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If you're looking for an aerial device to meet your extraordinary requirements, look no farther than the Simon-Telelect Hi-Ranger XT-52.
Seven years ago, a number of key suppliers to the tree care industry suggested to the National Arborist Association that it would be in everyone's best interests if the NAA were to publish a magazine for the industry. TREE CARE INDUSTRY magazine was born in June 1990.

When we started, we promised that TCI would provide accurate and pertinent information for the benefit of all of our readers. We envisioned our new publication as a resource for all areas of the tree care profession, and we wanted TCI to reflect the highest possible standards of magazine journalism.

We also insisted that any benefits accruing to the NAA as a result of this publication, as well as anything that might result from TCI's accompanying trade show, TCI EXPO, would be returned to the industry through programs and other appropriate means.

With the support of our advertisers and our ever growing list of readers, we are achieving our goals.

The editorial content of the magazine continues to address the needs of today's arborist in a practical, usable manner. TCI's wide range of advertisers provides readers with ever increasing resources for any piece of equipment, product or service an arborist might need.

Resources generated by TCI and TCI EXPO provide support for research, program development and industry improvement programs. In my humble opinion, arboriculture is a better profession today than it was seven years ago, and TCI has made a considerable contribution to that improvement.

We had a dream seven years ago that is clearly framed in TCI's mission statement, which appears below. To all who have made this possible, may I offer our thanks and our pledge that TCI will only get better.

Robert Felix, Publisher

TCI's Mission

TREE CARE INDUSTRY magazine is dedicated to engaging and enlightening 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 National Arborist 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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Tree Autopsy: Reading the Tree's Log
By Dr. Alex Shigo

An autopsy is a valuable way to learn what really caused the death of a tree.

Understanding Federal Regulations
By Steven R. Semler

Even the smallest tree care company falls under the watchful eye of the government. Don’t be caught unprepared.

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IT'S AMAZING HOW FAST MATERIAL GOES THROUGH OUR NEW CHIPPER.

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Here is a checklist of some major features to look for and record when reading the tree’s log.

1. Growth increments—tree age, patterns of wide or narrow rings, eccentric growth patterns, date when increments began to increase or decrease in width, colors
2. Wood type—diffuse-porous, semi-ring porous, ring-porous, conifer resinous, conifer non-resinous, tropical, monocot
3. Energy reserves—1, KI to determine amount of starch and volume of wood with starch
4. Wound history—date of wounds to the year, or, in some cases, the week they were inflicted
5. Branch history—when branches died. If pruned, how they were pruned and the defect associated with the branches
6. Cracks—boundaries from wounds, ring shakes, radial cracks, cracks in bark only, cracks in wood and bark, wetwood in cracks
7. Animal wounds—bird peck wounds and ring shakes, squirrel wounds, other animal wounds
8. Closure patterns of wounds—ram’s horns, cracks, woundwood ribs, discolored wood associated with cracks
9. Discolored wood and wetwood—patterns of infected wood, CODIT walls, callus, odors, internal checking patterns
10. Decayed wood—white rot, brown rot, zone lines in rotted wood, CODIT walls, sporophores
11. Resin ducts—traumatic ducts in non-resinous conifers
12. Tyloses—traumatic tyloses in wood that does not normally form them
13. Insects—galleries, in bark, in bark and wood, insect, ants, termites; galleries clean or full of frass
14. Reaction wood—compression wood in conifers. (You cannot see tension wood.)
15. Injection and implant wounds—separate columns of discolored wood, or columns coalescing

As you learn more about tree anatomy, many other details of the tree’s log will become obvious.

WHITE OAK, Quercus alba

The growth rate of this tree was decreasing for the last 15 years. The last seven growth increments consisted of only earlywood vessels. The tree was a victim of repeated attacks the last seven years by gypsy moths, Lymantria dispar. (I was watching this tree for many years until it was cut for a housing development.)

Tree Autopsy

Reading the Tree’s Log

By Dr. Alex Shigo

Trees keep a very accurate log of all events that affect their lives. The log is kept in the wood, and to read that log you must understand the language of tree anatomy. Trees respond to the ever-changing environment, and to injuries and infections. Because pruning and removing trees are major activities of most tree companies, arborists have many opportunities to autopsy a tree and read its log.

Autopsy, which comes from the Greek word *autopsia*, means to see for yourself. It is often mistaken for the word for necropsy, which means the study of the dead. The usefulness of an autopsy depends on knowing where to look, what to look for, and the meaning of what you see. You must be able to see details fast. We have a special name for people who can see fast. We call them lucky!
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1. A star-shaped pith as with most oak species. There is no pith in roots. Note the five-lobed growth increments near the center of the tree.

2. Red oak is a ring-porous tree that forms large vessels first in the growing period and smaller vessels later. Wide and narrow rays radiate from the center of the tree. Oaks have a darkly colored protection wood called heartwood. All cells are dead in the heartwood.

3. Some events caused the tree to start decreasing its growth rate at this time. Note the decreasing width of the growth increments.

4. The tree was wounded by buckshot during a dormant period nine years before it was cut. The barrier zone boundary between the growth increments indicates a wound during the dormant period. A wound during the growing period will cause a barrier zone boundary to form within the growth increment.

5. A dark boundary called a reaction zone borders the column of decayed wood in the heartwood. Note that the boundary is darker in color than the heartwood, but as decay develops, the darker wood changes to a lighter color. This is called white rot, because the cellulose and lignin are digested by the fungi.

6. The woundwood ribs closed the wound in five years. Note the bark between the ribs of woundwood.

7. The tree was cut just as the first vessels were forming. Since vessels begin to form as the leaves are expanding, this tree was cut around the second week of May in New Hampshire.

8. The size of the woundwood ribs were very large before the wound was closed. Note that the woundwood ribs contained mostly dense wood with few vessels.

9. After wound closure, the size of the growth increments were about the same as those before the tree was wounded.

10. The pointer to the left shows new bark with a smooth corky layer—phellem. The pointer to the right shows the old original rough phellem of the tree.
Things Do Not Just Happen

We hear it said over and over again that accidents do not just happen. The same can be said for tree fractures and death. There is usually a cause. The best way to prevent accidents is to be well trained and educated in your job. Similarly, the best way to prevent or predict tree problems is to be well educated and trained in the ways trees grow, defend themselves and eventually die.

The tree log exists because trees are generating systems. Every growth period, new parts form in new spatial positions. Unlike animals, trees cannot repair, restore or regenerate new parts in old spatial positions. The size, number, arrangement and condition of all new cells being formed in a new spatial position are affected by all the pressures of living and non-living factors present at the time of growth.

Trees are living systems that are connected with many living communities. When some agent affects this grandly connected system, a record of the event will be recorded in the wood. Wood is a highly ordered connection of living, dying and dead cells that have walls of cellulose, lignin and hemicelluloses. The arrangement and development of the wood cells will depend on all factors affecting growth. The real "trick" of reading the tree's log is to understand the changes that took place during the formation of the wood.

Trees are living systems that respond to injuries and infections. After an injury or infection, boundaries form that resist the invasion of pathogens and serve to protect the moisture, air and support systems of the tree. The boundaries "wall off" space that would normally be used for storage of energy reserves. The boundaries are a record of the times injuries and infections occurred. The starting points for cracks that could lead to fractures are often found at these boundaries.

Benefits of Autopsies

The autopsy is regarded as an extremely valuable way to learn what really caused the death of a person and when death occurred. The long-term value of autopsies is that when a living person has symptoms similar to those associated with one who died and was autopsied, better treatments could be given sooner, and a life could be saved. All of these points are just as applicable to trees. The more you learn about the internal development of cracks and fractures, the sooner you will be able to detect early signs that could lead to a fracture. Also, when you learn the real reason a tree died, you could help treat living trees that have the same internal problems as those you autopsied.

There is another very valuable reason to understand autopsies. The more you can point out to your clients, lawyers and juries, the better the chances are that they will accept your decisions and opinions. Knowledge demonstrates your credentials.

Modern medicine started when doctors learned by autopsy the parts of the body and how they worked. As more arborists learn by autopsy the parts of the tree and how they work, modern arboriculture will grow even faster.

The author has dissected thousands of trees for autopsies, including tropical trees and palms, since 1959.
RED SPRUCE, *Picea rubra*, 40 years old, with a closed and compartmentalized wound. Spruce trees are conifers that have tracheids, not vessels, for water transport and mechanical support. As the growth increment increases, the tracheids that formed later have thicker walls. These are called fiber tracheids.

1. The tree started to grow at an even rate. After six years, it began to lean slightly to the left.

2. After 13 years, it began to lean slightly to the right. Note the larger and darker bands of compression wood.

3. At this time, the tree was injured. Note the sudden decrease in growth rate.

4. Spruce trees have very few resin ducts in healthy wood. The wood is a non-resinous type. However, when the tree is injured, resin ducts, called traumatic ducts, often form. The ducts appear as dark spots in the wood. Even though the wound is not shown in the photo, you can be sure there was a wound nearby on the tree.

5. A very narrow ring shake or separation indicates a small wound near where this specimen was cut. Note also the sudden decrease in growth rate to the left of the arrow.

6. The wound penetrated one growth increment. A very strong "CODIT wall 2" resisted deeper spread into the tree. Note the dark band of fiber tracheids at the arrow point. The wood was altered chemically as a protection wood after wounding.

7. Note both arrows showing the barrier zone that formed after wounding. When trees are wounded during the growing period, it is possible to date the wound to within a week of when it was inflicted. The barrier zone is slightly beyond the middle of the growth increment indicating that the wound was inflicted about four to five weeks after new needles began to form. Under normal conditions, it takes about six to eight weeks after needle or leaf formation before the growth increment is fully formed. This tree was wounded around the third week of June in New Hampshire.

8. Thick woundwood ribs began to close the wound.

9. The wound was closed in four years.

10. The tree was cut about a week after new tracheids began to form. It was cut the third week of May, and therefore the wound was six years and about four weeks old.
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AMERICAN BEECH, *Fagus grandifolia*, about 110 years old, with a column of compartmentalized, decayed wood associated with an old, dead branch.

1. Beech has diffuse-porous wood. All vessels are about the same size and arranged evenly throughout the growth increment. Beech will tolerate low light and often it will grow very slowly, as shown here, as an understory tree. When it is released into light, it grows rapidly.

2. A small wound with decay was well compartmentalized in the center of the tree.

3. The tree lost branches at this time and a core of protection wood formed. This type of protection wood is called false heartwood, because the death of branches triggers the process. Heartwood formation in oaks is a genetically controlled aging process. The false heartwood, like heartwood, resists the spread of decay.

4. Note that the decay associated with the dead branch did not spread into the column of false heartwood. It could be that the events that brought about the formation of false heartwood—dying branches—also released the tree into more light. Note that after a few years, the growth increments increased greatly in width.

5. The cellulose and lignin were both being digested, indicating a white rot. The fungi did not grow into the central core of dense, slow-growing, false heartwood.

6. Note that the decay spreads first into the earlywood of each growth increment. This pattern results in a tooth-like margin to the column of defect when viewed in cross section.

7. The decay associated with the branch did not spread outward into the column of discolored wood.

8. The limits for the column of discolored wood were set by the cracks that formed as the woundwood closed the wound.

9. A crack where the woundwood formed about the dead branch.

10. The curling woundwood ribs formed ram's horns. The cracks that form in this way often extend the columns of discolored and decayed wood beyond the barrier zone and wood present at the time of branch death or of wounding.
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CANADIAN HEMLOCK, *Tsuga canadensis*, about 40 years old, with a dead branch.

1. The pith of the branch was infected and darkly discolored.

2. Both arrows show the branch protection zone that formed after the branch died.

3. The branch bark ridge.

4. Note the invaginated increments indicating included bark to this point. Note also the dark color of the wood from the arrow downward toward the trunk. This indicates that the increments were squeezing together to the point of cell death.

5. For some reason, the increments began to form normally at this point. A much narrower growth increment formed at this time, suggesting a possible injury.

6. A different type of checking pattern can be seen where the normal branch-trunk collars began to form. Compare area 6 to area 4.

7. A crack formed after the branch died. The branch died about 12 years before the tree was cut.

8. There was a sudden decrease in growth rate at this time. Note both arrows 8. The number of growth increments above the branch are equal to those below the branch from arrows 8 to the bark.

9. Compression wood began to form here.
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Understanding Federal Regulations

Even the smallest tree care company falls under the watchful eye of the federal government. Don’t be caught unprepared!

The number of federal employer-employee regulations seems to increase daily. Here is a quick reference for federal laws affecting your employment situation. Remember, this list does not cover every possible law, and it is not a substitute for legal advice, which can be given only by a labor lawyer.

Rather, this article identifies issues to which you may be exposed. Be sure to get legal advice before you make any decision. It is cheaper to stay out of trouble than to pay a lawyer to get you out of it.

This article uses the term, “engaged in interstate commerce,” a term that applies to any firm that purchases goods or services from outside its home state, which in this day and age is almost every company. Interstate commerce is defined in the Fair Labor Standards Act as, “...trade, commerce, transportation, transmission, or communication among several states or between any state and any place outside thereof.”

Try to familiarize yourself with the federal statutes discussed below, so you can identify an area of legal exposure and deal with it before it becomes a problem, or, at least, tread lightly around it.

This article was excerpted from the “Guide to Federal Employment Regulations,” a management guide prepared for National Arborist Association members by its labor law counsel, Steven R. Semler of Semler and Pritzker, Washington, DC.

Occupational Safety and Health Act

Coverage: All employers who affect “interstate commerce.” Some states administer their own OSHA plans. These “State Plan” states typically, but not always, adopt federal OSHA regulations and follow procedures similar to OSHA’s. If the cited activity is specifically regulated by another federal agency, that may, in some situations, displace OSHA’s jurisdiction.

Significance:

1. Covers every conceivable aspect of on-the-job safety. Employer obligations arise in one of two ways:
   - Violation of a specific OSHA safety or health standard. There are thousands of these rules, published in 29 CFR Parts 1910 and 1926. Or:
   - Violation of “general duty” standard. This is a catch-all clause for something not covered by the specific standards, based on non-adherence to a claimed “industry standard” of safe practice, or on a failing to prevent a presumably known and unsafe practice.

2. Fines can be set up to $10,000 for each violation; or up to $70,000 for each violation when the violation is claimed by OSHA to be “willful” or a “repeat” violation. Criminal penalties will be increasingly imposed on employers who show a willful disregard for their employees’ safety.

3. Requires annual injury log (Form 200), poster, report to OSHA of multiple injuries in an accident, or an accidental death, and MSDS sheets and Hazcom plan even for common items, such as gasoline, oil, etc.

Practical Advice:

1. Don’t be lured into settling an OSHA citation because of a low fine. Once you “settle” you are guilty of a violation. The next violation can result in a big-fine “repeat” or “willful” violation. Speak to labor law counsel before making a plea.

2. Speak to counsel if the standard you are claimed to have violated has the number “1926” in it; if it does, it is a “construction” standard which probably does not apply to you. Most tree work is “maintenance” work covered by “1910” standards.
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Regulations

3. Your best defense: Devise and communicate to employees a written safety standard. Enforce it by discipline/discharges of offenders and supervisors who don’t adhere to it. If you do all of these, you can be found not guilty of a violation caused by a willfully negligent employee.

4. OSHA’s new regulations for line clearance tree trimming are contained in S. 1910.269. Residential/commercial trimmers should be familiar with the requirements of existing OSHA standard S. 1910.333, as well as ANSI Z133.1.

5. Beware of “State Plan” OSHA requirements which require you to modify equipment—the state requirement could be unlawful under S. 18 of the federal OSHA statute.

6. You can have an informal conference with the OSHA area director to try to strike a deal over deletion of some citations, or a reduction in penalties, but remember that a “settled” violation counts as the basis for a future “repeat” violation unless it is vacated completely. The holding of such a conference does not give you extra time to file your appeal of the citation—called a “notice of contest.”

7. To appeal a citation, send a notice of contest within 15 business days from the time your company received the citation. This triggers a hearing before an administrative law judge and blocks effectiveness of the citation or any duty to pay the OSHA fine (called a “penalty”).

Equal Employment Opportunity Commission

Coverage: Employers with 15 or more employees.
Significance:
1. Bans discrimination on grounds of race, age (40-70), sex, religion and national origin.
2. Claims processed by the Equal Employment Opportunity Commission (EEOC), or cooperating state or local agency; an employee can still sue in court even if EEOC finds “no cause” to believe a violation occurred.

3. Violation can be established on the basis of direct evidence of discriminatory intent, a statistical imbalance in races or sexes in the work force, or a policy that has the effect, even if not the purpose, of diminishing the hiring, advancement, or termination of personnel. For instance, requiring flagmen to be high school graduates can be a violation if it disproportionately disqualifies blacks and is not required by “business necessity” (which is a very high standard to fulfill).

Practical Advice:
1. Have an affirmative action plan.
2. Seek out women and minorities for employment through woman and minority “outreach” organizations, state employment offices, placing help-wanted

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ads in minority- and female-oriented media; state in your ads "An affirmative action employer—Female and minorities encouraged to apply."

3. Keep records of your affirmative action efforts.
4. Your employment decisions should be blind to issues of race, sex, age, etc.
5. Check your state and local fair employment practice laws. They frequently provide greater employee protections than federal law.

**Equal Employment Opportunity for Federal Contractors**

1. Executive Order 11246—bars race, sex, color, religion, and national origin discrimination by federal contractors. The hook is that this requirement is part of your government contract, and a violation can result in debarment from government contracts. You may be required to have an affirmative action program requiring you to identify areas of under-utilization of women and minorities, and to specify what you will do to attract the hiring of such persons, and to state a mechanism for measuring the success of your efforts.

2. Rehabilitation Act of 1973—requires federal government contractors with contracts/subcontracts of $20,000 or more essentially to do what the Americans with Disabilities Act requires. (Described below.)

3. Vietnam Era Veterans Readjustment Assistance Act—requires federal government contractors/subcontractors of $10,000 value or more to develop and implement affirmative action to hire and advance employment of veterans, and not to discriminate against veterans.

**Equal Pay Act**

**Coverage:** Employers engaged in interstate commerce. This covers all but the very smallest employers.

**Significance:** Requires women be paid the same as men for the same work.

**Practical Advice:** The law permits distinctions "based on a factor other than sex." For instance, a male's extra duties, experience or responsibilities could justify a higher wage.

**Sexual Harassment**

**Coverage:** Fifteen or more employees; but parallel state laws usually cover any employers.

**Significance:**

1. **Sexual Harassment**
   - One aspect of sex discrimination is sexual harassment. There are two kinds of sexual harassment: "Quid pro quo" harassment, meaning demanding sex for job retention or advancement, and the "hostile working environment" discrimi-
Reaulations

tion, which refers to offensive joke-telling, touching or offensive comments. The scope of the prohibition is extensive: The employer is obligated to detect and stop quid pro quo and hostile working-environment discrimination by anyone dealing with employees—including managers, co-employees, customers or vendors.
• You can’t stop what you don’t know about, but you can’t bury your head in the sand to avoid knowledge of a violation. Establish a written policy (see page 27) encouraging employees to complain about such harassment, to thoroughly investigate such complaints, and to take action appropriate to the offense, ranging from a written reprimand, through termination of employment of the offending employee, or even banning an offending outsider from your place of employment.
• This is serious business. If you treat it as a joke or as a “boys will be boys” situation, a jury might be less sympathetic than you and slam dunk your bank account.

Harassment you need to watch for and prevent:
• Touching fellow employees, including hugs, kisses, patting on the fanny;
• Telling off-color jokes;
• Displaying sexual materials, such as girlie calendars;
• Saying, doing, or tolerating another person’s saying or doing anything of a sexual nature or connotation to employees that you would not want said or done to your son or daughter.
• Any “unwelcome” sexual overture: asking an employee out on a date is not a “per se” violation; but if the employee is uncomfortable with the request, persistence will get you in trouble. Worse yet, today’s welcome partner can become tomorrow’s jilted lover who could claim the entire relationship was coerced.

Debtor/Garnishment Protection

Coverage: All employers.
Significance:
1. An employee cannot be fired for being bankrupt, or for being associated with a bankrupt person, or being insolvent pending bankruptcy, or having had a debt discharged in bankruptcy.
2. It is a criminal violation to discharge an employee for having more than one garnishment.
3. There are limitations on the amount of pay that can be garnished (1/4 of take-home), and other criteria and exceptions.
Pregnancy Discrimination

You must treat pregnancy as you would any other disability, and allow time off and the opportunity to return to work just as you would with respect to a temporarily disabled male employee. The Federal Family Leave Act requires unpaid leave of up to 12 weeks for pregnancy and adoption, as well as for other situations.

Immigration Reform & Control Act

Coverage: Employers of three or more employees.

Significance:
1. Ban on discrimination on basis of national origin can "catch" employers with three or more employees, who otherwise would not be covered by the 15-person coverage.
2. Employers are required to complete an "I-9" form within three days of hiring an employee. This form requires verification of citizenship or of an alien's right to work. These forms must be retained for three years after hire or one year after termination, whichever is later. Forms must be presented on request to an immigration officer or U.S. Department of Labor officer.

Practical Advice:
I-9 forms and further information are available by calling 1-800-777-7700.

Americans With Disabilities Act

Coverage: All employers with 15 or more employees.

Significance:
1. Requires employer to attempt to accommodate the disabilities of physically and mentally handicapped employees to enable them to perform the essential functions of the job.
2. The law does not apply to temporary disabilities, such as a sprained ankle, but only to physical or mental disabilities that substantially limit major life activities such as walking, standing, breathing, functioning, etc. The act excludes physical traits such as height, weight, pregnancy, but includes psychological conditions, such as depression or paranoia, which substantially limit major life activities. This excludes adverse personality traits, such as a bad temper, which are not the result of a mental disorder.
3. The law also protects an employee who is not affected with a disability, but whom the employer "regards" as being disabled; e.g., someone with a prior back injury who is not disabled, or someone with cancer in remission.
4. The law excludes from its coverage: Someone who can't perform the essential functions of the job even with accommodation; disabilities due to current drug/alcohol use, sexual deviance, identity disorders, compulsive gambling, stealing, fire-setting; and someone who presents a direct threat to the safety or health of oth-

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TREE CARE INDUSTRY - JUNE 1996
ers, based on an individualized assessment that can not be eliminated with reasonable accommodation.

5. If someone has a covered disability, the employer is obligated to attempt reasonably to accommodate the employee to perform the essential functions of the job, such as by reassigning a chore, allowing shorter hours to be worked by the employee, etc.

Practical Advice:
1. Develop job descriptions now—before a claim arises—that list the essential functions of the job. This establishes the essential functions at a time that you will not be challenged for making up spurious essential functions to stack the deck against a disabled employee.

2. Review job applications to eliminate questions about past disabilities.

3. Require medical exams only after a job offer is made conditional on the outcome of the exam.

Employment Retirement Income Security Act

Under the Employment Retirement Income Security Act (ERISA) and related tax laws, you might have to provide a pension plan for your employees if your business provides one for the business owners. The amount of the minimum employer contribution for employees need not be as high as the owners. Consult your tax accountant regarding your options.

Even though it is called a “retirement” plan statute, it actually has been extended to authorize lawsuits for any employment benefits that are part of an employer-administered plan, such as health, vacation and severance pay plans. The statute authorizes successful plaintiffs to recover attorneys’ fees.

Veterans Re-employment

Coverage: All employers.
Significance:
1. The general rule is that you must reinstate to his/her former position an employee who is inducted or enlists into the U.S. armed services, including reserves, upon receiving an honorable or general discharge, providing he was in the service not more than four years, and he applies for reinstatement within 90 days of discharge from one year of hospitalization.

2. Under the “escalator” principle, the reinstatement must be at the level of pay, seniority and status he likely would have advanced to, if any, without the military interruption.

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Fair Labor Standards Act (Wage/Hour Law)

Coverage: Any employer with sales of over $500,000 or whose employees cross state lines, or whose work affects interstate commerce; excluding independent contractors.

Significance:

1. Requires payment of federal minimum wage, which may be made higher by states.
2. Requires payment of time and one-half for all hours worked over 40 in a week (but not for time over eight hours in a day if 40 hours are not worked in the week).
3. Pay is due from time employee arrives at office or appointed “show up” location.
4. Time waiting for assignments at work is compensable “hours worked.” Hours worked also includes:
   - call-back time;
   - time changing or washing up if necessary to performance of the job;
   - travel from one job site to another;
   - voluntary work performed before or after regular hours;
   - lunch time if the employee is forbidden from leaving the site or if the employee volunteers or is required to do work during lunch;
   - training time, if required by the employer or benefits the employer (but not if training attendance is voluntary and during such time the employee does no productive work for the employer);
   - preparation and conduct of end-of-day tasks, such as fueling trucks or performing equipment maintenance.
5. The following are examples of time which is not compensable hours worked:
   - jury duty;
   - commuting time;
   - pre-employment tests;
   - personal absences.
6. Time spent away from work under instructions to await a call in to work is compensable hours worked only if the employee’s personal time and freedom of movement during this waiting time is significantly restricted.
7. Exemptions from overtime requirements are available for:
   - professional personnel (who are salaried);
   - administrative personnel, if they are salaried—meaning no deductions for part-day absences unless under sick/disability pay plan or for violating safety rules—and are paid at least $250 per week. Does not apply to working crew leaders who spend more than 20 percent of their time performing manual production work along with their crews;
   - executive employees (caveat

Porting wrongdoing or violations of the law. Check with counsel before terminating such an employee.
Regulations
above about salaries applies);
• certain delivery drivers. (Driving an equipment truck from job site to job site is not a delivery job under this exemption).
Outside sales personnel are exempt from overtime if:
• Their work is customarily done away from the normal place of business while selling and obtaining orders; and
• not more than 20 percent of time is spent in non-exempt work.
Practical Advice:
1. Don’t get snookered by the employee who comes to work early and voluntarily starts work early; or who stays after hours to “catch up”; or who sits at his/her desk and does some work during lunch. You owe overtime for all such hours of work if you let this occur, even if you don’t require it.
2. Federal Labor Standards Act violations can go back two years. In a willful violation situation, the statute of limitations can go back three years and the damages can double.
3. If you don’t have sound time records, it will be your burden to prove the employee did not work the hours he or she claimed as worked.

Family Leave Act
Coverage:
1. Covers employers of 50 or more. There are special rules for applying this law where the employer has more than 50 employees for only part of the year. In such cases, you are covered if you have 50 or more employees for 20 full weeks in this or the prior year. (An exception applies for otherwise covered employers who have less than 50 employees at the affected single site of employment if there are still less than 50 employees when employees are added from the employer’s other job sites within 75 miles.)
2. Only eligible employees may invoke the benefits of the statute: Eligible employees are those who have been employed by their current employer for at least 12 months, and for at least 1,250 hours during the prior 12 month period.
Significance:
1. The law requires covered employers to grant employees up to 12 weeks unpaid leave during any rolling 12 month period for a covered purpose.
2. The obligation to provide such unpaid leave is limited to the following covered purposes for the leave:
   • birth of a child;
   • adoption or placement of a foster child;
   • care of a parent, child or spouse who has a serious health condition;
   • care of a spouse who is being treated for a serious health condition.

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A serious health condition that renders the employee incapable of performing the functions of his/her job.

3. The employee may choose, or the employer may require, that available accrued sick or vacation leave be used for all or part of the 12-week period.

4. The employee is not entitled to unemployment compensation even if the leave is unpaid.

5. Where the need for leave is foreseeable, the employee must give 30 days notice.

6. Where the reason for leave is the serious medical condition of the employee or parent/spouse/child, the employer may require medical certification of the condition.

7. Reduced hours are not allowed except for the employee's serious condition.

8. The law generally requires that employees be returned to the previous old or an equivalent position with equivalent pay and benefits, but does not require accrual of seniority or benefits during the leave.

9. Health insurance must continue to be made available during the leave on the same terms as before. As a result, if the insurance is subject to an employee co-pay, the employee must pay the co-pay during the leave. If the employee does not return to work after the leave period expires, the employer might be able to recover the portion of the premium paid during the leave, unless the reason for non-return is the serious health condition of the employee/spouse/parent/child or other circumstances beyond the control of the employee.

**COBRA Group Health Continuation**

Coverage: All employers.

Significance:

1. If the employer has a group health plan, the employee/dependents may elect at separation (and during other qualifying events) to continue group coverage under the employer's plan for up to 18 months in most cases (longer in some situations) by paying 100 percent of the premium for the coverage (plus, at the employer's option, a 2 percent processing fee) monthly by the due date/grace period date.

2. This law does not require the employer to obtain group insurance.

3. The law requires notice to the terminated employee of these rights under the Comprehensive Omnibus Budget Reconciliation Act (COBRA).

4. Premium rates for COBRA participants can increase annually.

**Federal Polygraph (Lie Detector) Protection Act**

Coverage: All employers in interstate commerce. (This would include all but the smallest of tree companies).

**Significance:**

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1. Bars pre-employment screening of employees by lie detector tests and voice stress analyzers.

2. Has a limited exception permitting lie detector tests where:
   - there is an ongoing investigation involving an economic loss to the employer; and
   - the employee had access to the property that is the subject of the investigation; and
   - the employer has "reasonable suspicion" that the employee was involved in the incident under investigation; and,
   - a statutorily required notice has been given to the employee.

3. Where the exemption in "2" above is fulfilled:
   - action cannot be taken against the employee based solely on the test;
   - the employee can stop the test at any time;
   - the employee cannot be asked questions that needlessly intrude on his/her privacy or opinions on race, religion, unions, politics or sexual behavior;
   - the testing must be performed by a licensed examiner.

Practical Advice:
Don’t even think of using lie detectors unless there is no other recourse and the problem merits the risks. Tip: Let the police decide to use lie detectors. They are not "employers" of your employees and hence are not covered by the law.
A Proposed Sexual Harassment Policy

[Firm Name] is vigorously committed to maintaining a working environment free of sexual harassment.

Scope of Policy
1. Sexual harassment is (a) any form of sexually offensive touching or verbal conduct, including, but not limited to, requests for sexual favors, unwelcome sexual advances, or sexually offensive comments, which create a hostile or offensive working environment, and (b) the use of, or inference that, an employee's submission to or rejection of such conduct, is or may be used, as a basis for employment decisions affecting the employee.
2. The above prohibitions apply to all supervisors as well as non-supervisory employees of the Company, and to visitors to the Company. Thus, for instance, this policy prohibits non-supervisory employees from creating an offensive working environment for fellow employees, as well as prohibits offensive supervisory conduct.

Procedure
1. Employees are encouraged to report sexual harassment because the Company cannot take corrective action without being made aware of the problem.
2. Employees, at their option, should report sexual harassment complaints to a supervisor other than the alleged offender. A female employee who prefers to make a complaint to a female member of the Personnel Staff will be accommodated. Supervisors must promptly report all sexual harassment complaints to the CEO. Complaints should be specific as possible as to the date, time, place, and nature of incident(s) complained of, as well as whether there are any witnesses to the misconduct.
3. The Director of Personnel shall promptly conduct a thorough confidential investigation of the alleged misconduct.
4. If, upon the completion of the Company's investigation, it determines that prohibited conduct did occur, it shall promptly implement corrective and disciplinary action, including the possibility of discharge of offending persons.

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TREE CARE INDUSTRY - JUNE 1996
This living memorial of 100 trees will remind future generations who walk among the heroes resting here of the sacrifices made by America’s Gulf War veterans.”

Former President George Bush

A t Arlington National Cemetery last month, former President George Bush dedicated the new “America the Beautiful Memorial Grove” in honor of all those who served in the Gulf War.

“ar legacy of peace will endure, much as this beautiful stand of trees will take root and thrive,” Bush stated. “Long after we are gone, these trees will remain—silent, sturdy monuments to the cause of freedom, wherever it is threatened.”

In addition to commemorating the veterans, the grove is part of a living laboratory to study urban forestry. This grove is the first of what will be 10 around the nation as part of the International Society of Arboriculture (ISA) Research Trust’s TreesAmerica program. The goal is to provide models for urban forest development and sustainability.

John Metzler, superintendent of Arlington National Cemetery, called the grove a “fitting tribute for Persian Gulf War veterans that will enhance the entire cemetery.”

In 1990, President Bush signed into law the “America The Beautiful-A National Tree Planting Initiative.” Included with the goals is a challenge to increase urban tree planting and maintenance to assure healthier urban forests that provide beneficial outcomes for the environment, economy and appearance of each community.

With leadership from the U.S. Forest Service during the past five years, partnerships have developed a national urban forestry strategic plan; an urban forestry program in each state; volunteer tree planting organizations; an increased focus on the need for urban forestry research; an increase in awareness of the benefits of urban forests; and planted thousands of trees. The board of trustees of the ISA Research Trust hopes to provide national leadership and funding, through its TreesAmerica program, of living laboratories for urban forestry research, education and demonstration.

The first grove, planted last month, will serve as a living symbol for all those who served in the Gulf War.

Those interested in contributing to or volunteering with TreesAmerica should contact Dr. Ham at 864-656-2480 or Laura Lynch, ISA Research Trust, at 217-355-9411.
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Oklahoma City
Memorial Story Wins Award

Seven months after a bomb rocked Oklahoma City and shook the nation, a volunteer delegation from Iowa dedicated a grove of trees that serves as a living memorial to those who died.

The efforts of hundreds of Iowans, chronicled in the January 1996 issue of *Tree Care Industry* magazine, touched readers in a very personal way. Recently, Vermeer Manufacturing Company and Kragie/Newell, a marketing and communications company, won a Certificate of Commendation from the Public Relations Society of America for their part in bringing this story to the public. The Bronze Anvil Award winners were selected from among 500 entries across the country.

The Oklahoma City Memorial Grove, honoring the 169 people who died in the attack on the A.P. Murrah Federal Building, includes 150 littleleaf lindens and 19 prairiefire crabapples. The Iowa State Horticultural Society mobilized hundreds of volunteers, including nursery owners, college professors, students, community groups and scores of businesses that donated equipment. A Vermeer Model TS44M Tree Spade dug most of the holes for the memorial.

Though the memorial's primary purpose is to honor the victims of the bombing, it is also Iowans’ way of thanking Oklahomans who sent help to Iowa after heavy floods covered the state in 1993.

The memorial will serve as a fitting tribute to those who died in the attack. It also shows what dedicated volunteers, assisted by businesses with a commitment to the community, can accomplish.

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Designing Urban Forests for Storm Survival
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September 16-18
ISA, Pacific Northwest Chapter
Annual Training Conference
Yakima Convention Center, Yakima, WA
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September 24, 25
Vegetation Management Conference
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Carbondale, IL
Contact: 618-536-7751

October 8, 9
Annual Vegetation Management for Right-of-Way Workshop
S. Illinois University, Carbondale, IL
Contact: Sandy Rhoads, (618) 453-5679

October 20-22
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Though some clients will take advantage of you, Moorthy asserts that the lost time and expense will be more than made up for in increased sales. In addition to generating higher revenues, a guarantee helps distinguish your tree care company from less reputable outfits.

THE SURVEY SAYS...

More than 6,000 Americans are killed at work each year, reports the Bureau of Labor Statistics. According to a poll by Prevention Magazine, 65 percent of adults feel great stress at least once a day, up from 55 percent in 1983. How we deal with stress varies largely by sex. Women prefer talking with someone (83 percent versus 68 percent of men) or going shopping (47 percent versus 24 percent of men). On the other hand, men are more likely to drink alcohol (23 percent versus 13 percent of women). Roper Starch survey found that 80 percent of Americans believe a home computer makes them more competitive in their careers. Computer owners would prefer a complete home office as a gift over a new dining room set by a ratio of 2-to-1...

Arborists take heart. A recent survey of homeowners found that weeding is far away the most hated outdoor chore.

TAX TIP

Proof of payment does not establish that you are entitled to a tax deduction. The IRS advises small business owners to keep other documents such as credit card sales slips and invoices. To ensure that all of your business expenses are accepted as legitimate, the IRS recommends:

- Keeping daily business records
- Identifying the source of the receipts
- Recording expenses when they occur
- Keeping all supporting documents
- Using your business account for business purposes only

You should also keep several copies of your filed tax returns to help in preparing future returns.

FILL 'ER UP

At press time, the battle in Congress over lowering the federal gas tax remains in doubt. But the discussion served to remind owners of gas-guzzling trucks of how fortunate they are to be Americans. While both sides used facts and figures to bolster their arguments, the comparisons between gas taxes in the United States and abroad were startling. Americans pay less for a gallon of gas than most European drivers pay in gas taxes alone. France topped the list with a per-gallon tax of $3.12. Even the car-crazy Germans pay a $2.87 per-gallon tax.

Americans, on average, pay 38 cents per gallon in state and federal taxes.

DON'T CALL ME BOSS!

As the wage disparity between the highest and lowest paid employees grows, companies have turned to changing job titles as a way to reduce apparent divisions between management and labor. Terms such as worker and boss have given way in the '90s to teammates, crew members, partners, squads, colleagues and associates. No data is available yet on whether these changes improve crew members' performance.
There are an incredible number of techniques for climbing and working in trees, because every climber has slightly different preferences and needs. I feel that it's good to experiment, but whatever the idea, think safety first. Work on new techniques in a controlled way so that if they fail, it doesn't mean disaster. When climbing, always exercise caution.

If you crotch your climbing line into either a pulley or other suitable false crotch, you will find that there can be excessive heat build-up in your friction hitch as you descend. On a long descent, go slowly and take breaks to allow the heat in the hitch to dissipate. The rope that you tie the friction hitch to doesn't heat up. It's the rope used to tie the hitch that melts. This can weaken the hitch to the point of breaking.

Sometimes it doesn't hurt to use a backup. In my case, the backup is a replaceable-pin microadjuster on the line above my Blake hitch.

Please refer to the illustration. First, I place a double-locking carabiner (the black one) in the eye of the microadjuster. Next, I clip the eye-spliced end of a three-foot section of rope into the carabiner using a Fisherman's knot. This second carabiner clips to my saddle. Finally, I tie a figure-eight knot and Blake hitch below the microadjuster with the remaining short rope. My climbing line attaches to my saddle with a third (yellow) carabiner.

Make sure that the microadjuster can set itself above the Blake hitch. There should be a gap of a couple of inches to be sure that the microadjuster has room to set.

If you incorporate this idea in your climbing techniques, you may find that it will help give a feeling of security. If the friction hitch fails, the microadjuster will catch. It doesn't get in the way when ascending. When you want to descend, press down on the lever arm of the microadjuster. It slides down on top of the Blake hitch, and you slowly go down.

In an aerial rescue, the pin in the microadjuster can be pulled, and you can use just the friction hitch. Under a load, the lever arm of the microadjuster may be difficult to disengage.

This technique may help you, or you may think it's overkill. I would rather be safe than sorry.

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Combating Employee Absenteeism

What Really Works

By Richard G. Ensman

Depending on how you measure it, employee absences cost North American businesses $30 to $50 billion a year. Even that astonishing statistic doesn’t include the inefficiency, lost sales, aggravation and customer relations problems that occur.

Absences do occur for legitimate reasons, such as serious illness, death or family emergency, and no company can enjoy perfect employee attendance. But absences also occur because of minor aches and pains, sleepless nights, sunny days, hangovers, and the momentary desire to be somewhere other than work.

As an employer, you can significantly cut down on employee absenteeism by following a few relatively simple steps. The secret: Motivate your people to be at work, on time and ready to go. Here’s how:

- **Establish a firm policy.** Don’t treat absences as a “benefit” or a “right.” Your policy should hold out 100 percent attendance as the desired state of affairs.
- **Follow up your policy with specific procedures.** These procedures should outline the circumstances under which you’ll allow an employee to be absent and the check-in steps employees should take to alert you to absences.
- **Publicize your expectations.** Promote 100 percent attendance in your employee handbook and in conversations.
- **Orient new employees.** From the first day, set perfect attendance as the goal. Remind new hires that absence procedures must be followed in all cases, and that failure to follow them is cause for disciplinary action.
- **Pay attention to every absence.** Some employers require employees to complete “claim forms” upon their return. Others informally talk over the absence. Large firms often refer absent employees to their in-house health service. The point is not to judge the validity of absences, but to impress upon employees that you’re vitally interested in their attendance.

- **Keep track.** Maintain a simple information system that categorizes absences by employee, crew and reason for absence. A careful review of the data will help you spot trends for both individuals and among crews.
- **Cost it out.** Periodically, publish a chart detailing the costs of all employee absences. Employees with potentially serious attendance problems might receive customized charts detailing the economic consequences of their absences.
- **Ask questions.** If you have an absenteeism problem, ask employees how they would solve it.
- **Review industry standards.** If your business or industry trade association maintains absence data, review your performance against industry-wide standards. If things look out of balance, resolve to strengthen your fight.
- **Encourage participation.** Self-policing, in the form of attendance monitoring by peers and peer involvement in the rescheduling of absent employees’ work, makes absent employees accountable to everyone. Alternatively, absent employees might be required to switch shifts or ask other employees to assume their duties.
- **Forget the physician notes.** The “doctor’s note” is still a popular requirement among employers, but much research suggests that it’s ineffective in preventing absences. One exception on a related issue: It’s often a good idea to require seriously ill employees to receive permission from their physicians to return to work.
- **Watch the doldrums days.** Absences often skyrocket on Mondays and Fridays, or near vacation periods. You can bet that abuse is occurring in these instances. While every absence deserves attention, doldrums absences merit special attention.
- **Fight absenteeism through performance appraisal.** Set simple, but clear, standards for employee atten-
• **Compensate unused sick days.** If you provide sick leave, consider partially compensating employees for unused leave once a year. The most common way is with additional vacation days or bonuses of 25 percent to 50 percent compensation for each sick day not used.

• **Abolish sick leave.** If you’re interested in a radical approach to absenteeism, simply give employees a fixed amount of general leave each year, and require that sick days be credited against it. Whatever the balance, it can be used for vacation.

• **Establish sick banks.** Another radical suggestion. A fixed amount of sick days can be “banked” for a firm or work unit, rather than an individual employee, and used only with the consent of the entire work team.

• **Reward good attendance.** Provide bonuses, “profit sharing,” gifts or special holidays to recognize people with perfect or near-perfect attendance. Recognize them, too, on employee bulletin boards or in employee publications. Another suggestion: reward employees with sick leave allowances only after a period of perfect attendance.

• **Make provisions for physician, dental and other appointments.** These appointments often create full days of leave. By allowing for time off in small chunks, employees can keep appointments, which are often preventive anyway, without guilt or worry. Keep in mind, too, that many doctors and dentists now keep evening and Saturday hours. Encourage employees to take advantage of this flexibility.

• **Consider flextime.** If your employees face excessive demands on their time outside of work, consider flex-scheduling. This allows employees to schedule absences around a flexible work week. Flex-time usually works better with office staff than employees in the field, but at least consider the option.

• **Use progressive discipline.** When you spot an employee abusing your sick day policies—someone who hasn’t followed attendance procedures or who is clearly absent without a valid reason—take the first appropriate disciplinary measure, usually a verbal reprimand. If it happens again, graduate to a more severe measure. Accept no excuses, and make none for the actions you take.

• **Foster wellness.** Poor eating habits, lack of exercise and stress are leading causes of short-term illness. Occasional wellness seminars and health-related bulletin board information keep good health habits in front of your employees.

• **Hold supervisors accountable.** If your firm is large enough to accommodate several layers of management, hold supervisors accountable for the attendance of employees. Research studies suggest that the quality of supervision frequently affects attendance levels.

• **Promote job satisfaction.** Last but not least, study after study tell us that as job satisfaction increases, employee absences decline. Creating job satisfaction is another topic, but the wise manager will promote job commitment, information sharing and involvement every day.

Once these qualities pervade the workplace, employees have a tough time staying away.

Richard G. Ensman is a free-lance writer based in Rochester, NY. He specializes in business topics.

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The Alitec SG40 is a stump grinder attachment manufactured for 1300 LB class and larger skid steers equipped with high flow hydraulics. Delivered horsepower is determined by flow and pressures of the skid steer. The SG40 offers a standard cutting width of 60 inches and a telescopic extension of seven inches. The 18-inch diameter grinding wheel has the capability of cutting 16 inches below ground and 21 inches above ground. All operational functions are controlled from the operator's seat, and the SG40 can be detached in minutes, leaving the skid steer available for cleanup work. Contact: Bill Bethards, Alitec Corporation, 802 East Main Street, Brownsburg, IN 46112. Phone: 317-852-8622; FAX: 371-852-8638.

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The new Husqvarna 371 XP is a lightweight chain saw, yet it is powerful enough for demanding jobs. Developing more than 5 hp with a weight of only 13 pounds means an extremely high power-to-weight ratio. The Husqvarna Low Vib system insulates the handle unit from the engine, and makes the saw much more comfortable to use. The 371XP is the first model in the 70 cc class featuring an Air Injection system that cleans the intake air before it even reaches the air filter. The Smart Start decompression valve makes the saw very easy to start. Designed to work in any position, the brake stops the chain in a fraction of a second should a kick-back occur. Contact: Husqvarna Forest & Garden Co., 9006 Perimeter Woods Drive (PR), Charlotte, NC 28216. Phone: 800-GET-SAWS.

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Reader Survey Results

What do green industry service businesses across the country offer employees as far as compensation and benefits? That's what a February TCI survey asked readers, and the results are in.

The vast majority of respondents were tree service or landscape contractor owners, managers or presidents. Most businesses had been established for more than 16 years. Several boast of more than 30 years in the industry.

Q: How many salaried and hourly employees work for your company?
   - Hourly: Average - 11.6 employees, high - 40.
   - Salaried: Average - 2.4 employees, high - 10.

Q: How many of your employees are seasonal, and how many are full time?
   - 34% Seasonal
   - 66% Full Time

Q: What are the average wages you pay in the following employee categories?
   - Entry Level Laborer: $4.50-$11.50
     Most pay between $7-$8
   - Climber: $8-$30
     Most pay between $10-$13
   - Equipment Operator: $8-$20
     Most pay between $9-$12
   - Pesticide Applicator: $7-$15
     Most pay between $10-$12
   - Foreman: $7-$29
     Most pay between $12-$14
   - Supervisor: $9-$36
     Most pay between $14-$16

Q: What is your level of education?
   - 17% High School graduate
   - 39% Some College
   - 41% College graduate
   - 3% Post-graduate work

Q: What benefits do you offer hourly employees?
   - 83% Paid holidays
   - 83% Paid vacation days
   - 49% Paid health insurance
   - 43% Shared health insurance

Q: What benefits do you offer salaried employees?
   - 92% Paid holidays
   - 92% Paid vacation
   - 52% Shared health insurance
   - 44% Paid health insurance
   - 32% Paid personal days
   - 32% Shared dental insurance
   - 32% Shared life insurance
   - 28% Profit Sharing
   - 28% 401(k)
   - 20% Paid disability insurance
   - 16% Paid dental insurance
   - 8% Shared disability insurance

Q: What are your 1995 anticipated sales?
   - 6% 0 - $100,000
   - 22% $100,001 - 250,000
   - 28% $250,001 - 500,000
   - 30% $500,001 - 1,000,000
   - 14% More than $1,000,000

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April was a busy time for committees charged with developing standards of practice for arborists. The ANSI Z133 Committee and ANSI A300 Committee met in Washington, DC.

On April 17, the Z133 Committee met at the U.S. Department of Labor. Items on the agenda that were of interest to practicing arborists were use of the Prusik loop and Prusik knot for belayed ascent into the tree, and use of the Blake hitch as an alternative to the traditional taut line hitch. The committee will be researching both issues more thoroughly and will undoubtedly address them more fully in the next revision of the Standard. The consensus was that both techniques should be recognized as approved work practices.

Written comments concerning the ANSI Z133 Standard are encouraged, and should be addressed to the International Society of Arboriculture, ANSI Z133 Secretariat, PO Box GG, Savoy, IL 61874-9902.

The ANSI A300 Committee met on April 18 and 19 at the National Park Service’s National Capitol Area Headquarters. The majority of its time was devoted to drafting a tree fertilization standard, which will be available for public comment later this summer. The committee also launched into the drafting of standard sections for Cabling and Bracing as well as Lightning Protection. At their next meeting, scheduled for this October, they will consider these issues as well as Soil Amendment.

Written comments concerning the ANSI A300 Standard are also encouraged, and should be addressed to the National Arborist Association, ANSI A300 Secretariat, PO Box 1094, Amherst, NH 03031-1094.

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Words of Praise...

The last two issues of TCI have been outstanding. The article by Richard Proudfoot was the best we have ever read on sales and marketing. We were also pleased to see the articles dealing with technical knowledge by Dr. Shigo and Dr. Chaney. Keep up the good work.

Doug and Charly
Doug & Charley's Horticultural Services
Phoenix, AZ

... and Criticism

I was saddened and then angered when I read the article by Bob Springer in “From the Field” in the March issue.

In my opinion, Mr. Springer made a serious error in judgment when he chose to proceed with pruning after he noticed that at least two main crotches were about to fail. Not only did they put their lives at risk, but by failing to act quickly the delay cost the life of a national treasure. In addition, for at least two weeks, some 38,461 people were allowed to “stroll” under this tree unaware of the danger. (I hope it was cordoned off?)

After choosing to wait to report this hazardous condition, a meeting was scheduled for two weeks later! No discussion with non-arborists was necessary except to inform the park director of the gravity of the situation, what procedures were going to be implemented to save the tree and to advise him of any additional charges.

I'm not blaming Mr. Springer for this sad event. No doubt he felt his actions were appropriate. In my opinion, significant fault lies with previous arborists who trimmed this tree—even though it may have been 25 years ago. I also blame our industry’s education system, which is so enamored with articles and seminars about compartmentalization, branch collars, slings, cracks, and carabiners that basic arboriculture has been nearly neglected.

An experienced climber should have called for a three-quarter inch nylon line and secured the three main sections together using a series of loading hitches. While the lines were being tied in place, a ground man could have called the supervisor to the job site. While waiting for the supervisor, the climbers would have determined how severe a “crown reduc-

Robert Wallace
Tree Life Concern Inc.
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By Les Kozaczek

Thanks to a New Hampshire manufacturer, now you really can get there from here. At least, that is, when it comes to line clearance. Based in Weare, NH, John Brown & Sons has come up with a sliding bed that can be added to a bucket truck. The moveable bed allows the boom to be extended under, up and inside utility lines.

“We call it ‘The Slide,’” notes Mike Brown, co-owner of the 35-year-old company and co-inventor of The Slide with his father, John. “As far as we know, there are only two systems like this in the world. And we built both of them right here,” Brown says with pride. The Slide will fit on any larger size bucket truck, and can be adapted to suit the truck-owner’s needs.

Benefits of the roughly $18,000 bed modification include improved traffic safety, reduced repositioning and set-up times and improved worker safety, Brown says.

“Because we’re working inside the lines, we can park completely off the road. This cuts back on flagmen and manpower, and we don’t disrupt traffic while we’re working roadside,” Brown explains.

The Slide’s extendable bed is set high enough that it can reach over roadside guardrails and stone walls. Working inside the lines also allows the operator to work in parallel with, rather than between or over them. This increases the number of trees that may be pruned between set-ups.

The idea for The Slide was born five years ago, when Brown and his father, John, were discussing ways to improve worker safety in the face of new line-clearance regulations and the constant addition of cable and other lines to utility poles.

“We went out with some crews to see what their biggest obstacle was,” Brown recalls. They quickly found out, as they watched workers carefully reaching over and between the lines to prune trees.

The Browns spent two years discussing, researching and developing their new tool. In 1993, they produced their prototype in their own shop. (They also make the Brontosaurus Right-of-Way mowing device).

“It took a lot of thinking about, and we had to make sure the engineering ‘specs’ were up to scratch. But, what we came up with is really very simple,” Brown says. With one hydraulic cylinder and a small valve bank, it is a dream to maintain.

“The only maintenance it has needed since we started using it is a new hose,” Brown recalls, adding that the old hose didn’t wear out, it accidentally got cut. The Slide also comes with specialized outriggers with extended reach to ensure stability while the entire lift unit is extended as much as 10 feet beyond the side of the truck.

The Slide has yet to attract much interest from the utility market. Brown puts this down to tight economics and a reticence to try something new. That’s despite the low additional per-hour charge for using The Slide of only $3 to $4. But Brown has faith in The Slide’s future and viability, because he knows it’s an excellent machine, and crews fall in love with its convenience and effectiveness.

“We had to bring one of our Slides in for service last year,” recalls Brown. “By the end of the week, the crew that works it were going crazy, almost begging us to get it back to them.”

Brown & Sons has all the parts it needs to build a third system, but they will hold off on that until they’re sure they can put it to good use. With the line-clearance business’ constant need for improved safety, Brown predicts it’s only a matter of time before utilities and others realize that getting to there from here safely and efficiently is a journey worth making.

For information, contact Harvey Donaldson at 603-529-7974.

Les Kozaczek is TCI Staff Writer
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Route 16 in Wellesley, MA, slices through one of the wealthiest neighborhoods in America. Fieldstone and brick homes, set well back from the road, rise amid sculpted lawns. A feeling of privacy and security cautions passerby not to interrupt the peaceful surroundings.

Just beyond the Hunnewell Farm is a turn into a private driveway and another century. A hand-built stone bridge fords the Charles River, little more than a stream this far from the ocean. On the other side is a reminder that centuries ago great families with greater fortunes built estates that would be too expensive to consider today.

Boarded up and vacant now, one of New England's most prominent estates, Elm Bank Reservation in Dover, MA, was recently the scene for a remarkable display of arboricultural skill. The property received an Arbor Day horticultural face-lift thanks to the combined efforts of the Massachusetts Arborists Association (MAA) and the Massachusetts Horticultural Society (MHS).

"Elm Bank is a site that has been neglected over the years and never had the funds to do a comprehensive pruning or tree maintenance program," explains Andy Felix, president of the MAA. "So, we found it to meet our criteria as a site to donate work to on Arbor Day."

Elm Bank got its name in 1740 when Colonel John Jones acquired the land and planted elm trees along the Charles River. During the next century, the land changed hands among some of New England's most prominent families. In 1874, it was auctioned for $10,000 to Benjamin P. Cheney, who founded Cheney & Company Express, which was the precursor to American Express. In the early 20th century, the Olmstead brothers, the most noted landscapers of the day, were hired to design the gardens. Over the years, the estate passed from private hands and served as a technical school, seminary and summer camp before it was sold in the 1980s to the Commonwealth of Massachusetts. It was placed on the National Register of Historic Places in 1987.

"This was one of the most magnificent private estates in the greater Boston area," observes Dr. John Peterson, executive director of the MHS. "It has been managed by the state for a bit over 10 years now, and it has really suffered from neglect, a lack of funding and the capability to manage it."

The MHS signed a formal lease on Elm Bank in early April 1996. The total property is 184 acres, and the Society is assuming responsibility for 26 of those, which are primarily the cultivated areas, including all the main buildings.

"It is just a magnificent parcel of land, and we are developing a horticultural education information center here," explains Peterson. "The tree care companies that are donating their services today are giving us a real great jump start on this. This is our first real improvement project for the site."

The tree care companies donating their time had two goals: to spruce up an historic property and showcase their arboricultural skills for the public.

"We are hoping to raise public awareness about this industry," stresses Felix, as his crew tackles an aging elm behind him. "We hope that they get an appreciation for arboriculture and learn how this industry really is."

The public was indeed treated to a display of a variety of arboricultural skills. The high-pitched whine of
power equipment echoed about the property as certified arborists from around the state undertook hazard tree removals, stump grinding, planting and pruning. One of the more artistic volunteers displayed a delicate touch with his chain saw as he transformed a 10-foot high log into an intricate carving.

In the carriage house, experts offered seminars and slide shows on effective nutrient management, tips and techniques on proper tree pruning, selecting the right plant for the right place and protecting the urban environment.

Working in concert with the MHS, which has almost 12,000 members, could become an important new avenue for the MAA to educate the public about the importance of professional arboricultural care.

"This Arbor Day is particularly exciting because we have established a relationship with the Massachusetts Horticultural Society, which is an entity that has a great deal of contact with the consumer," notes Virginia Wood, executive director of the MAA. "What we are trying to do in marketing the value of arboriculture is to bridge the gap between industry and the horticulturally aware consumer. This is a terrific site to do just that.

"One of the requirements we have in choosing a site is that we ask our host to help us a lot with public relations," states Wood. "Fortunately, the Massachusetts Horticulture Society is tremendously well-connected with the media. We do our own publicity, and we also work with our members to have them help us get the word out."

Helped by a sunny spring day and successful advance publicity, larger crowds than expected turned out for the festivities. Families wandered the estate glancing upward as professional arborists displayed their climbing and pruning skills. The roar of brush chippers filled the air as decades of pruning work was accomplished in one day.

"We have 37 companies from all over the state with 185 professional arborists on site," reports Wood. "We estimate that we are donating $300,000 worth of arboriculture work. The public is seeing professional arboriculture at its best here today. We are doing a tremendous number of removals of hazardous trees, we've got fine pruning, hazard reduction pruning and a lot of tree planting. This should give the public the full scope of the industry."

After years of neglect, Elm Bank Reservation was the scene for a day filled with lectures, demonstrations, family activities and horticultural information. In late afternoon as more than a hundred professional arborists packed up their gear and surveyed their work, they looked out over an estate that is well on its way to reclaiming the original vision designed by the Olmstead brothers almost 90 years ago.

Mark Garvin is TCI Associate Editor
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I work for a municipality, in charge of six men, and I am proud to say that I have 12 years of climbing experience in the tree care industry. About four years ago, I learned a lesson that will always stay with me.

It was an ordinary summer’s day, and I was working on a three-man crew for a private tree service. On that particular day, I was to remove a large limb from a 70-foot black oak that was leaning over a set of railroad tracks surrounding the Six Flags Over Mid-America theme park in Eureka, MO.

Simple job, I thought, as I approached the large tree, noticing a low fork approximately 10 feet up separating the two halves of the tree. As I situated myself in the fork, I decided I would simply cut a notch on the front side of the 30-inch diameter limb and back cut it, felling it across the tracks.

As luck would have it on that sunny afternoon, the butt end of the limb popped free and came at me. The large stub caught me across the left side of my rib cage, ripping the skin and leaving me with two bruised ribs. Luckily, I hadn’t broken any bones.

After my nerves had settled down a bit and I had caught my breath, I took a long look at the massive limb which had speared me. It was hanging upside down next to me! I looked to the ground where my foreman and groundsman were staring up at me in awe, asking if I was all right. (Actually I was too shaken at the time to notice any pain.)

I yelled to them, asking, “What happened?”

My foreman simply pointed up the tree, saying, “There’s a cable.”

To my surprise, I saw the half-inch cable holding the limb. In the eight years I had been climbing, I would never have expected to see a single cable holding limbs that big together. But, sure enough, a cable had been installed to do exactly that.

Let me tell you, that experience taught me a serious lesson. Although, I had been told over and over to search the trees visually for such things as hornets nests, bee hives and all the other creatures who live in trees, it never dawned on me until that day that another climber, years before, had worked in that very same tree.

Needless to say, I had to climb up to the top of the tree to cut the cable and free the hanging limb. That simple day had turned into quite an ordeal, one I will certainly never forget.

Michael S. Henning is executive forestry supervisory team member for the city of Richmond Heights, MO.
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