree parts in combination of threes. This method should be preferred, when maximum support is required (two triangular systems shown).

33.6.2.2.1 Location of hardware shall be specified.

33.6.2.3 Box: Consists of connecting four or more tree parts in a closed series. This system should be used only when minimal direct support is needed.

33.6.2.3.1 Location of hardware shall be specified.

33.6.2.4 Hub and Spoke: Consists of a center attachment (hub) with spans (spokes) of cable radiating to three or more leaders. Hub and Spoke cabling should only be used when other installation techniques cannot be installed.

33.6.2.4.1 Location of hardware shall be specified.

33.6.3 Cabling installation

33.6.3.1 Steel cables should be taut following installation.

33.6.3.2 Anchor(s) should be installed at or near a point two-thirds (2/3) of the length/height of the limb or leader to be supported, measured from the trunk or (refer to Fig. 33.6.3.2).

33.6.3.3 The correct angle of cable installation should be perpendicular to an imaginary line bisecting the angle between the tree parts being cabled (refer to Fig. 33.6.3.2).

33.6.3.4 If existing cables are to be replaced, they shall not be removed until the new system is installed.

33.7 Bracing

33.7.1 Bracing objectives

Bracing objectives shall be established prior to beginning any bracing operation.

33.7.2 Bracing types

Bracing system specifications should include one or more of the following types:

33.7.2.1 Single: Single bracing consists of one installed rod.

33.7.2.2 Parallel: Parallel bracing consists of two or more rods installed in vertical and directional alignment.

33.7.2.3 Alternating: Alternating bracing consists of two or more rods installed in directional alignment but not in vertical alignment.

33.7.2.4 Crossing: Crossing bracing consists of two or more rods installed in a non-aligned pattern.

33.7.3 Bracing installation

33.7.3.1 A cabling system should be used to provide supplemental support for the limbs forming the crotch being braced.

33.7.3.2 The preferred location for a single rod for a non-split crotch, should be one to two times the branch diameter above the crotch.

33.7.3.3 Brace systems using multiple rods should have at least one rod installed above the crotch.

33.7.3.4 Bracing shall be installed in either a through-brace or dead-end brace configuration.

33.7.3.5 The minimum hardware requirements for braces should be in accordance with the following table:

33.7.3.6 Through-bracing

33.7.3.6.1 Through braces shall be used when bracing through decayed area/wood or in trees that are poor compartmentalizers or have weak wood characteristics.

33.7.3.6.2 Through braces shall be terminated...
33.7 Dead-end bracing
33.7.3.7 Dead-end bracing shall be performed with lag-thread screw rod.
33.7.3.8 The brace shall be installed completely through the smaller or equal portion and at least halfway into the other portion (see Fig. 33.7.3.7.2).
33.7.3.9 The exposed end of the lag-thread screw rod shall be inside the bark or shall be fastened with a heavy duty or heat-treated washer and a nut (see Fig. 33.7.3.7.2).

33.8 Propping
33.8.1 Propping objectives
Propping objectives shall be established prior to beginning any propping operation.
33.8.2 Propping installation
33.8.2.1 Props shall be of sufficient strength to hold the intended load.
33.8.2.2 Props shall be fastened to the branch in such a manner as to minimize damage and prevent the branch from falling off the prop.
33.8.2.3 Props shall be constructed in a manner so as not to restrict future growth of the branch.
33.8.2.4 Equipment and work practices that damage roots beyond the scope of the work shall be avoided.
33.8.2.5 Props shall be secured to the ground.

33.9 Guying established trees
33.9.1 Guying established trees, objectives
Objectives for guying established trees shall be established prior to beginning any guying operation.
33.9.2 Guying established trees, types
Specifications for guying established trees should include one or more of the following types:
33.9.2.1 Tree-to-ground: Tree-to-ground guying consists of installing at least one cable between a ground anchor and the tree to be guyed.
33.9.2.2 Tree-to-tree: Tree-to-tree guying consists of installing at least one cable between an anchor-tree and the tree to be guyed.

33.9.3 Safety
Public safety shall be considered in all aspects of guying.
33.9.4 Guying installation
33.9.4.1 Hardware shall be installed so that it is in alignment with the angle of pull from the guy.
33.9.4.2 Permanent guys shall be attached to the tree with dead-end hardware or through-hardware.
33.9.4.3 Tree-to-ground guying
33.9.4.3.1 Guys shall be secured to a ground-anchor(s) sufficient to achieve the objective.
33.9.4.3.2 Guys should be attached to the tree at or above a point not less than one-half the height of the tree.
33.9.4.3.3 Ground-anchor(s) should be placed

---

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no closer to the trunk than two-thirds the distance from the ground to the height of the lowest point of attachment in the tree.

33.9.4.4 Tree-to-tree guying

33.9.4.4.1 Anchor-tree(s) shall be inspected for structural integrity.

33.9.4.4.2 Anchor-tree(s) shall have the ability to meet the objective.

33.9.4.4.3 Anchors shall be attached in the upper half of the tree to be guyed and in the lower half of the anchor-tree(s).

33.10 Guying newly installed landscape plants

33.10.1 Guying newly installed landscape plants, objectives
Guying objectives shall be established prior to beginning any guying operation.

33.10.2 Guying installation

33.10.2.1 Guys shall be attached using a method that limits damage to the trunk and branches.

33.10.2.2 A minimum of two guys should be installed at an angle sufficient to support the landscape plant.

33.10.2.3 For trees over 10-inch diameter, guys should be installed in accordance with subclause 33.9.

<table>
<thead>
<tr>
<th>Diameter at Brace (in inches)</th>
<th>Brace Rod Diameter (in inches)</th>
<th>Minimum number of rods with split or included bark</th>
<th>Minimum number of rods with no apparent split or included bark</th>
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<tr>
<td>&lt;5</td>
<td>1/4</td>
<td>1</td>
<td>1</td>
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<tr>
<td>5-8</td>
<td>3/8</td>
<td>1</td>
<td>1</td>
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<tr>
<td>8-14</td>
<td>1/2</td>
<td>2</td>
<td>1</td>
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<tr>
<td>14-20</td>
<td>5/8</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>20-40</td>
<td>3/4</td>
<td>3 min. with one additional for each 8” in excess of 30”</td>
<td>2 min. with one additional for each 8” in excess of 30”</td>
</tr>
<tr>
<td>&gt;40</td>
<td>7/8</td>
<td>4 min. with one additional for each 8” in excess of 40’”</td>
<td>3 min. with one additional for each 12” in excess of 40”</td>
</tr>
</tbody>
</table>

33.10.2.4 Guys shall be secured to a ground anchor(s) sufficient to achieve the objective.

33.10.2.5 Guys should be taut following installation.

33.10.2.6 Guys or other supplemental support systems shall be maintained and be removed when they are no longer needed as part of post planting care practices (see ANSI A300 Part 6 Transplanting, subclause 63.9).

34 Supplemental support system inspection and maintenance

34.1 Systems should be inspected periodically for wear, corrosion, degradation of hardware and damage to the tree.

34.2 If problems are detected they should be corrected or the system should be repaired, replaced or modified.

Annexes not included here. For the complete revision, visit http://www.treecareindustry.org/Public/gov_standards_review.htm.
The new awareness of the potential dangers of indiscriminate uses of chemical fertilizers and pesticides is slowly changing farming and gardening habits. Going organic is the new trend. The result is earth-friendly growing using biofertilizers and biological controls for pests. And people are willing to pay for the greater peace of mind they can provide.

A walk in a nearby forest would convince anyone that you do not have to use chemical fertilizers for lush plant growth. Forest soil is rich in nutrients due to the decomposition and recycling of organic matter by multitudes of microflora (fungi and bacteria) and fauna (earthworms and protozoa).

An organically rich soil contains billions and billions of microorganisms, such as bacteria, actinomycetes and fungi that occur at different depths of a soil. The highest population of microorganisms occurs on soil surfaces and within a few inches of the soil surface. These are aerobic microorganisms, which need oxygen for their mere survival. Deeper in the soil are anaerobic microorganisms that do not need oxygen for generating energy. In addition, the root zones of plants have a close, symbiotic association with mycorrhizae. Leguminous trees have root nodules filled with nitrogen-fixing bacteria, Rhizobium. In an impoverished sterile soil, beneficial microorganisms (microflora) and fauna, (earthworms) are either absent or are present in very low numbers. One can enrich an infertile soil by introducing live organisms into the soil. Biofertilizers contain live formulations of microorganisms – live earthworms or nematodes, etc. – whereas organic fertilizers are byproducts of microbial activity – dead and decomposed organic matter; animal matter such as manure, bone meal or blood meal; or plant products such as neem cakes, leaf mold, bark, etc. One may first use live microflora and fauna as compost starters, and then use the product of their activity, the composted material, as fertilizer.

The need for fertilizing

All living organisms, including trees, need a steady supply of nutrients for a healthy life. Plant roots take nutrients in an absorbable form from a soil. To carry out all its physiological activities, such as growth, respiration, synthesis of food material, reproduction, etc., uptake of soil nutrients and transport of nutrients to different plant parts are absolutely essential. An organically rich soil provides most of the essential nutrients such as carbon (C), hydrogen (H), oxygen (O), nitrogen (N), phosphorus (P), sulfur (S), potassium (K), calcium (Ca), magnesium (Mg), iron (Fe), manganese (Mn), molybdenum (Mo), boron (B), zinc (Zn), copper (Cu), and chlorine (Cl).

Leaves take oxygen for respiration and carbon dioxide for photosynthesis from the atmosphere. The essential nutrients are in the form of organic or inorganic compounds within the soil. Soil microorganisms such as mycorrhizae, fungi, bacteria, protozoa, or algae convert the nutrients in a soil from a non-absorbable form to an absorbable form that a plant can use. In addition, microorganisms recycle nutrients in the soil. Earthworms in an organically rich soil constantly aerate the soil by their movements and enrich the soil with the worm casts.

Even a rich soil, over time, may become sterile due to soil erosion, leaching of nutrients due to flooding, or by plant use when not replenished. A soil depleted of nutrients...
is not good for plant growth. Inadequate nutrient supply will affect tree growth in various ways, such as decreased photosynthesis, stunted growth, decreased productivity, or smaller blooms or fruits. Yellowing of leaves (chlorosis) due to impaired development of chloroplasts, necrosis (death of tissues) spotting, or discoloration of leaves result from inadequate supply of nutrients to plant cells. These deficiency symptoms may be due to absence of required nutrients in the soil, or nutrients may be present in a non-absorbable form because of lack of microbial activity. Soil pH, temperature (very low or very high), or moisture also inhibit nutrient availability and uptake. When the above-mentioned unhealthy conditions prevail, one has to take a remedial action.

A soil test will show whether essential nutrients are available in adequate amounts for a root uptake. Take soil samples from several locations, place them together in a sealed container and mail them to a laboratory. Technicians analyze a soil for its nutrient content, organic matter, pH, etc. and suggest remedial actions. A foliar or tissue analysis will give exact details of nutrient status within plant tissues. For reasons mentioned above, certain nutrients may not be available for plant use even when present in a soil. A tissue analysis in conjunction with soil analysis would help for taking remedial actions.

You can enrich a nutrient-deficient soil with organic, inorganic or biofertilizers for a healthy plant growth. The focus of this article is on the use of biofertilizers.

Microbial inoculants as biofertilizers: biology

Mycorrhizae are symbiotic fungi associated with plant roots. In Greek, mycos means fungus and rhizae means roots. In symbiosis, two living organisms mutually benefit by their close association. The plant provides carbon to the fungi and the fungi help in the movement of soil nutrients into the plant root system. Mycorrhizae bridge the soil to plant roots, allowing the two-way traffic. By doing so, the fungi enhance plant growth and vigor.
Mycorrhizae handle the two-way traffic with their extensive network of mycelia (mycelium/singular; mycelia/plural). Just as shoot and root systems constitute the vegetative body of a plant, the mycelia constitute the vegetative body of the fungus. A mycelium is an extensive network of microscopic branched filamentous structures known as hyphae. This extensive network of hyphae associated with the root system of a plant extends roots beyond their zone of absorption. This helps in a better absorption of nutrients and water beyond the roots’ reach. Plants associated with mycorrhizae, therefore, can handle stress imposed by less water and nutrient supplies.

**Ecto and endomycorrhizae**

The two types of mycorrhizae associated with plant species are ecto and endomycorrhizae. Ectomycorrhizae are found on most tree species in temperate forests (for example, pine, spruce, fir, larch, birch, aspen, oak, hickory). They are widely associated with members of plant families Pinaceae, Betulaceae, Fagaceae, Salicaceae, Rosaceae and Myrtaceae. What appear to be mushrooms in forests are mostly the fruiting bodies of ectomycorrhizae. In an organically rich soil that is untouched by pesticides, fungicides or chemical fertilizers, there is mycorrhizal association with a number of plant species.

Ectomycorrhizae are visible to the naked eye. For example, in red pine, they are visible as light-colored, bifurcated short roots along a lateral root. They may look like a stubby, short root sheathed in a light- or dark-colored fungal mantle. Profusely branched hyphae that extend from the root into the rhizosphere increase the surface area of a root system. The hyphae penetrate the root cortex, working their way between the walls of cortical cells. The resulting matrix of hyphae in the cortex is called the Hartig net. The hyphae are intercellular (in between the cortical cells, not inside the cortical cells).

The endomycorrhizae do not form fungal sheaths around the root, so they are invisible to the naked eye. Unlike the ectomycorrhizae, the endomycorrhizae penetrate the walls of root cortical cells, where they form vesicles and arbuscules, hence the name vesicular-arbuscular mycorrhizae (VAM). Arbuscular mycorrhizae in the order Glomales are widespread in temperate and tropical ecosystems and occur in a broad range of vascular plant families (Aceraceae, Magnoliaceae, Hamamelidaceae, Oleaceae, Ulmaceae, Juglandaceae Poaceae, Platanaceae, etc.)

The endomycorrhizae produce huge spores. The spores, on germination, give rise to profusely branched microscopic filamentous hyphae, which form the fungal body, the mycelium. Hyphae penetrate roots and form vesicles and finger-like projections – the arbuscules in the cortical cells.
Reduce Growth

Trees growing near foundations, driveways and streets have limited amount of resources, and may eventually outgrow their site and decline.

Growth reduction on walnut three years after one application.

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The arbuscules store and deliver nutrients inside the plant cells. Soil nutrients travel through the fungal hyphae and enter the arbuscules. The arbuscules break down the nutrients and release the nutrients to plant cells.

Mycorrhizae function as root hairs, extending the surface area through which plants can absorb nutrients, especially phosphorus that is not easily mobile in the soil. The friendly fungi increase absorptive sites, the rate of inflow, and the translocation of phosphorus. Mycorrhizae relieve water stress, increase drought resistance, survival rate after out planting, and growth rate. In addition mycorrhizae eliminate the pathogen population in the soil by secreting antibiotics and creating a favorable environment for beneficial microbes.

Excessive use of chemical fertilizers has been shown to burn the fungal hyphae. When high concentrations of fertilizers containing phosphorus are in a soil, roots go toward phosphorus and away from the mycorrhizae. Therefore, avoid high levels of chemical fertilizers, especially phosphorus, to promote a more vigorous feeding through mycorrhizae.

**Application**

Spores of mycorrhizae are commercially available. Follow the instructions on the label. Micronized Endomycorrhizal Inoculant may contain a concentrated blend of multiple widely adapted strains of dormant spores of endomycorrhizae (Glomus brasilianum, G. clarum, G. deserticola, G. etunicatum, G. intraradices, G. mosseae, Gigaspora margarita, etc.). Ectomycorrhizal inoculant may contain spores of Laccaria laccata, Pisolithus tinctorius, Rhizopogon amylpogon, R. fulvigleba, R. rubescens, R. villoisii, etc.

Mycorrhizae are plant specific; so use a cocktail of more than one type of mycorrhizae. Plants inoculated with both ecto and endomycorrhizae showed an increase in weight compared to the weight of the same varieties grown without mycorrhizae.

Dust inoculants onto roots of transplants or on seeds, or mix into water and apply as a soil drench to new plantings. For existing plants, inoculate roots. Make sure that a soil contains plenty of composted material. Do not fumigate or use chemical fertilizers, pesticides or fungicides. Do not till the soil. Initial investment on mycorrhizae may appear to be a little expensive, but inoculations with mycorrhizae will save money on water bills, chemical fertilizers, pesticides or fungicides.

**Bacterial inoculants:**

Nitrogen-fixing bacteria

Rhizobium is a nitrogen-fixing bacteria. Nitrogen-fixing bacteria have the ability to fix atmospheric nitrogen into organic compounds that plants can use. Bioinoculants of *Rhizobium* spp. are commercially available as granules, sticks or liquid formulations. Follow instructions on the label for application. Rhizobium inoculants are more effective and beneficial on virgin, acidic, light and heavy soils than on any other soil. When a soil gets depleted of nutrients due to flooding prior to planting,
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bacterial inoculation would enrich the soil. Inoculants stick well to seeds, rapidly multiply, colonize efficiently in the rhizosphere, induce more nodules, and supply nitrogen continuously through symbiotic association. Mix with phosphobacteria and free-living nitrogen fixing bacteria, Azospirillum for best performance. Use small legumes such as alfalfa as cover or inter crops for non-leguminous trees to add nitrogenous compounds to soil.

**Azospirillum**

Azospirillum are free-living N2-fixing rhizobacteria that live in close association with plants. Bacterial inoculant contains Azospirillum brasilense. Azospirillum lipoferum absorbs and fixes atmospheric nitrogen in the root-zone. Azospirillum enhances root development and water and mineral uptake. Secretion of plant-growth hormones, auxins and cytokinins by the bacteria is responsible for these effects. Mix with Pseudomonas for better plant disease control.

**Azotobacter chroococcum**

Azotobacter is a free-living N2-fixing rhizobacterium that associates and colonizes both exterior and interior of shoots and roots. Bacterial formulation with strains of Azotobacter chroococcum enhances the availability of nitrogen, produces plant growth regulators (IAA, GA), stimulates rooting, assists in the uptake of mineral nutrients from a soil, excretes antibiotics that protect against minor root pathogens, and stimulates early seedling vigor. For a luxurious growth, use A. chroococcum along with phosphobacteria.

**Phosphobacteria**

Bacillus spp. and Pseudomonas spp. are soil borne bacteria that serve as phosphate solubilizers. They multiply rapidly around the root-zone, act on inorganic soil phosphate, and makes phosphorus available. By mobilizing phosphorus, they improve plant vigor. They are more effective when applied with Azospirillum and Rhizobium.

Follow manufacturer's instructions for application. Ensure adequate moisture in soil during application. Do not mix with inorganic fertilizer, particularly acidic fertilizer.

Bioinoculants for composting bacterial inoculants for starting compost and earthworms for vermicomposting are also commercially available. One can easily enrich a handful of earthworms in a vermi-compost by providing green waste (food waste). Use either the vermicast or live worms as fertilizers. (A later article will address use of these in composting).

Use biofertilizers to overcome deficits in nutrient supplies and adverse effects of chemical cultivation. One should exploit the ability of biofertilizers to biologically activate a soil, restore soil fertility naturally, replace chemical sources of nitrogen and phosphorus, stimulate plant growth and provide protection against drought and some soil borne diseases. Achieve integrated nutrient management by complementing the use of biofertilizers with organic materials. An integrated approach of nutrient management ensures a good health of a soil and the environment.

Lakshmi Sridharan is a scientist with a Ph.D. in molecular biology, botany and microbiology. She is author of A Practical Guide to Growing Roses Successfully.
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### Vermeer

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Part No.</th>
<th>Knife Description &amp; Size</th>
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<td>KCH20109</td>
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<td>BC1800XL</td>
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### Morbark

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### Brush Bandit

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In the classic 1954 horror film “Them,” nuclear tests in the U.S. desert result in the growth of gigantic mutant carpenter ants that menace cities in the American Southwest until they are destroyed by the army under the streets of Los Angeles.

The carpenter ant, whether B-movie monster or half-inch long common garden insect, can instill both apprehension and fear in homeowners. Arborists across the United States and Canada are often contacted by worried homeowners who have spotted the ants on a favorite tree or in the yard. Their concerns are understandable given the common misconception that carpenter ants eat otherwise healthy, sound wood. This belief leads many to fear for the survival of a favorite tree.

Unlike termites however, the carpenter ant (genus *Camponotus*), found throughout North America and the tropical and temperate regions of the world, does not subsist on wood. Rather their diets consist of living and dead insects (including termites), honeydew produced from aphids and scale insects, along with other sources of protein and sugars. Their fondness for eating other pests makes the carpenter ant an important natural predator.

Foraging for food typically takes place at night between sunset and midnight during the warmer spring and summer months, when worker ants may travel up to 100 yards from a nest in search of food. This may explain why homeowners sometimes describe seeing columns of “marching” ants.
Can carpenter ants directly cause structural failure in trees? “Carpenter ants tunnel in the dead, non-functioning portions of trees. This can compromise the structural integrity of the tree, but since activity is usually most abundant in wood that is already soft (that is, decayed) the action of the carpenter ants probably only accelerates a weakening process that is already underway.”

Dr. Donald R. Lewis

What’s in a name?
The common name, carpenter ant, is misleading. According to the authors John H. Klotz, Laurel D. Hansen, Byron L. Reid and Stephen A. Klotz of the Kansas School Naturalist magazine, most carpenter ants are not “carpenters” at all, preferring to nest under rocks, in the soil, or in living or dead non-woody plants. Carpenter ants that do nest in wood can be found in trees, stumps, snags (dead trees usually hollow and limbless), firewood or logs and boards lying on or buried in the ground. The common denominator of all these potential nest sites is the state of the wood.

According to Dr. Barb Ogg, extension educator with the University of Nebraska, carpenter ants prefer to infest wood that is moist and rotting. Poor pruning cuts or roots damaged from construction may also provide access points. The ants are very adept at taking advantage of irregular conditions. Photo by Eduard H. Holsten, USDA Forest Service, www.forestryimages.org

In the 1954 horror film “Them,” gigantic carpenter ants threaten Los Angeles. Was it because decay already existed in the city?

not create nests in non-decaying wood.

In his book A New Tree Biology, Alex Shigo describes a Douglas fir utility pole he dissected after it had been removed from the ground. The pole was replaced after 14 years because of rot and ants. During his examination of the pole, he noted the presence of well defined ant galleries between the inner and outer core of the wood. The ants did not spread into the center or outer core of the wood. Why?

He determined that the rot, and the ants, followed the wood that was altered from branch death. “The pole was defective before it was put in the ground. The center rot was associated with large dead branch stubs. The rot developed in the center and the ants followed.”

In other words, the ants were not the cause of the decay. They were simply taking advantage of a pre-existing condition. This is an important distinction. The perception that carpenter ants eat wood, thereby causing structural damage to a tree, may lead homeowners and arborists alike to overlook the bigger picture— that of the initial wood decay. Decay in stems or branches can lead to tree failure, regardless of the presence of carpenter ants.

The question remains: Can carpenter ants directly cause structural failure in trees? “Carpenter ants tunnel in the dead, non-functioning portions of trees,” states Dr. Donald R. Lewis, extension entomolo-
gist with Iowa State University. “This can compromise the structural integrity of the tree, but since activity is usually most abundant in wood that is already soft (that is, decayed) the action of the carpenter ants probably only accelerates a weakening process that is already underway.”

Carpenter ants generally enter trees through a pre-existing crack, a hole in a stem, or unsealed wound. Poor pruning cuts or roots damaged from construction may also provide access points. The ants are very adept at taking advantage of irregular conditions. “I have seen carpenter ants nest in loose bark and splits in the crotches of young ornamental trees,” states Dr. Ogg of the University of Nebraska.

Once inside the tree they cut galleries with the grain following softer parts of the wood. Excavated wood cut from the galleries is then removed from the nest in the form of a coarse sawdust-like material, which they push outside. This often results in a cone-shaped pile accumulating just below the nest entrance hole. The sawdust will, in all likelihood, contain bits of leftover insects from the diet of the carpenter ants. This is a good indicator of carpenter ant activity. Photo by Dave Powell, USDA Forest Service, www.forestryimages.org

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wood. The ants leave harder parts of the wood as walls separating the tunnels. This act reinforces the belief many entomologists have, that carpenter ants do not directly cause structural failure.

Ecologic importance

Excavated wood cut from the galleries is then removed from the nest in the form of a coarse sawdust-like material, which they push outside. This often results in a cone-shaped pile accumulating just below the nest entrance hole. The sawdust will, in all likelihood, contain bits of left over insects from the diet of the carpenter ants. This is a good indicator of carpenter ant activity.

Scientists believe the removal of the decaying wood from a tree by carpenter ants is beneficial to the environment, as it promotes reprocessing of organic materials. In addition, their nesting habits initiate the degradation process of the tree cellulose to a form usable by other plants and animals, according to John H. Klotz, Laurel D. Hansen, Byron L. Reid and Stephen A. Klotz. Of course this may be of little consolation to a homeowner, worried about a tree on his or her property.

Recommended treatments

All that said, there may be situations when you need to treat for carpenter ants, and there are several recommended methods for control in trees. It is important to note that long-term control can be difficult due to the continued and desirable presence (from the ant’s

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In arboriculture, an ounce of prevention is definitely worth a pound of cure. Entomologists generally believe that carpenter ants will not nest in otherwise healthy trees.

perspective) of decaying wood.

Dust insecticides (such as Sevin or rotenone) labeled for use on trees in the landscape are suggested for control. It is recommended that the dust be applied directly into the nest cavity. The second recommended treatments are bait formulations that allow the carpenter ants to carry the active ingredient to the colony, deep within the tree. Baits are probably the least invasive and least toxic as well. If you use toxic baits, be sure to use slow-acting formulations so that the ants carry it back to reproductive areas and larvae deep inside the nest. This is important because fewer than 10 percent of the worker ants are out foraging at any one time. Sprays and baits may have to be applied annually for effective control.

Pruning out a nest may be possible depending on its location within a tree. Trees directly adjacent a house or building can provide easy access for carpenter ants. Entomologists therefore suggest pruning trees back at least 5-feet from all wooden structures. In addition, carpenter ant experts suggest removing tree stumps from within 50-feet of a house. This is of particular importance on a wooded lot. Firewood is also an inviting nesting site for carpenter ants. Wood piles should be stored as far from homes as possible. Removal of a tree - the last resort - may be necessary in order to reduce both hazardous tree risks as well as further spread of the ants.

In arboriculture, an ounce of prevention is definitely worth a pound of cure. The good news is that entomologists generally believe that carpenter ants will not nest in otherwise healthy trees. Proper plant health care management should greatly reduce the likelihood of carpenter ant infestations.

David Oettinger is an urban forester in New Jersey.
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Developing an Ergonomics Program for Arborists and Landscaper Workers

By Camille Di Monte Peterson, P.T.

When the term “ergonomics” comes up, many people tend to think of it as a product. And why not? There are so many companies out there boasting of their ergonomic products, encouraging you to buy, buy, buy, with the unstated understanding that once you buy the product, your troubles are over.

Unfortunately, many have been deceived in this way, and any thoughts related to the term “ergonomics” turn quite sour. This is not meant to be a slam on all of the tools and technology available out there, as there are many very useful and well-designed tools of good quality on the market to assist a person to perform work activities in a safe and efficient manner. The point is that the term “ergonomic,” while used in marketing, is frankly over-used and can be misleading.

Tools and technology that take into account human needs and capabilities provide valuable assistance in fitting the job to the person. As a result, their health and physical abilities or limitations are not compromised, thus preventing work related injuries. However, tools and technology are a part, albeit an important one, of a greater whole.

For continuity sake, let’s first get the definition of ergonomics clear. For our purposes, we will use this definition: Ergonomics means fitting jobs (activities/machinery/tools) to people so that people can derive the greatest benefit from a safe, positive and healthy environment; it means well-being at work and at home.

There is such a huge range of variation in body size, limb size and proportion throughout the population that it is difficult to make one tool or one rule for performing the same task in exactly the same way for all people to prevent injury, minimize stress and improve efficiency. Therefore, we need to take into account the individuality of each person and observe the activity it takes for that person to complete a job task.

For example, a 6-foot 3-inch arborist or landscape worker will most certainly perform job activities differently than a 5-foot 7-inch person. They may each require different tools of varying lengths and hand grip circumference, and they may differ from the way in which they approach work tasks. Arborist/landscaping jobs have a wide range of essential job functions – physical/mental activities that are essential to successful completion of their work – compared to a job such as assembly line work in a factory. As a result, it is necessary to break down the job functions and analyze the movements of the human body required to complete each of these functions.

Ergonomics is an ongoing process. A program to promote proper work activity should focus on maintaining the health and...
well-being of the worker, including prevention of work-related injuries. The program should be a team effort, include a variety of people, and be in a continual process of evaluation of the situation/job, modification, implementation and, finally, evaluation of the changes to make sure they are effective. It should be a continuous circle of process, with evaluation to make sure the changes are effective, leading back into evaluation of the situation/job if the changes weren’t effective, or if a new employee is added to the mix.

The types of work-related injuries we will focus on are work-related musculoskeletal disorders (MSDs). MSDs are injuries and disorders of the soft tissues (muscles, tendons, ligaments, joints and cartilage) and nervous system. They can affect nearly all tissues, including the nerves and tendon sheaths, and most frequently involve the arms and back. Risk factors for MSDs include: force, repetition, awkward postures, static postures, quick motions, compression or contact stress, vibration and cold temperatures.

Causes of MSDs that we find common among arborists and landscape worker workers include: working in cold temperatures, which can affect a worker’s coordination and manual dexterity; excessive repetition of movements such as is the case with hand pruning tools; heavy lifting of limbs and branches, rolls of sod, etc.; vibration from tools such as chain saws; and working in awkward positions such as those experienced by climbers. These types of activities, either alone or combined, and occurring for extended durations or magnitude, contribute to MSDs.

There are also non-work-related factors that can cause or contribute to MSDs and include the employee’s physical conditioning, certain medical conditions, certain hobbies, pregnancy, psychological conditions, and home or workplace stress. All of these factors can add to the risk of developing MSDs.

Why and how do we begin this journey of the ergonomic process? Why and how do you, as an employer or employee, apply this knowledge to your specific profession? Answering why is quite easy: as an employer, it comes down to a healthy, productive and efficient employee, with good employer-employee relationships, and prevention of work-related injuries, all of which help maintain the morale of your employees. A good program will also prevent the high expenses incurred through medical/legal costs, lost work time, decreased productivity, as well as higher insurance premiums five or more years later. As an employee, by avoiding work-related injuries, you may save yourself...
years of stress and aggravation, not to mention the pain, loss of finances, and lowered self esteem that may invade your home and personal life.

The ergonomics process takes a team effort, and can only be accomplished in a positive way if the management is involved, and does not carry with it old prejudices and poor attitudes concerning the worker. The first step to take is to develop an awareness of ergonomics and to understand what that means for your line of work. For instance, we said earlier that a 6-foot 3-inch person will do a task differently than a 5-foot 7-inch person. To reduce the chances of MSDs, a company might need to purchase different size hand tools for these two workers to compensate for their different hand sizes. Or two people working together can swap tasks to reduce the repetitive nature of their work, i.e. one worker could use the shovel for an hour while one plants the shrubs and then switch tasks.

As we focus on the various jobs an arborist or landscape worker might do, it will be necessary to conduct a thorough job hazard analysis. This analysis might include a risk factor checklist, a survey, or a questionnaire. Once we have observed the activity we can determine the risks involved. Once we know the risks we can modify the tasks (provide different tools, swap tasks, etc.). Then we can evaluate the changes to determine if it solves the problem. This is where both the employer and employee must maintain open communication. The employer must encourage his or her employees to feel comfortable about discussing the problem and the employee must be willing to speak up and offer alternate suggestions.

There is much value to the old way of working your way up by starting in the trenches. Supervisors, managers and owners who have gone this route have obtained incredible knowledge and skill, and have experienced the work first hand. But this is where we must take a serious look at the training of new employees. It is important that we do not pass on bad work habits. Rather, we must look at where and how the injuries have occurred and initiate new work methods using tools and equipment that eliminate or substantially reduce the hazards of the work, improve equipment maintenance and implement engineering and administrative controls – rather than work practice controls as the first choice – that reduce those injuries.

The experienced workers can be a valuable asset to the new workers, but only if they are willing to learn from their injuries and develop new work methods. It is important to take what we have learned from these experienced employees and to identify what types of education, training or equipment modification we need in order to prevent the MSDs.

The price of prevention is well worth it, considering that the cost of a work-related injury (financial cost as well as the effects on employer-employee relationships and morale) can devastate a small or medium-size company. When developing an ergonomics program for your workers, do not be afraid to call upon resources such as OSHA consultation or compliance assistance specialists, who are available at no cost to the company, as well as therapists specializing in work injury prevention and management, ergonomics engineers and knowledgeable safety consultants. Start developing your ergonomics program by knowing the following seven essential ele-
The seven elements of an ergonomic program:

- Look for signs of a potential MSD problem. This could include identifying job tasks that require repetition or force, or workers that complain of aches and pains.
- Show that management is committed to addressing the problems and encourage workers to participate in problem-solving activities.
- Offer training to expand management and worker ability to evaluate potential MSD problems.
- Gather data such as medical records, injury reports, and job analysis to identify job tasks or conditions that may be the most troublesome.
- Identify effective controls for tasks that pose a risk of MSD and evaluate these controls once they have been instituted to see if the problem has been alleviated.
- Establish healthcare management to emphasize the importance of early detection and treatment of MSDs.
- Minimize the risk factors for MSDs when planning new work processes and operations.

By implementing these seven elements, you are well on your way to preventing MSDs.

An ergonomics program is only going to be as good as the employer and the employee make it. Each has a responsibility to the other. It is the responsibility of the employer to provide a safe working environment for the employee, and to provide training to the employee to equip the person for completing the job safely. It is also the responsibility of the employer to make sure that problems identified are solved, as well as to have a role in identifying potential safety problems.

Under the OSHA guidelines, it is the employee’s responsibility to perform job tasks required in a safe, efficient manner, and to perform them the way he/she is trained. But to take this a step further, an employee should also be willing to assist with identifying possible problems with job design. It is also the employees’ responsibility to take care of themselves off the job—eating a reasonable diet, drinking plenty of water, getting enough sleep at night, and avoiding behaviors that may risk their health. I will suggest here that instead of common sense, it is about “learned sense.” Once you take the first step to know what the risk factors are in developing MSDs, become aware and understand some of the fundamental principles of ergonomics, and have some examples in how they can be addressed, you will begin to develop the skills to improve the safety...
of your work. In this way, it is about “learned sense.”

This is the first of three articles on ergonomics that will run in TCI magazine. The next two articles will discuss proper body mechanics, physical conditioning, and tools and equipment as they relate to the arborist and landscape worker.

Camille Di Monte Peterson, P.T. is a physical therapist who specializes in work injury prevention and management.


This article was produced by the Forest Industry Safety & Training Alliance, Inc. and funded by a Susan B. Harwood Training Grant from OSHA.

**MSDs most frequently involve the arms and back. Can you count the number of contributing factors for MSDs this worker has going? Risk factors include static postures, compression or contact stress, working in cold temperatures, repetition of movements, heavy lifting, vibration from tools such as chain saws, and working in awkward positions.**
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Retired Concert Pianist Loves Nature
She’s well off and well travelled and she’s all business when it comes to running her household. The children are grown with families of their own, and she and her husband look forward to visits from their six energetic grandchildren.

They’re retired, and while he golfs, she enjoys music, quilting, knitting, basketry and, most of all, gardening. The grounds surrounding their estate contain an orchard, extensive lawns, a pond, a scenic meadow, a groomed hedge, vegetable and flower gardens, and a woodland garden sheltered by century-old trees. She loves the calm, protected areas of the property and values the natural character and beauty of the forests and land for their elegant and comfortable accommodation. Her next project is to have selected areas of the grounds floodlit during the evening.

Cleanliness Next to Godliness
The demands of the property are significant. She used to employ a full-time groundskeeper that arranged all the contracting, but his health has forced him to retire and his son has moved away. She made a false start with a service recommended by a neighbor. The owner was pleasant and well dressed when he visited, but when his men came to work, three days after the promised time, they were slovenly. Their truck leaked oil on her drive, they left lunch wrappers behind and bits of twigs and brush on the pathways. When she called to ask them to come back, a young woman was curt with her. When she received a separate bill for the cleanup, she promptly fired them.

Does Her Homework
Later in life, she has studied interior design, fashion merchandising and, luckily, the internet at a local technical college. She uses the Internet to research services in her area that can help with the maintenance. She wants to employ a well-established company that has a good reputation. One that will treat her fairly and whose employees take pride in their work. She wants a company she can trust.

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Go From Good to Great: Five Ways to Boost Your Sales Career

By Chip Eichelberger

Many experienced sales professionals don’t see the need for continuous improvement. They often think, “I’ve been selling for 15 years, so I must be great.” The number of years experience is not a measure of excellence – any honest golfer knows that. Such thinking can limit sales professionals from achieving a higher level of success.

Just because you’ve been doing something for years doesn’t mean you can’t or don’t need to improve. Oftentimes, people get satisfied at just being good at what they do. Then they stop doing all the little things that made them great, such as using a pre-call checklist, asking for referrals and testimonials, conducting timely follow-up, and sending thank-you notes. But these little things make the difference between good and great.

In fact, a great chasm exists between good and great performance. Realize, however, that this doesn’t mean you have to work harder. Rather, you need the discipline to execute the little things in an extraordinary way every day. Consider U2 front man Bono’s example of taking something good and making it great. “An early version of our first single, ‘Vertigo,’ was massaged, hammered, tweaked, lubed, sailed through two mixes, and got U2’s unanimous stamp of ‘very good.’ Very good is the enemy of great. You think great is right next door. It’s not. It’s in another country,” Bono told USA Today. Instead of releasing the song at “very good,” the band rearranged “Vertigo” with new melodies and rhythms. They soon discovered untapped reserves of ideas and fortitude, and the song went on to become a number one hit.

Has your sales performance been “good” or “great”? Have you been on cruise control in your job? When was the last time you went back into your “studio” and reevaluated what you do and how you are doing it? If your performance could use improvement, consider the five following strategies.

1. Ask “What can I do better?”

When was the last time you asked a client what you could do to improve his or her experience with you? Years? Months? Never? If you want to continuously improve your sales skills, your clients and prospects will have the most valuable insight into how you can become better. So make it a priority to regularly ask them for their suggestions on how to improve and add more value. Sales managers should ask their salespeople, “You have worked with me now for three months/three years. What can I do to be a better sales manager? How can I support your more?”

The same question is just as powerful with your family. When is the last time you asked your kids, “What can I do to be a better mommy or daddy?” How about asking your spouse? I guarantee they will have some feedback for you. It takes courage to ask and really listen to the answers. What you often find is that it will be little things they want you to do more often that you did not know were that important.

Although asking “What can I do better?” is an excellent way to continuously improve your performance, asking is really only the first step. The key is to listen when someone offers a suggestion. When a client starts talking, don’t try to defend yourself or justify your actions, just listen to what he or she has to say. Take your client’s sug-
gestions seriously and follow up with the person later to ensure you make progress.

2. Set a goal for each day

What activities drive performance for your business? Is it number of contacts? Referrals? Phone calls? Appointments? Determine this factor and set a measurable goal for doing a certain number of these activities each day. Many sales professionals think in terms of a sales funnel, and they need to keep a specific number of people in that funnel at all times to remain successful. How many new prospects do you need to contact to keep your funnel full?

As you do this, don’t forget about past clients. Many sales professionals become so focused on acquisition that they forget about retention. Past clients are easier to sell because they already know you and love the service you provide. But your competition is constantly trying to take your past clients away, and they may succeed if you lose contact and show indifference. So, how many past clients are you going to call today?

3. Keep track of your progress

A good way to track your progress and ensure continuous improvement is to keep track of what you do. Create a scorecard to record your key performance numbers for each day – number of appointments, sales, referrals, etc. For example, if you want to make 10 cold calls each day, then keep a record of the number of calls you make as well as the number of days you achieve your cold calling goal. Repeat this procedure for each goal or activity and post it where you can see it easily. This is the strategy I used when I managed the road teams for Tony Robbins – you can’t manage what you can’t measure. The quickest way to lose momentum is to stop tracking your results.

4. Tell an effective story

Everyone has a success story, and you may notice that businesses and products often use their story as a marketing tool. Whatever your story is, it must be unique, must solve the customer problem and be compelling. Real estate agents, for example, may take pictures of their clients in front of their new homes and then show these photos to their prospects. Even a bottle of wine or a consumer product can tell a story to differentiate it on the shelf. Consider how you can document your success with quotes, testimonials, case studies and pictures, and then creatively use your story to attract new business.

5. Record yourself

No one likes to admit they aren’t good at what they do. Even if a person fails, he or she won’t likely admit that individual performance was to blame. But people are often mediocre or just plain bad at sales,
and they don’t even realize it.

Have you ever recorded yourself while you’re meeting with a client or prospect? Most people haven’t. However, recording yourself is an excellent way to identify your strengths and weaknesses.

How do you record a sales presentation? Explain to your client or prospect that you are consistently trying to improve the way you tell your story and your listening skills. Then ask if you can record the meeting for personal use. Most of the time, the prospect won’t have any objections and they’ll admire your professionalism. If you are speaking to a group, ask to use a video camera. If you are on the phone it is fairly easy. Many modern phone systems now have that capacity.

Once you have the recording, the moment of truth arrives. Yes, it takes guts to review the tape! On your first review, take notes on all the good things you do and write down all the questions you ask. Then go back, ideally with a more experienced peer, and review what you need to improve. The danger is the more you know, the more you tend to talk. So you’ll often find that you need to ask more questions and talk less!

Continuous improvement in your future

You may think that if you want to take your sales career to the next level of success, you just need to work harder. In reality, you need to work smarter.

Start by asking your clients what you can do to improve. Then use their suggestions to set goals for yourself and track your progress. Know your success story and ensure that you communicate it effectively to your clients and prospects by recording yourself in a meeting.

Most sales professionals use these strategies initially, but people tend to fall out of good habits quickly. They become satisfied with providing a mediocre experience to their clients, when they should really be trying to amaze them. Providing a superior experience means constantly improving and refreshing what you do. One of the best ways to gain momentum is to go back to these habits and start doing them again. When you do, you can achieve limitless success.

Chip Eichelberger is a peak performance strategist and motivational speaker. A former Tony Robbins international pointman, his clients include Ernst & Young, Tommy Hilfiger, ADP, Century 21 and Bank of America. He spoke at TCIA’s Winter Management Conference in St. Kitts in February.
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Market Your Company on Our Web Site – for Free

By Kay Harrison

The Tree Care Industry Association’s Web site is a nice place to visit – and you may want to live there. Member companies have an opportunity to put company information, clickable Web site links, and even their company logo on TCIA’s Web site, all without buying ad space. Visit the Web site next time you are cruising the Internet and test drive the ZIP Code search from the left-hand Consumer Resources box.

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Our popular ZIP code search, which helps consumers find member companies, has been expanded to include several advanced search criteria. Consumers can find member companies by zip code, state, country, company name, or even parts of the company name. For example, if you search in the Company Name field for “Tree,” the system will show you more than 1,400 member companies.

Recently, we added the rest of the world – international ZIP codes now work in the search box as well.

The results of the advanced search can be sorted right on the page so the list is organized by any of the column headings. For example, to get a list of accredited companies in Michigan, consumers can search for MI and click on the Accredited button in the results table. The names of the accredited companies will jump to the top of the list, each company name displaying the TCIA Accreditation logo. One click on the “More Info” link will bring up the company logo, name, address, Web site and contact information.

Active member companies will increase business, profits and branding through this powerful search function. Consumers will see your name, contact information and logo, and will flock to your Web site through the clickable links.

Company descriptions can also be added to your record. The description can include your service area, safety record, services offered, or special talents and skills. Please brag sensibly, though; descriptions are limited to 100 words.

How many people visit the Web site?

Some Web site statistics measure what we call “hits.” A hit is simply a request to our server for any type of file. Using a hits statistic can be misleading, because one page on our Web site can generate dozens of hits. Each graphic, photo, PDF file, etc. would register as a hit. On TCIA’s Web site, an average day will register 60,000 to 70,000 hits. You might assume that 70,000 people visit the Web site per day. This sounds very good, but it’s an exaggeration.

The more meaningful statistic is the number of “sessions.” A session is defined as a series of clicks on our site by an individual visitor during a specific period of time. A session is initiated when the visitor arrives at the site, and it ends when the browser is closed or there is a period of inactivity. TCIA’s Web site can log as many as 1,200 sessions in a single day, and even on a slow Saturday logs over 500. On a monthly basis, that translates to almost 30,000 Web surfers who may be looking for tree care.

The most popular page on any Web site is the home or index page, and many visitors stop there. On TCIA’s Web site, the second-most requested page is the Member Search page. This tells us that consumers come to our site to find tree care companies. Make sure you can be found!

Companies that wish to add logos to the search results can e-mail their logo files to webmaster@tcia.org. The size of the logos should be around 175 pixels wide. TCIA’s staff graphic artists can modify most logo formats, but vector-based graphics files such as EPS files will retain a higher quality when enlarged or reduced. You may send a 100-word description along with your logo to webmaster@tcia.org, or contact the Membership department if you need help.

Kay Harrison is TCIA’s Web editor.
Shop online at www.treecareindustry.org

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Arborists face significant hazards in the work they do every day. If that weren’t bad enough, they also face a significant risk just getting to and from their jobs. That risk is associated with the way their employees drive in work vehicles, and it can be controlled.

The Asplundh Tree Expert Company, with more vehicles on the road than any other tree service firm in the U.S., provides an excellent example of a proactive driver safety and compliance program. The three legs that balance their program consist of: hiring practices, training, and driver monitoring and enforcement.

Their recently adopted “1-800-Hows-My-Driving?” campaign, when married to Asplundh’s other driver safety initiatives, has promoted professional driving habits as well as a means to recognize safe behavior and to counsel and correct unsafe behavior. The results of the program have been a 24 percent reduction in crash frequency and a 25 percent reduction in crash costs in one year.

One of the keys to Asplundh’s success with its third-party-administered driver monitoring program is simple but would be easy to overlook: the decals on the backs of vehicles must be large enough to be easily read by other motorists.

Having had so much success with driver monitoring, Asplundh is championing its broader implementation through the industry through a new Safety First affinity program offered through Tree Care Industry Association (TCIA) for its members. SafetyFirst provides three fleet safety programs: the safety hotline service, online recordkeeping and reporting, and driver coaching/training.

In addition to preventing unsafe driving behaviors that can lead to accidents, their services help managers spend more time with their teams rather than at the desk managing records, and enable supervisors to place proper emphasis on driving safely without having to author new materials each month. Through the affinity program, TCIA members realize a small discount on the products/services they use.

Many resources are available to help an employer start a safe driver program. For example, organizations that have not yet adopted any formal safe driver policies and procedures may benefit from new guidelines developed by the Occupational Safety and Health Administration (OSHA), National Highway Traffic Safety Administration (NHTSA;
According to Acting Assistant Secretary of Labor for OSHA Jonathan L. Snare, “This new guidance document will show companies how safe-driving practices and safety-conscious behavior can help employees avoid tragedy.”

Employers can view and/or download the 32-page “Guidelines for Employers to Reduce Motor Vehicle Crashes” by typing the following link into their Web browser: www.osha.gov/Publications/motor_vehicle_guide.pdf

The white paper offers useful information to help employers design an effective driver safety program in their workplace. It features a 10-step program outlining what an employer can do to improve traffic safety performance and minimize the risk of motor vehicle crashes. The document includes success stories from employers who have benefited from effective driver safety programs.

The guidelines include a detailed section on the causes of aggressive, distracted, drowsy and impaired driving, and tips for avoiding such behavior on the road. There is also a sample worksheet for calculating the costs of motor vehicle crashes to employers.

To develop the guidance, OSHA joined forces with NHTSA, the federal agency responsible for helping save lives, prevent injuries and reduce traffic-related health care and other economic costs, and NETS, a nonprofit organization dedicated exclusively to traffic safety in the workplace.

Peter Gerstenberger is senior advisor for Safety, Compliance & Standards for the Tree Care Industry Association.
The single rope technique (SRT) employs a static climbing line system and is used as a means of canopy access only.

The SRT is hard to beat when the climb is long or when the rope cannot be isolated around a single limb. This is often the case when installing lines in tall conifers or thickly crowned deciduous trees. Many of the same working and descending limitations that exist when footlocking on a doubled line apply to the SRT as well.

The suggested equipment, procedures, and techniques presented on the following pages are but a few of many options available for climbing a single line. For more information on SRT see the book *On Rope*, by Smith/Padgett.

Climbing Line Anchoring Precautions

There are concerns and potential hazards that exist when the climbing line is anchored to the base of the tree that do not occur when anchoring the line to the limb itself. Climbers need to be aware of the loading forces that occur on the branch or crotch that is redirecting the climbing line (see figure 1a) to an anchor point below (2a, 2b). This situation exposes the redirecting limb to twice the load that would occur if the rope was anchored to the branch itself (3).

For example, if the climber weighs 200 pounds, that means 200 pounds will be on the load “leg” of the climbing line (1b) and 200 pounds on the tension leg (1c). This exerts a total of 400 pounds of static load on the limb redirecting the rope (1a). It is critical therefore, that the tie-in point selected is strong enough to support this increased load.

Secondly, the climber must take precautions against cutting the tension “leg” of the climbing line (1c) with a hand saw or chain saw. Many SRT climbers avoid this potential entirely by reserving use of the climbing line as a means of access only. Work is only performed after tying in to a more suitable climbing system. If it is necessary to perform limited work with any type of saw during the ascent, the risk of cutting the line can be greatly reduced by using brightly colored rope (for better visibility) and anchoring the line in such a way that it is in full view. In addition, it is
SRT Procedure

1. Install the climbing line over a suitable crotch (1a). With the SRT, it doesn’t matter if the rope runs through several crotches.

2. Secure the climbing line to the base of the tree (2a) or a neighboring tree (2b) with a Running Bowline or to a figure-8 descending device tied off using the “hard lock” method. A figure-8 allows a ground person to lower the climber in the event of an emergency.

3. Another anchoring option is to secure the rope to the branch it is crotched over with a Running Bowline (3). The climbing line must be isolated around that limb for this method to be effective.

4. Tie in to the climbing line with the preferred ascending system (4) and ascend the rope to the desired destination.

After reaching the canopy, tie in with a lanyard and have a ground person clean the anchored rope from the tree or leave it as an access/rescue line. Tie in using the same of a second climbing line. If anchoring option #3 was used, the climber may regain use of the rope by untying the Bowline.

imperative that the climber tie in with a second means of attachment when operating the saw!

Selecting an Ascending System

The single rope climber has a variety of equipment and ascending systems from which to choose, each one offering a different level of efficiency and safety. There is, quite literally, a climbing system suitable for anyone, regardless of age, weight, or strength. For these reasons, the SRT is the preferred method with recreational tree climbers and becoming increasingly popular with professional tree climbers as well. Experience is the best teacher in determining which ascending system best meets the climber’s needs. There are however, certain criteria to help the climber make that selection and design an ascending system. The sys-
The “Sit-Stand” Method

1. Place ascenders on the rope and attach the climbing system to the climbing saddle. Take up slack in the system.

2. Hang or sit from the upper ascender while raising both legs and the lower ascender at the same time.

3. Stand up in the foot loops and advance the upper ascender. This sequence of “sit and stand” is repeated until the destination has been reached.

“Rope Grab” Options

- Footlock
- Foot ascender
- Foot loop

Helpful Hint: To make ascending easier, anchor the running end of the rope to a chainsaw or have a ground person hold it taut.

SRT Ascending Options

All SRT ascending systems incorporate at least two attachment points on the rope by which the climber alternates
weight transfer. These attachment points are commonly referred to as “rope grab” devices, such as mechanical ascenders and friction hitches, or techniques, such as footlocking.

When the climber’s weight is applied to one rope grab, it becomes possible to advance the other one, thereby advancing the climber’s position as well. However, not all rope grab or attachment point options provide fall protection (e.g., footlocking, foot loop). In those cases it is strongly recommended that the climber add an additional point of attachment that does.

The second illustration shows the popular “sit-stand” method (which provides two means of fall protection) and several rope grab options which create a combination of at least two points of attachment.

Tools of the Trade: Ascenders

Ascenders are a rope grab device that have found favor among tree climbers because of their efficiency and versatility. There are two main groups of ascenders: cammed and toothed.

Cammed Ascenders

The most commonly used cammed ascenders (Gibbs, Macrograb, Microcender) consist of a shell that houses a grooved cam which, when activated, grips the enclosed rope. Cammed ascenders are commonly employed as lanyard adjusters. Some types of ascenders are well suited for fashioning a foot ascender providing an outstanding means for hands free ascending on a single line. Another type of camming device, referred to as the “Footlocker,” consists of a pair of cams combined in a single shell, providing a self belay when foot-
locking a doubled climbing line.

**Toothed Ascenders**

Toothed ascenders rely on small spike-like teeth on a moving cam to provide the grip on the rope. Some designs have handles to grip and operate the device. Handled ascenders have become standard equipment for the SRT and when climbing a doubled line while footlocking. The pre-drilled holes in the shell allow for joining two ascenders together (for climbing a doubled line) and attaching footloops, slings, and straps.

**Ascender Precautions**

**Accidental opening:** Keep leaves, twigs, and debris out of and away from the spring and camming mechanism to prevent accidental opening. The climber’s hands should be below the camming device during the ascent.

**Removing ascenders from the rope:** When removing toothed ascenders from the rope, take care to prevent the teeth from “picking” and pulling out the rope fibers. By design, the cams on the ascender can only be opened after the load has been relieved.

**Ascender backup:** Some ascenders require a backup means of fall protection. Doubled ascenders, for instance, do not provide twice the protection when used in the manner illustrated above. If one ascender fails, the entire system fails. One method of backing up ascenders entails tying a Prusik loop above the ascender with a friction hitch. The loop is secured to the climber’s saddle with a carabiner. This arrangement enables the ascender to advance the friction hitch as it is raised. If the cams on the ascenders open or fail to grip the rope, the Prusik loop will provide fall protection.

*Excerpted from The Tree Climber’s Companion by Jeff Jepson.*

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**The Tree Climber’s Companion**

By Jeff Jepson

This compact, field-sized reference and safety manual for climbers features illustrations by Bryan Kotwica. Revised and expanded edition includes: “Tools of the Trade,” Revised Climbing System (PREP), “Tying In” procedure, climbing with climbing spurs, ascending and descending techniques, more knots (including the French Prusik), safety standards and more.

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Management Exchange

Your Business as a Retirement Asset

By Mary McVicker

The question for small business owners used to be “When are you going to retire?” Today, we’re more likely to ask “Are you going to retire?”

Often, the answer is “no” or “never.”

Many owners plan to continue running the business, or working in the business but not managing, or staying closely connected with the business. If they consider retirement, they think about doing so years after the traditional retirement age.

But for most owners the reality is that the day comes when they’re ready to leave the business much sooner than they anticipated. They get tired of the work, their routine has become tedious and they’re bored, physically it’s getting more difficult to maintain the pace or run the business, or they’re ready for the next stage of life.

Their business represents a significant retirement asset, often 50 percent to 90 percent of their net worth. After putting so much time, energy, and (especially) money into the business many owners dream of the day when they will cash out and move on.

The dream/ideal is to put the business on the market, take the best offer, and “sail off” to a happy (prosperous) retirement, much like cashing in your house as a retirement asset. There’s no denying the process can happen this way, and, in some instances, it does. But this “plan” needs a serious injection of reality.

The difficult questions

For many business owners the hardest decisions are those concerned with moving from an abstract idea about the future to specific goals.

Do you plan to sell your business? If not, how much involvement do you plan?

Do you want to have a voice in management? If you anticipate a buy-out rather than an outright sale you’ll likely want to continue to have some say in management and decisions – but how much, and to what extent?

Do you plan to keep working, or will you phase out your daily work schedule? If you want to phase out your daily involvement, how do you anticipate doing so?

If there is stock involved, will you keep your stock or sell it? If your stock is subject to a buy/sell agreement, you’ll need to factor the terms of the agreement into your plans. Also, stock in a closely held corporation doesn’t have a ready market. Valuation can be difficult. You also need to consider how a change in stock ownership will affect the voting market of potential and existing customers.

Whether the business is your main retirement asset or part of your retirement portfolio, forethought and careful planning are needed for the business to yield the needed income or cash required for retirement. In addition, you need to plan your exit strategy. All of this, including the transition, requires ample lead time.

The questions aren’t always easy, and the various options need careful consideration.
structure in the corporation.

Many of these issues come down to questions of control.

There are personal considerations as well.

How much money do you need for your retirement?

What are your parameters – location, lifestyle, occupations, travel and so on? If you intend to relocate or do a significant amount of travel, those plans obviously have a strong impact on your continued involvement with the business.

Selling the business

You can sell the business to an outsider or to an internal buyer. The initial steps of both sales are similar.

First, of course, is to determine the current value of the business. This requires expert help – either an appraiser who works with small businesses, or someone who is qualified to give you a certified valuation. Your business bank or insurance agent may be able to refer you to an appraiser.

Appraising a business is obviously more complicated than appraising a house. In addition to considering the physical assets, there are matters of reputation, competitiveness, product viability, the business culture, key employees – and so on.

The appraisal may be lower than you anticipate – owners are often unpleasantly surprised. But with ample lead time you may be able to better position your business for selling and enhance the value of the business.

Positioning your business for selling

As with the sale of a home, it’s essential to take a critical look at just what the buyer will be buying. And, as with a home, there’s usually some sprucing up to be done.

Balance sheet. In addition to an excess of debt being a problem (as discussed in the accompanying article), the presentation of equipment can be misleading. If you’ve depreciated your equipment quickly, so that the “Accumulated Depreciation” amount is close to the stated cost, the “life of the equipment as represented on the balance sheet may not represent the situation at all. If you’ve elected a slower method of depreciation or a long life for the equipment, the equipment will appear to have little depreciation and therefore not have been in use for very long.

We all know you can’t rely on the balance sheet presentation of hard assets; if your building and equipment are, in fact, on the new side (or recently refurbished in the case of the building) you need to let the potential buyers know that.

Cash flow statement. Expenses are the “mess” factor here. Your cash flow statement should give a clear representation of the cash life of the business, presenting enough information on expenses to be useful, but not so much as to bog down a potential buyer. (Potential buyers have a way of getting enmeshed in details and obsessing over them, particularly when it comes to financial statements.) By the same token they get suspicious if there isn’t “enough” detail.

So far, we’ve been looking at cleaning up the financial statements. Other possibilities exist as well.

The business culture. How do your employees look to an outsider – prospective buyer? How does your business “feel”? What’s the level of professionalism? Not all factors involved in a purchase decision are tangible or measurable.


But with the sale of a business that “critical look” is more complicated. The physical assets play a substantial role, particularly if you own a building, vehicles, and expensive capital equipment.

What’s the condition of those assets? How much more useable life do they have? Could a buyer reasonably expect to get six more years of heavy use from that equipment, for example? Is everything in good repair, and has it all been well maintained?

As important and as valuable as the hard assets are, the key asset is the business’s reputation. It’s your reputation that makes your business viable and competitive. That said, though, a business that’s viewed as less than top notch professional can appear as an opportunity to the right buyer, particularly with a devalued selling price. But obvious that’s not how you want to position your business in the market.

Reputations, of course, are made by people. Who are the key people in you business? How would it affect your business if one of those key people left?

Reversing the question, why do your key people stay? Loyalty and comfort zone are well and good, but when it comes to benefits and opportunity, particularly if there’s a family involved, an employee is likely to be looking elsewhere. Most insurance companies have people who specialize in developing incentive plans to motivate and retain key employees. Getting those in place can enhance your business to a potential buyer.

Take a critical look at your financial
statements, or, better yet, ask your banker or another outsider to do so. How would those statements look to a potential buyer? Does the business look debt heavy, for instance? Can you reduce that debt in the next two years?

While the balance sheet and income (profit and loss) statements are the classics of accounting, they are so fraught with conventions that they can give only a fuzzy picture of the business. Potential buyers will likely want to see cash flow information, which shows more about the life and viability of the business. And while information about the past and present cash flow contributes much to purchasing decisions, the question of future cash flow enters in as well.

Potential buyers are interested in is how much cash flow the business likely will generate after the sale – without you there. You have key relationships and a reputation with vendors, customers, and within the business community. What can you do to assist in the transition to the new owners? What employees are going to be the buyer’s key employees, and are they likely to stay?

Selling to an internal buyer

This is a frequent scenario: the buyer is a relative, child or key employee who is already in the business. Typically such a buyer has inadequate funding to bring to the table.

Expert help is essential for setting up a plan that allows the owner/seller to get money from the business but doesn’t saddle the new buyer with a heavy debt burden. (One reason many businesses don’t survive the transition from founder to next generation is that the buy-out cripples the business and the buyer so badly that the business cannot survive.)

Not selling the business

Not selling the business should be a deliberate decision, not a result of failing to plan an alternative. While many owners are determined to “stay in the saddle until they die,” that doesn’t work for many – perhaps most – people. Age and mortality are inflexible, but there are also matters of inclination, boredom, new interests and so on that can make a decision to stay in the business later unpalatable.

If you want to continue working indefinitely, make it a clear decision – and allow space for a different decision in the future.
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It never hurts to position the business to be more salable: you only improve its competitive stance and financial structure.

Many owners continue with the business but at a different level of involvement. Those transitions can be particularly tricky. It’s essential to spell out what you will do and what you will not do when you retire, who will have responsibility for what decisions, and so on. Draw up a firm management agreement with details. Matters are likely to arise that need clarifying or negotiation, but there must be new management relationships with clear guidelines from the outset of the transition.

Coordinating with your estate plan

Tax and estate planning considerations are complex and need careful coordination. Although you don’t intend to retire for many years, now is the time to consider your business in relation to your retirement. The nearer you are to retiring, the more urgent the need for planning. Effective planning requires a range of expertise: a lawyer, CPA, banker, and insurance agent. This may sound cumbersome, but each expertise brings something important to the mix. These experts need to work together and coordinate; someone has to be the key “manager” of your estate planning. Your business is part of your estate right now, and conceivably part of your retirement later on. Don’t wait to plan.

Consider all options that seem appropriate—and some that don’t appear to fit now but conceivably could in years to come.

Talk to people who have retired from their own business—or who have chosen not to retire. What were the surprises—both good and bad? What were the unexpected challenges?

If you’re thinking of continuing in the business and not selling, talk to someone who made the opposite decision. They have insights and personal knowledge of the critical questions, as well as the minor ones that need to be addressed. Sometimes it’s the opposite point of view that yields the best information.

Mary McVicker is a freelance writer who lives in Oak Park, Illinois.
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Determining what course of action to take when an employee has been involved in a motor vehicle collision is a common problem facing fleet managers.

The belief that punishing a driver for making a mistake or a driving error will prevent a similar occurrence from happening in the future has not been proven to be the best way to mold an individual’s behavior patterns.

Generally the more serious the collision in terms of damage, the more stringent the penalty. A minor, first-time collision often results in a reprimand; a costly, major collision or a succession of collisions, in termination. As the severity and frequency of an employee’s accident history increase, so does the punishment.

Since most traffic accidents are not intentional, it is not clear why the threat of losing one or more days’ work is a meaningful remedy and consequently will minimize the likelihood of future accidents. Undoubtedly, the threat of possible loss of employment will make some individuals act with greater care.

It is necessary to apply punishment uniformly to all employees to avoid charges of partiality, favoritism, or prejudicial action; it should also be recognized that an employee’s past history and performance should be factored into any penalty system. Unfortunately, many fleets apply the same punitive measures to a driver whether employed for five months or 15 years; whether considered a good “company” driver or a troublemaker with a poor attitude.

Analyze punitive measures by asking, what is gained as a result of the punishment? What is the employee’s attitude when returning to work? Having been punished, will there be an effort to “get even”? When an employee is fired, is there any assurance that the replacement will be any better?

It is generally agreed upon by fleet managers that most collisions are the result of poor defensive driving habits, carelessness, fatigue or a poor attitude (either ongoing or momentary). Fleet managers must determine the best and most effective action to take after a collision by figuring out which of the preceding was the proximate cause and then address that situation.

Here are some suggestions:

- Poor defensive driving habits can be identified through periodic check rides and addressed by both refresher and remedial training.
In-vehicle training by a supervisor can often uncover poor driving habits that could eventually contribute to an accident.

It is always beneficial to provide employees with periodic refresher training to increase their level of awareness. In this way, drivers are reminded of common hazards and are more likely to recognize them as they appear during the normal course of performing their duties.

Ongoing negative attitudes are easy to identify and those whose driving is affected by these attitudes should be weeded out.

Momentary negativism caused by the actions of others often is extremely difficult to isolate and deal with effectively. When suspected, the discussion and identification of this problem can sometimes alert the driver to a previously unidentified reaction that contributes to accidents. Driver fatigue can be an individual problem or one common to the entire operation due to scheduling and/or supervisory controls. Unless identified and corrected however, fatigue-related collisions will continue to plague an operation.

Driving performance can always be improved—even for good employees who have had a collision. Recognize that your fleet operation may run smoother with fewer disruptions if you can salvage and improve an employee who is basically competent but who has made an error in judgment.

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You are driving down the street when you spot a competitor working with a brand new piece of equipment. Your eyes naturally follow the equipment to check it out. This tree crew is really getting a lot of work done with this new piece of equipment. If you are alone and your wife and kids are not in the car, you might even pull over at this job site and watch this tree crew work for a few minutes. Sound familiar? Why do you do it?

Because you are interested in safety and better efficiency. By watching someone else, you just might learn something new that you could use to improve your own tree company.

If it is interesting to see new equipment and a competitor work here in the U.S., it is even more fascinating to see a tree company in another part of the world work, especially if they are using equipment that is 10 years ahead of anything you have ever seen.

Culture shock

When you think of Germany, think of safety, speed and efficiency. Your culture shock experience begins by driving on the Autobahn. Driving at 100 to 120 mph requires an incredible amount of intense focus. Taking your eyes off the road for just one second means that you have already covered nearly 176 feet of ground. Now you can understand why European cars do not come equipped with cup holders.

There is no time to talk on the phone, drink coffee, read the newspaper, comb your hair, fiddle with the radio stations or worse, recover that fallen CD from the floor – one second of lack of attention and you are off the road. No worries here about having to be on the look out for the friendly smokies hiding behind the bushes with a radar gun. For the most part there are no speed limits in Germany. However, that takes some getting used to, first to speed by the police and second to constantly keep checking the rear view mirror looking out for the high horsepower Mercedes and
Bimmers flashing their headlights a mile away to clear the road as they fly past you doing 150 mph. Germans take their driving as seriously as they do punctuality and equipment quality.

Trees in Germany are not a whole lot different than in the U.S., however the way tree companies work there is quite different. Little leaf linden (Tilia cordata) are everywhere and are the national tree of Germany. You will see lots of spruce, fir, oak, birch and mountain ash. Pollarding is done to most street trees. While this goes against everything Alex Shigo has taught many of us, you will quickly see the benefit of having real short trees on crowded city streets. Poplar trees seem to be one of most abundant tree species in Germany. If you are familiar with Poplar trees (some of you know them as cottonwood or aspen, Populus spp.) these easily grow 90 to 110 feet high and 3 to 5 feet in diameter. Nearly every German city and cute little storybook village with brick homes and flowerboxes is riddled with these troublesome giants. These fast-growing invasive trees are a maintenance headache to homeowners, towns and cities, but a gold mine for tree care services.

High safety standards

Great importance is placed on safety for tree workers in Germany. Use of safety equipment is strictly enforced. Tree workers are required to wear a hard hat with a face shield and hearing protection, full body Kevlar suit to protect them from that unforgiving chain saw chain spinning at 5,000 feet per minute (fpm), and safety boots.

It’s illegal to climb

Tree climbing has been phased out in Germany, hence tree workers no longer are exposed to tree climbing risks. Ladders over 10 feet are also illegal to use, and certainly the gray area of riding the hook of a crane – this is an absolute no-no. As last resort, in the case of an unreachable tree, tree workers must prove that the tree is unreachable by equipment, then they can get a permit to climb a tree.

Aerial access equipment

For access in trees, tree companies all use aerial lifts. The 100 foot spider lifts are very popular and everywhere you drive you will see aerial work platforms involved with some kind of work, even King Kong size truck mounted lifts capable of reaching 330 feet in height.

Tree crews are often comprised of two men trimming side by side in the basket and one man picking up brush on the ground.

Green industry safety record

Needless to say, the German green industry has one of the best safety records in the world, and the lowest injury and death rate.

Since there is no uniform mandatory safety standard from OSHA for the tree care industry in America at this time, and despite TCIA’s, ISA’s and other groups’ efforts to promote use of personal protective equipment (PPE), tree workers here can still be found wearing a motley assortment of gear, from baseball caps and sneakers, to steel worker’s hard hats to rock climbing gear. Hence compared to Germany, our safety record is abysmal. Want proof? Next time you go to a trade show, watch the people walking the aisles: You will see people with missing fingers, lost eyesight, serious scars on faces and limbs, limping, paralyzed workers and workers on disability, recovering from scary injuries. Talk to anyone during happy hour and they will invariably trade sad injury or death horror stories. Does this sound like an industry you would enthusi-
astically recommend your children to enter?

If it makes you feel any better, last November an article in the Boston Globe had OSHA bragging about the decline of the on-the-job death rate. In New England alone it had declined from 188 deaths in 2003 to 169 in 2004 (Boston Globe, November 15, 2005). Falls seem to be the leading cause of death; great consolation and a warning to all of us.

You will probably agree that the above figures are way too many deaths. Something is definitely wrong in America for us to tolerate that many on the job fatalities.

Implementing stricter safety standards for a safer work environment should not be an option. Compared to Europe, the American tree care industry standards are 20 to 30 years behind. If there is a safer way to do a job, it should not be an option but a requirement.

Just raising our guidelines to match Europe’s will save many lives and prevent a lot of injuries. This issue is not much different than the automobile industry in America in the early seventies. American car manufacturers were forced to make safer cars by installing European innovations such as disc brakes, seat belts, air bags, rollover cages, etc. Some of us have lived to tell the advantages of having these safety devices.

On the job safety should always be our number one priority.

You have seen the future

The future of the tree industry in the coming years in America will be brighter and safer. Expect to see stricter worker safety guidelines in the horizon along with new and safer equipment. Many tree industry leaders are already embracing these innovations and higher safety standards.

Along with better safety standards and equipment, there is a silver lining: future tree workers will be more productive, tree work will be less exhausting and less dangerous. More work will be accomplished with less labor. A much needed boost for an industry that has trouble attracting talented, young qualified workers.

Implementing stricter safety standards for a safer work environment should not be an option. Compared to Europe, the American tree care industry standards are 20 to 30 years behind. If there is a safer way to do a job, it should not be an option but a requirement.

Leonardo Polonski is owner of Polonski Tree Service and president of Teupen America, both in Reading, Mass.
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The Voice for Trees political action committee is ramping up to protect the interests of tree care companies in 2006 – a very important election year. On Jan. 16, the VFT-PAC Advisory Committee voted to approve $30,000 in contributions to eight Representatives and four Senators. The recipients represent 10 states, both political parties, and include wide-ranging views on various issues – liberal and conservative.

Of primary importance to the tree care industry is their common support for the issues of concern to TCIA members. In addition, these officials have budget writing or regulatory oversight control over the major issues and agencies that affect your businesses every day: taxes, immigration, Department of Labor, Environmental Protection Agency, and the Department of Transportation. VFT-PAC has developed detailed criteria for deciding which members deserve our support, including that they are:

- accessible to TCIA staff
- a member of a relevant committee
- a chairman or ranking member of a relevant committee
- helpful on legislation important to the industry
- elected to a leadership position
- sponsoring key legislation
- voting for a TCIA legislative priority

Profiled here, and on subsequent pages, are the members VFT-PAC has decided to support:

**Sen. Johnny Isakson (R-GA)**

Senator Isakson serves on three Senate committees of interest to TCIA members that have jurisdiction over education, healthcare, transportation, environment, jobs and small businesses. His committee assignments are: Health, Education, Labor and Pensions; Environment and Public Works; Veterans’ Affairs Small Business and Entrepreneurship. He has consistently rated 100 percent by the US Chamber of Commerce. He has also rated 100 percent by the Small Business & Entrepreneurship Council.

**Rep. Nydia Velázquez (D-12-NY)**

Congresswoman Velázquez is the top-ranking Democrat, or Ranking Member, of the House Small Business Committee. She supported HR 660, the Small Business Health Fairness Act – which included the Association Health Plan language. She has also been available to talk to, and advocate for, the green industry on immigration issues.

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**Help us help customers find you!**

*New Internet marketing opportunities for members*

On TCIA’s Web site, www.treecareindustry.org, consumers can find member companies by typing in a U.S. ZIP code or partial ZIP code on the home page. They type in their ZIP code, click search and up come the TCIA member companies in their area.

Members can sign up for five free ZIP codes to add to our ZIP code database. That way, not only does your company name and contact information appear on the results page for your own ZIP code, but it also comes up for five neighboring ZIP codes of your choice.

If you are already listed in the ZIP code search, consider adding a company description and logo. This promotes your corporate identity, helping potential customers recognize your name and image. It’s also an opportunity to drive consumers to your own Web site, so don’t forget to add your URL to the information form.

These marketing opportunities are free to our members.

Contact the Membership department for more information at (603) 314-5380, or e-mail webmaster@tcia.org.
Voice for Trees had a busy December in D.C.

As expected, the House of Representatives voted on immigration reform legislation in December. Unfortunately, the bill that passed, the Border Protection, Antiterrorism, and Illegal Immigration Control Act of 2005 (HR 4437), does nothing to address the shortage of workers for the tree care industry.

Introduced by Judiciary Chair James Sensenbrenner, the bill passed Dec. 16 by a vote of 239 to 182. It would dramatically increase the penalties employers face for violations of federal immigration law, including paperwork violations. It also would require employers to verify employment eligibility electronically for all new hires and, within the next six years, all of your existing employees. The new verification system would be in addition to the existing I-9 requirements and is patterned after Basic Pilot, an experimental program that was implemented in 1996.

Basic Pilot, however, has a troubled history. Since its inception, the Government Accountability Office, the U.S. Citizenship and Immigration Services (USCIS), and various independent groups have documented Basic Pilot’s high error rates. According to the Manhattan Institute, “as recently as 2003, 51.2 percent of work-authorized non-citizens experienced unwarranted delays and inconvenience, if not actual loss of employment, when their employers received erroneous ‘tentative non-confirmations’ from USCIS.”

TCIA directly lobbied Congress in opposition to the immigration bill because of its draconian penalties, the well-documented problems with the Basic Pilot program, and its failure to address the growing need for immigrant workers.

Also, despite the bill’s passage, both Republican and Democrat House members voiced frustration over the fact that it did not include a guest-worker program and a mechanism by which the 11 million undocumented workers in the U.S. could gain legal status – particularly in light of the fact The White House has called for comprehensive legislation that contains both concepts.

Throughout the debate over the House bill, TCIA’s lobbyist Josh Ulman worked with other employer groups on behalf of the association.

The Senate is expected to consider immigration legislation as early as this month. Senate Judiciary Chairman Arlen Specter (R-PA) is rumored to be drafting a bill that is a compromise between a bill introduced by Senators John McCain (R-AZ) and Edward Kennedy (D-MA), and a competing bill introduced by Senators Jon Kyl (R-AZ) and John Cornyn (R-TX). Both contain guest-worker programs and provide visas for the undocumented worker, but the Cornyn/Kyl bill would require undocumented workers to return home before they could qualify for a visa.

OSHA reform note

Both Senate and House committees of jurisdiction have been focused on the Sago Mine incident and it is unlikely we will see any movement on the OSHA reform legislation recently introduced by Senator Enzi or any other bills at this time.

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www.safetyfirst.com

Services: SafetyFirst provides three fleet safety programs, including safety hotline services, online management reporting, and driver coaching and training services. Their services reduce crash events that harm the company’s public image and safety reputation, help managers spend more time with their teams rather than at the desk managing records, and enable supervisors to place proper emphasis on driving safely without having to author new materials each month.

Member Benefits: SafetyFirst will contribute an amount equal to 5 percent of total products/services sold to TCIA members. Of that, 2.5 percent will be applied toward the next year’s TCIA renewal dues of those members using the services, and 2.5 percent will be applied toward development of safety and educational programs for the tree care industry.

Example: If your company purchases $2,000 in products from SafetyFirst, SafetyFirst will send TCIA a credit of $50 to be deposited into your membership account. Credits accumulate through the 12 months of membership and, when you receive your annual renewal statement, the total credits will be subtracted from your membership dues.

Requirements: Place your order on www.safetyfirst.com or call toll free at 1-888-603-6987 and mention that you are a TCIA member to take advantage of the dues credits.

To learn more about how your company can benefit from these and other TCIA affinity programs, please call 1-800-733-2622.
Look who VFT-PAC has decided to support

(Continued from page 88)

Rep. Sam Johnson (R-3-TX)

Rep. Johnson is on the House Education and Workforce Committee and is chairman of the Subcommittee of Employer-Employee relations. That committee has jurisdiction over: pensions, health, and other employee benefits, including the Employee Retirement Income Security Act (ERISA); all matters dealing with relationships between employers and employees generally, including the National Labor Relations Act and Bureau of Labor Statistics; all matters related to equal employment opportunity and civil rights in employment. Johnson has not been supportive of the green industry’s position on immigration, though he’s voted in favor of small business, OSHA and association issues.

Rep. Sam Johnson, right, accepts a check from Joe Mangan, of Joe Mangan Tree Service Inc. in Richardson, Texas.

Sen. Mike Enzi (R-WY)

Senator Enzi is chairman of Committee on Health, Education, Labor and Pensions, which has jurisdiction over labor standards and statistics, occupational safety and health, foreign labor, and wages and hours of labor. Last fall, Enzi introduced four OSHA reform bills in the Senate that TCIA strongly supports. He also worked diligently to find a compromise solution on association health plans that could pass Congress. He introduced the Health Insurance Marketplace Modernization and Affordability Act of 2005, to provide more affordable and accessible health insurance to America’s small businesses. He is not an automatic supporter of TCIA’s positions, but he and his staff are willing to consider differing viewpoints.

Sen. Mike Enzi

Cynthia Mills, TCIA president and CEO, with Rep. Jeb Bradley

Rep. Jeb Bradley (R-1-NH)

In his second term as a Member of Congress, Bradley serves on Budget and Small Business committees, where he is Chairman of the Subcommittee on Tax, Finance and Exports. Prior to becoming a Member of Congress, Bradley owned and operated several small businesses. We presented Bradley with the Tree Care Industry Association’s first Legislator of the Year Award last year for his willingness to take the time to learn more about our members and for being responsive to our staff. In particular, Bradley contacted OSHA twice on our behalf in support of our request for a Susan Harwood grant to conduct electrical hazards awareness training. He also supports TCIA’s position on OSHA reform, H-2B visas, as well as other small business matters.

Rep. Charlie Norwood (R-6-GA)

The strongest advocate for OSHA reform, Norwood pushed four bills through the House last year that would (1) allow small employers to be awarded attorneys’ fees and court costs when they contest OSHA citations and prevail in court; (2) give the Occupational Safety and Health Review Commission additional flexibility to make exceptions when a small business misses the 15-day deadline for filing a response to OSHA citations; (3) clarify that the Occupational Safety and Health Review Commission is an independent judicial entity that is given deference by courts reviewing OSHA issues; (4) increase the membership of the independent review commission from three to five members to ensure that cases are reviewed in a timely fashion. Norwood is on the House Education and Workforce Committee and is chairman of the Subcommittee on Workforce Protection Rights, which has jurisdiction on workers’ health and safety, including occupational safety and health, wages and hours of labor including, Davis-Bacon Act, Walsh-Healey Act, Fair Labor Standards Act, including child labor; workers’ compensation generally, and Family and Medical Leave Act.

Rep. Randy Kuhl (R-29-NY)

Kuhl, elected to the House in 2004, serves on three key House Committees: Transportation and Infrastructure; Agriculture, where he is a member of the Livestock and Horticulture Subcommittee; and Education and the Workforce. Kuhl has been very supportive of TCIA positions, especially exemptions from the DOT Hours of Service rule.

Join the effort - you hand over our check in person!

The Voice for Trees needs your help to deliver these checks - and deliver the message about the vital role of tree care professionals to the U.S. economy and environment. If you know any of these elected officials or would be willing to deliver a check personally, please contact Mark Garvin at 1-800-733-2622 or via e-mail at garvin@treecareindustry.org.

The tree care industry’s voice is getting louder in Washington. Join the chorus.
Rep. Lee Terry (R-2-NE)

Rep. Terry is a member of the Committee on Energy and Commerce, the Committee with the broadest (non-tax-oriented) jurisdiction of any Congressional committee. He also serves on the Subcommittee on Environment and Hazardous Materials, with jurisdiction over environmental protection in general, including the Safe Drinking Water Act and risk assessment matters. Terry is fast climbing the House leadership structure and is currently Assistant Deputy Whip, in which position he serves as a liaison between the House Republican leadership and rank-and-file House Republican members. Terry has a favorable voting record on immigration issues and is staunchly pro-business, with a 97 percent rating from the Chamber of Commerce. He has supported an end to the estate tax, blocked OSHA’s unworkable ergonomics regulations, and worked to allow associations to offer health care plans to their members.

Sen. Olympia Snowe (R-ME)

Snowe is Chair of the Small Business & Entrepreneurship Committee and serves on the Committee on Finance and on Committee on Commerce, Science and Transportation. Both small business and transportation issues are of vital importance to TCIA members. She has consistently supported small business issues. She voted to allow more foreign workers into the U.S., voted to repeal ergonomic rules on repetitive stress, opposed cutting loans through the Small Business Administration; and offered legislation aimed at reducing insurance costs for small businesses. As a moderate Republican, she and a small group of like-minded Senators will have pivotal roles in immigration, tax and environmental issues of interest to TCIA members in the next session of Congress.

Rep. Luis Gutierrez (D-4-IL)

A seven-term Congressman, Luis Gutierrez is chairman of the Congressional Hispanic Caucus’ Task Force on Naturalization and Citizenship. He will have a great deal of influence over any compromise legislation on immigration and temporary visas. Many members in the House support bills that seek to seal the border and target business as the problem. They believe that there are plenty of American workers just waiting to haul brush to chippers in any type of weather. In the immigration debate, Gutierrez pushed for provisions that would create a new guest worker program and provide a mechanism for undocumented immigrants to earn green cards. The bill, which is endorsed by TCIA and business groups, remains a potential component of whichever bill finally emerges from Congress.

Sen. Charles Grassley (R-IA)

Grassley is chairman of the Finance Committee, the most powerful committee in Congress. The Senate Finance Committee’s jurisdiction is defined by subject matter – not by agency or department. As a consequence of the Committee’s broad jurisdiction, the Finance Committee has sole or shared jurisdiction over departments of Agriculture, Commerce and Labor, among other areas. In addition he serves on the Judiciary Committee and its subcommittee on Immigration, Border Security and Citizenship. While he was focused for much of 2005 on reforming Social Security, Grassley has consistently rated 100 percent by the US Chamber of Commerce. As a farm state Senator, he also understands the need for some sort of immigration reform and sensible pesticide regulations.

Rep. John Boehner (R-8-OH)

As Chairman of the House Education and Workforce Committee, Rep. Boehner has direct oversight over OSHA. With news of Tom Delay’s indictment, Boehner has thrown his hat into the ring to succeed him as majority leader, the second most powerful position in the House. An underdog at this point to Rep. Roy Blount, Boehner will emerge either way as a force for House Republicans. Boehner is a moderate on immigration issues, voting against requirements that workers must return home before applying for temporary status. He has also been a consistent supporter of TCIA small business issues and strongly on the side of OSHA reform.
Who should pursue CTSP?

Employer Guidelines

By Peter Gerstenberger

Two months ago, TCIA announced the Certified Treecare Safety Professional initiative. Last month we gave you insight into what the program would entail for the CTSP candidate. This month we are happy to announce that CTSP is ready to start accepting applications. This article focuses on how to select the best CTSP candidate from your company.

When your peers on the CTSP Task Force met to brainstorm the program, they all agreed that the ideal CTSP would share attributes with a coach. In fact, “Coaching for Life” is the unofficial theme for the new credential.

What qualities should a coach possess? We agree that they should have a certain amount of professional field experience as well as basic writing, reading comprehension and math skills. To be most effective in their CTSP role in your company, they should be outgoing and able to command respect from their peers. Finally, to assimilate and pass on the lessons from CTSP, they need to be very teachable, and have the ability to teach others.

Experience requirements

The CTSP Task Force recognized that there are several experience “pathways” leading to the person they envisioned. Therefore, the minimum experience requirements CTSP will accept:

- Three years technical field experience in tree care, with at least one year of assumed responsibility for safety (i.e., crew leader, trainer, safety committee member, emergency responder, certified CPR/first aid provider, etc.)

- Six months’ technical field experience

- One year in a professional safety position; OR

- Associates degree in Arboriculture, Natural Resources, Ornamental/Environmental Horticulture, Forestry, Industrial Hygiene, Occupational Safety or other related field with an internship that provided technical field experience.

Training requirements

There are three steps in becoming a CTSP “coach for life”:

1. Studying for and passing the CTSP Core Competencies exam as well as fulfilling several associated documentation requirements. Initially Core Competencies will be offered as a correspondence course although we envision that ultimately it will be available through other media, such as the Web.

2. Attendance at a CTSP Advanced Safety/Behavioral Training Workshop where candidates will review safety management systems concepts, and receive new training in adult education delivery methods to include role-playing, group exercises and field skills demonstrations. Successful candidates here will receive certification at this point.

3. CTSPs will maintain their standing through recertification, with 30 CEU points (one per hour) every three years. The numerous ways that CEUs will be available will include but not be limited to:

- workshop/seminar attendance in a safety-related subject
- leading workshops/seminars in tree care safety for the green industry, industry manufacturers, public sector, schools and consumer groups
- writing topical articles in industry publications
- proof of implementation/management of a company safety program

What does the CTSP get?

The CTSP will be provided with tangible evidence of their accomplishment, with items like wallet cards, certificates, etc.

More importantly, the CTSP will receive industry and peer recognition as well as career advancement potential, facilitated through TCIA programs. They will be welcomed into a mentoring and support network made up of their fellow CTSPs as well as TCIA staff, other safety professionals and volunteers. CTSP will continue to offer its graduates opportunities for personal and professional growth.

We urge you to support the culture of safety in tree care by enrolling at least one employee in CTSP now! Those who begin the training now should easily be able to earn their credential by late summer or early fall, and the value that CTSP brings to the company and its safety program will start to be realized almost immediately. View/Download a CTSP brochure and enrollment form from www.tcia.org.

Peter Gerstenberger is senior advisor for safety, compliance & standards for the Tree Care Industry Association.
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Over 60 years of tree care business and safety education is only a phone call away! Throughout the evolution of TCIA (formerly known as National Arborist Association), we have compiled a vast number of Business Management and Safety resources to help your company grow and keep your employees safe.

Your TCI Magazine subscription is not an indication of TCIA membership. In fact, you might be missing out on all the other great benefits that TCIA has to offer our members.

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To learn more, call TCIA today at 1-800-733-2622 or visit www.tcia.org.
SMA picks Kentucky coffeetree as 2006 Urban Tree of the Year

The Society of Municipal Arborists chose Kentucky coffeetree (*Gymnocladus dioicus*) as the Urban Tree of the Year for 2006. The Urban Tree of the Year must be adaptable to a variety of harsh urban conditions and have strong ornamental traits.

The contest has been running for 11 years. Past winners include ‘Chanticleer’ flowering pear (‘05), ‘Autumn Blaze’ red maple (‘04), ‘Allee’ lacebark elm (‘03), ‘Heritage’ river birch (‘02), and bur oak (‘01).

Nina Bassuk, Cornell Urban Horticulture Institute director, says of KCT, “It transforms from an ugly duckling at 2-inch caliper to a gorgeous, well-balanced, strongly branched tree at 5-inch caliper and beyond. During the driest and hottest summer in Ithaca, N.Y., it never scorched or defoliated. It is easy to transplant and takes off fast. KCT has no problem with alkaline soils. Did I mention the wonderful yellow fall color?”

KCT’s wide range of hardiness (Zone 3 to 8) is one of its many fine qualities. Eric Berg, community forestry coordinator for the Kansas Forest Service, says that KCT is one of his long-time favorites. "It’s got no serious insect or disease problems," he says, “great seasonal interest (for four seasons!), holds up well under severe weather conditions, and it typically requires little corrective pruning for most landscape purposes."

Of course, there is no one perfect tree for every situation, and KCT has its limitations. Some folks object to the fruit “litter” created by the female trees’ pods. Like honeylocust, KCT can be late to leaf out in the spring and early to lose its leaves in the fall. And KCT should be given adequate space to grow: with proper tree care, it can be expected to mature at 50 to 60 feet tall and 40 to 50 feet wide.

Cornell releases new fruit tree, berry crop guidelines

Cornell Cooperative Extension’s latest edition of its tree fruit guidelines and berry crops guidelines both encourage an integrated approach to pest management, balancing cultural pest control methods with judicious use of chemicals.

The 2006 edition of the “Pest Management Guidelines for Commercial Tree Fruit Production,” a 247 page, spiral-bound document, promotes the use of Integrated Crop and Pest Management (IPM), and demonstrates the possibilities for organic tree-fruit production. The guide introduces information about pesticides, sprayer calibration, and references to the efficacy and use characteristics of 90 different crop protectants for diseases, weeds, insects and wildlife. Information on forecasting, sampling, and monitoring is included for selected pests. General pest management considerations are addressed for apples, pears, cherries, peaches, nectarines, apricots, plums, and prunes. Pest biology, cultural notes, monitoring and forecasting, biological and non-chemical control, pesticide application, pesticide resistance, and pesticide use for each pest are included. Pesticide spray tables follow with specific product use by trade-name. Weed control guidelines are listed separately for each crop.

A new edition of the “Pest Management Guidelines for Berry Crops” is also now available. Contact The Resource Center at Cornell University in Ithaca, N.Y., online at www.cce.cornell.edu/store, by e-mail resctr@cornell.edu, or call (607) 255-2080.

Web site may help mediate planning & development

When neighbors, city officials and developers meet to discuss a proposed project such as a new condo project or commercial development, friction among the three can be time consuming and aggravating. It can also lead to costly litigation as well as unappealing land development. For the past 12 years, several foundations in concert with the New Jersey Department of Community Affairs have funded independent research to find a solution. And they discovered one. It’s a do-it-yourself, collaborative procedure that is led, surprisingly, by neighbors of the proposed project.

It seems impossible yet, according to Karl Kehde, the principle researcher who participated in more than 500 meetings between neighbors, developers and city officials, “When the neighbors of a proposed project initiate this collaborative procedure, usually everyone participates – regardless of past confrontation.”

Kehde recently developed a Web site called Landuse.Org, which provides, for free download, the guidebook needed to set up and succeed with the new process. The Web site also provides a history of the
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research, testimonials and success stories that came out of the research, and other useful materials. “We discovered a step-by-step procedure that mends relationships across the board and achieves profitable development designed specifically to benefit the surrounding neighborhood,” says Kehde.

The results of the research, including the step-by-step procedure and supporting materials, may be downloaded free of charge from http://landuse.org.
The Fine Art of Spider Sniffing

By Steve Sandfort

 Hunters and anglers know how mysterious and beautiful our forests can be after dark. Most have traveled to a deer stand, duck blind or favorite fishing spot well before dawn. Coon hunters are often out all night. I hope you all have taken a little time to enjoy the woods at night. If not, stop long enough to sit down and do so.

By being quiet in the dark woods you’ll soon hear nocturnal critters scurrying or swooping around. You’ll immediately have to rely on shapes and various shades of black, white and gray because colors begin to show only with the dawn. Especially in the summer, streams flowing through forests make more noise at night than they do during the day even though there has been no additional rain. True! That great pump, our sun, helps to move large quantities of water from the soil up through the trees to help them make food. During the night the trees stop pumping and do their growing, thus leaving a little more water available to reach the streams. Midwest corn farmers claim they can hear corn grow at night. I believe them. Spend an early summer night in a grove of fast-growing yellow poplars (tulip trees) down in the Smokies and the wheezing, popping and hissing you hear, even when the air is still, are the sounds of the trees growing. The woods after dark are fascinating yet unnecessarily frightening for most children and adults.

Spider Sniffing is the perfect way to get your family, friends, scout troops and teachers out after dark in the summer to learn about and enjoy the forests. Announce that, “Tonight we’re going out into the woods without flashlights in the dark,” and they’ll instantly think, “There ain’t NO way in H---!” But say you’ll take them to their sitting place. Do this again and again until you’ve reached your sitting place. Then ask everyone to sit alone, far enough apart so that no one can talk to anyone else, stay silent, use all five senses to observe as much as possible, and enjoy the night. Try to stay there for at least half an hour. When you all get back home take a little time to discuss what each person observed. They will be fascinated with how well their five senses work and how much their eyes adjust to the dark without using flashlights. They will not again be afraid of the woods at night. Or wolf spiders.

The fine art of Spider Sniffing can make for a most memorable evening as can the silent time in the deep, dark woods. You might want to tell a few of the older folks how to spider sniff to keep the tradition going. Not everyone has read some of the original Boy Scout Woods Lore Manuals that explained and encouraged Spider Sniffing. Good luck!

Steve Sandfort is a registered forester and certified arborist and is urban forestry consultant and supervisor of Soil and Water Conservation District in Hamilton County, Ohio.
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