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Do You Have the Audacity?

The tree care industry could certainly be said to be moving into its maturity phase. In marketing terms, we’re in the curved part at the top of the bell curve of a product’s life cycle. This becomes the most dangerous time to an established product. It generally takes a huge effort to reinvent the product, redesign the packaging, bundle it with other services, or create a newer version that generates as much fever as the parent product.

The tree care industry has moved to more sophisticated equipment in the field: the use of technology in communicating with clients, associations, vendors, and field personnel; attendance at conferences with high-powered management speakers; developing industry standards for safety and techniques in the field; and influencing government legislation and regulation.

Some would say this is a huge success story, and it is the story of the evolution of an industry over the last century. However, others would look at the industry and ask some tough questions about how far we still have to go and what we need to do to keep from dropping over the other side of the bell curve.

When we took a look at some statistics on safety in 1999 that were put together by the government, we found that 70 percent of the fatalities were happening outside of the NAA membership. On the one hand, we could choose to praise ourselves for the effectiveness of our programming in keeping people safe . . . but that is from within the choir.

On the other hand, we could look in the mirror and honestly ask ourselves why it is we are willing to put competition and profit ahead of getting our local competitors into our programs by inviting them to join the industry’s association — in other words, saving lives?

Contrary to what you may think, this is not a plea for membership, but a determination to focus on safety. It is not OK that men and women go to work and get severely injured or killed. From a business standpoint, the evidence is clear. We are listed as a high-risk industry — with insurance premiums to prove it — and the government has seen fit to attempt to regulate us, because we aren’t doing a good enough job ourselves.

The Board of Directors of the NAA has made it clear that while we will not neglect our duty to monitor and deal with inappropriate regulation and legislation, our position morally is to uphold our focus to keep people safe in our industry. As one NAA member recently said, “I don’t want to have to be the one to go to a crew member’s home and tell their spouse and kids that their parent/wife/husband is not coming home tonight.”

Our Safety Committee has done a tremendous job in the past few years identifying priorities for safety materials. Last year saw the development of the five pocket guides, also available in Spanish, dealing with the primary areas OSHA identified as causing fatalities. We also partnered with ISA on the Groundworker 5-part video series. Our disappointment — for $3 per person/per booklet, our industry has not embraced these publications. It’s not about disappointment in the sale of product; it’s about the industry’s commitment to embracing safety on a daily basis. Safety materials are cheap compared to living with the guilt of an employee’s death or disability, not to mention the business costs of either.

In L.A. Requiem, Robert Crais declares, “There is great audacity in the willingness to change, and more than a little optimism.”

Do you have the audacity to put safety above all else when you are up against time crunches to get a job done; when you know your crew members aren’t getting enough sleep; when you think that time spent on safety training and its documentation is lost profit; when there are language barriers to overcome; when your time as a participant on the Safety Committee could save someone’s life; when investing in bringing your crew to TCI EXPO for training, demonstrations, and education means two to four days away from jobs; or when inviting the local competition to join the NAA means their employees might live through this week?

I have never found this industry to be anything but optimistic, sometimes against incredible odds. Let’s be optimistic together. We can save lives. Join the NAA’s Safety Committee; bring your crews to TCI EXPO; come to Winter Management Conference; or participate with NAA online, via e-mail, phone or fax. We are accessible, no matter how you want to participate in keeping people safe. In honor of Pat Felix’s recent retirement, please don’t forget those words of the famous duo over many years: “NAA doesn’t cost, it pays!” What better payoff for participation, education and commitment than to make our industry more safe?

If you are already doing all these things, that’s great. Your ongoing contribution to the industry may save someone’s life long after you’re retired or long gone. While you’re breathing, though, please don’t ever forget to ask a non-member to join the NAA. We need everyone in the choir and safe.

Let’s agree that we have the audacity to stay alive this year.

Cynthia Mills, CAE
Publisher
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Integrated Pest Management: the Real World

By John Ball

The green industry, while only a small segment of the United States service economy, has enjoyed rapid growth during the last decade. The combination of rising incomes and an aging population has been the perfect recipe for an increased demand for services, though not all green industry services have experienced equal success. The design/build business, the industry leader, is now at gross sales in excess of $14 billion, while lawn care is just slightly behind. Tree care, while also enjoying an increase, still lags far behind the other segments of the green industry at $2.4 billion. This large gap between the tree care and the lawn care industry is due to two primary factors.

More homeowners contact lawn care companies than tree care companies – 26.7 million households vs. 5.6 million households – and the average homeowner pays more for lawn care than tree care. Averages can be misleading, of course, as they are strongly influenced by the extremes – a few people spending lots of money can balance many people spending very little. Still it is interesting to note that the average homeowner spends $434 a year on tree care, about $100 less than lawn care services. And compared to other household expenditures, tree care is very low on the list. According to the U.S. Bureau of Labor Statistics, the average household spends about $13,000 a year on housing, $8,500 on transportation, $3,500 on food at home, $550 on alcoholic beverages and $280 on tobacco products. Thus, in the average household budget priority, tree care fits somewhere between drinking and smoking.

This certainly indicates room for movement – arborists should be able to capture a little bit more of this disposable income. Can we? Lawn care companies have been quicker to seize this opportunity and are actually cutting into our market share. When lawn care companies were asked in a recent survey what new services they plan to offer, tree care was among the top three choices, right next to irrigation and aeration. The reason lawn care is expanding – successfully – into the tree care field is that lawn companies have long been in the business of providing a wide range of services – fertilization, pesticide application, and mowing, among others – and being on a property several times a year, every year. In the tree care industry, more than two-thirds of our sales volumes comes from removals or pruning. The chain saw is our primary management tool and not one that lends itself to repeat sales.

Generally, you can only remove a tree once and even pruning is not a frequent event for mature trees. Thus tree care companies have viewed people as customers rather than clients – offering one-time services rather than establishing long-term relationships with the homeowners and their landscapes. We tend to wait for people to call us, rather than take a more proactive approach.

Integrated pest management (IPM) has been viewed by many...
Tree care companies need to take a more proactive approach by offering a range of long-term landscape services.

in the tree care industry as the means of expanding our service offerings. Many companies already provide some pest management services and adapting an IPM approach can provide two major benefits. First, by providing routine inspections of the landscape, pests can be identified and managed before they become a serious problem. Too often arborists are involved in crisis management, responding to panicky homeowners' requests to provide treatments for pests at either inappropriate times or when the damage is already done. Second, as pesticide regulations continue to expand while our pesticide choices continue to change and shrink, it makes sense to provide as limited and targeted an application as possible. The days of using large-volume sprayers to blanket treat entire landscapes once per year are behind us. Effective management now requires applicators to have an excellent understanding of the pest biology and provide precision applications of specific products.

But what is IPM? According to one definition, IPM is a decision-making process that anticipates and reduces pest activities by combining several strategies to achieve long-term solutions. However, there is little agreement on what is meant by IPM in the tree care industry. Some believe it means no chemical pesticides, others believe it means the use of a wide range of practices, from pruning to pesticides. I am not going to get into a debate on what constitutes IPM – (Is it just pest management or does it also include other cultural practices?) – nor how it differs from plant health care. I'm not saying defining these terms is not important, but we often get caught up in arguing about definitions that the public has little understanding of or concern about. Less than two percent of the public knows what IPM stands for; probably fewer could define it. We have to keep in mind that the movement to IPM in our industry is driven more by government regulations than public demand. No one calls tree care companies asking for IPM. They call for assistance in maintaining an attractive landscape and that, not pest management, is our primary goal.

We must first understand our client's concerns and expectations and design programs to address their concerns and fulfill their expectations. What are the concerns of the public? According to a recent Gallup poll, almost 80 percent of Americans consider themselves environmentalists. Various polls have been reporting similar percentages for years. Unfortunately, some arborists who thought this meant that homeowners have a concern about pesticides have developed and advertised programs that minimize or eliminate the use of pesticides, only to find demand for these programs is very small. These arborists have forgotten another very important statistic. A study conducted in the late 1970s found about 80 percent of households used pesticides. A follow-up study in the mid-1980s found about the same percentage, and the same percentage holds for today. A recent California study involving hundreds of upper-income households found that although people are aware of the risks associated with pesticides and are more and more often using gloves and other protective clothing, some practices have changed very little. There are still the common practices of mixing doses that exceed label recommendations and of applying pesticide at the first sign of a pest (typically the first critter they see crawling or flying in the landscape).

Why this excessive use among homeowners? Well, homeowners want an attractive landscape and are willing to employ most means – chemical or otherwise – to ensure this. They understand that plant damage reduces plant values. But do homeowners have the time and knowledge to maintain their landscape? They don’t think they do. While many believe people today are busier than folks once were, a number of studies have indicated otherwise. People today generally have more leisure time than people did 50 years ago. How we choose to spend our time has changed, however. Television is our primary occupier of leisure time. Landscape care does not even rank in the top 10. Homeowners do have the time to maintain their landscapes; they just choose not to.

Homeowners also don’t believe they have the information to maintain their landscape, and in this case they are right. Surveys have indicated that the majority of homeowners are dissatisfied with the appearance of their landscape but are at a loss to improve it. Information is what they want.

Now not all IPM clients are interested in learning about their landscape, but generally they have expressed a strong desire for information on a variety of landscape-related topics, such as pest problems, pruning, fertilizing and other cultural practices. Lawns are the No. 1 concern, followed by shade trees – the two plant types that represent the most visible aspects of the landscape. A recent study conducted by landscape architects found that two important qualities people use to judge landscapes are wide areas of uniformly green turf, and neatly pruned trees and shrubs.

But guess where they get that information on tree and lawn care? Not from us – tree care companies rank low, right next to the li-
brary and the Cooperative Extension Service. The most common source of landscape information is the garden center, followed by friends. More people look for information on the label of a pesticide container than call us.

Why are we not considered the best source of information? One reason is that we are not as convenient as garden centers and friends. But the problem goes deeper. We are not perceived as plant specialists, but as equipment specialists. We often help to maintain that image. How many yellow pages ads show trucks and chain saws or arborists felling trees? These images create the message that we should be hired to do what the client can’t do, not for our expertise. Our ads should instead focus on the product of our efforts rather than the process - images of attractive trees and landscapes, not saws. This isn’t much different than the strategy followed by other professions. Dentists don’t show commercials of running drills, but happy smiles. Hospitals don’t show scenes of surgery, but happy patients. And McDonalds doesn’t show scenes of butchering cows, but Happy Meals.

So why hire our services? What is our mission? We have the knowledge, skill and equipment to maintain attractive landscapes that are a positive and personal reflection of our clients. Don’t sell pest management! Very few clients are hiring your service to kill pests; that is just a means to an end. They want attractive trees and landscapes. IPM can aid in this process.

Starting your program

There is no single approach to developing an IPM program. In fact, a single approach can be a great way to fail. The “one size fits all” approach tried in the 1980s by a number of companies generally was not successful. Now companies offer several different programs to fit the wide array of client wants and landscape needs. While they can be divided a number of ways, most programs fit into one of two broad categories

- **target programs** that focus on a specific tree or pest
- **comprehensive programs** that focus on the landscape.

Target programs still comprise the majority of IPM services. Although they focus on a single tree or pest, it is still best to expand these programs to focus on the tree’s health, not just a problem. For example, a target program to manage tip blight on pines might expand beyond fungicide applications to include crown cleaning to remove dead, dying and infected shoots, as well as vertical mulching to improve the vitality of the trees. In this way the focus is where it should be – maintaining healthy, attractive trees – rather than concentrating on reducing pests. A number of companies have followed this approach in the management of key pests. Treatment for Dutch elm disease might extend beyond fungicide treatments to include other care practices, such as prescription fertilizing. These programs can be fairly easy to implement and manage – and can also be profitable.

Comprehensive programs are more difficult to develop and manage profitably. There is also a smaller market for landscape management programs. Many homeowners have a favorite tree in the landscape that they will spend money to care for, but most will not be interested in expanding professional services to the entire landscape. Most comprehensive programs involve a series of property vis-
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its by a scout (or monitor). This individual inspects plants, applies pesticide treatments, and may also prepare written reports to the client regarding their observations.

Many companies also provide the clients with a property map and site evaluation at the start of a comprehensive program. The evaluation includes soil testing and possibly foliage analysis of key trees and shrubs. The entire property is placed on a map so trees and shrub groupings can be identified. This is usually provided for a one-time fee as part of establishing the property in the program. Not all companies provide maps for properties in comprehensive programs — again one size does not fit all — but those that do find clients like having a map that identifies all their woody plants. One of the most common information requests from homeowners is plant identification, and knowing the plants in their landscape can further their appreciation of them.

Scouting visits for comprehensive programs generally occur once a month during the growing season. During these visits, the scout inspects key plants, provides treatments and notes observations and activities. It generally takes about 20 to 40 minutes for a scouting visit on a typical 1/3-acre site. Thus a scout can manage about 120 or more properties per month. A major failing of many programs is having too many scouts managing too few properties.

The scout needs to know people, as well as plants and pests. Interaction with the client is critical to the success of the program. The most important determinant of overall satisfaction and loyalty is the “people factor.” Client communication is essential regardless of the type of program. This communication can be as simple as a door hanger to computer-generated reports. The important point is that the clients have something tangible from your visit.

IPM programs usually include pesticide applications as treatments. Many companies expand the program to include a full-service approach. They do the mowing, pruning and any other green-related services. Some tree care companies have opted to subcontract with lawn care companies to provide mowing or other turf-related activities. IPM can also be used to upsell other services. The most common additional services associated with IPM programs are pruning, fertilizing and transplanting.

![Cottonwood leaf beetle](image)

Too often arborists respond to panicky homeowners' requests. When this cottonwood leaf beetle is found, the damage is already done.

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Why does someone contact you for an IPM program? The primary reason is a tree is having a problem. Unhappiness with the present company is a distant second. And what is the tree problem? In most instances the problem is aesthetic, not life-threatening. The majority of calls requesting treatments are for trees with minimal defoliation.

While few homeowners search the Yellow Pages for IPM services, pest management is among the top 100 searches. The homeowner that notices some tattered leaves often turns to the Yellow Pages for someone to come out and help. Keep in mind that more than half the Yellow Page users have no name in mind when searching. They are not looking specifically for you.

Our best clients for IPM programs have been identified in a number of studies. While there are some differences across the country – particularly in the household income – generally speaking, the most money is spent by homeowners who have been in their current home 5 years or more. They are 35 to 59 years old, college-educated and have a household income of more than $70,000. And one more important factor – the client is a she. In the average married household, approximately two-thirds of the landscape decisions are made by the woman. The rest are joint decisions; few are made by the man. This is not much different from other purchasing trends in the green industry. Women dominate except in power tool purchases. The critical point here is not to concentrate on the woman and ignore the man when talking with a married couple, but try to connect with both during the presentation.

So what is the key to survival and growth in the IPM market?

1. Take a genuine interest in your clients – you are in the people business, not the tree or pest business. No tree has ever paid for a trim, nor a pest to be killed. People pay us and that should be our focus.

2. Be professional. Appearance counts. Have employees in uniforms and keep equipment clean and well-maintained.

3. Be a problem-solver. Share with clients the challenges (don’t call them problems) in their landscape and offer solutions.

4. Don’t sell IPM. You’re not selling pest control, fertilizing, pruning or any other task and product. You’re selling two things: Good feelings – “I have an attractive landscape that is the envy of the neighborhood,” and solutions to problems – “I have one person who ‘makes it happen’ and he/she knows exactly what I want.” That’s IPM in the real world.

Dr. John Ball is an associate professor of forestry at South Dakota State University in Brookings, S.D. This article was excerpted and adapted from a presentation at TCI EXPO 2000 in Charlotte.

References
1990 Peterbilt 320 C/O, 8.3 Cummins Allison auto, 16' dump box w/5-ton Effer Crane. $34,500

1997 Ford F800, 5.9 Cummins Del, 7 sp, 31GWW, 68k miles. 16' alum. bed, 4-ton Nat'l Knuckle boom, 33' side reach. radio remote controls (Crane could be front mounted) $39,500

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President Bush’s across-the-board, 10-year, $1.6 trillion income tax cut plan, after hurtling through the House, came to a screeching halt in the Senate, where Democrats and Republicans say it will take time and compromise to produce a final agreement.

Sen. Charles Grassley (R-IA), chairman of the tax-writing Senate Finance Committee, declared, “The most sacred goal we have to accomplish is as big a marginal rate cut as possible.”

President Bush has often repeated his assertion that there will be enough budget surplus money to cut taxes and meet other national priorities. “If the American people are overcharged, they deserve a refund. They deserve some money back,” the president said in Sioux Falls, S.D. recently.

Supporters portrayed the bill as one that would give a needed boost to the faltering economy.

Its opponents contend the plan would primarily benefit the rich and is so large it would consume projected surplus money to cut taxes and meet other national priorities. “If the American people are overcharged, they deserve a refund. They deserve some money back,” the president said in Sioux Falls, S.D. recently.

Taxpayers could see an estimated maximum tax cut this year of $360 for a couple and $180 for an individual, Republicans say. The Bush administration estimates that when the entire tax plan is fully in place, the typical family with two children will receive at least $1,600 in tax relief and six million families would no longer pay federal income taxes.

The Democrat’s version of a tax bill calls for $586 billion in tax cuts over 10 years. It would lower the tax rate from 15 percent to 12 percent on the first $20,000 of income for a couple, and provide marriage penalty relief and an additional break for lower-wage earners. Unlike the GOP measure, it includes no reductions in the income tax rates that apply further up the income ladder.

Moderate tax cut better?

The Congressional Budget Office forecasts a $5.6 trillion budget surplus over the next 10 years. Proponents of the tax plan say this estimate, by design, is very conservative. Opponents of the Bush proposal say we cannot confidently enact a permanent tax program, increasing in scope over a 10-year period, against the uncertainty that is out there.

Some groups trying to find some middle ground in the debate have argued that a moderate tax cut for a few years, which could be renewed should forecast surpluses materialize, is better than 10 years on “autopilot.” Others have argued for a “trigger” mechanism to adjust the tax cut with varying economic conditions. Senate Majority Leader Trent Lott (R-MS), who does not like the idea of a trigger, said he might be willing to accept some sort of a mid-course review.

Effect on the economy

Critics of the tax cut do not think it will be effective as a short-term economic stimulus. Even its proponents agree that the tax cut cannot provide that kind of shot in the arm unless it is made...
Distinctively different, and uniquely RAYCO®, the RG 50 stump cutter enables the operator to bring BIG diesel power through a 36" garden gate! The RG 50’s low center of gravity permits safe operation in the 35" wide stance. For even greater stability on uneven terrain, dual wheels come standard. A hydrostatic transmission. RAYCO’s "Quick Stop" cutter wheel is among many features insuring safety. It can stop the cutter wheel within three seconds with no harm to drive train components. The operator’s console gives a close-up view of the cutter wheel and safe visibility of the cutting action. RAYCO® RG 50...
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Effect on small business

In a sole proprietorship, the income and expenses of a tree care business are reported on the owner's personal income tax return (Form 1040) using Schedule C (Business Income). Likewise, general partners in a partnership are liable for self-employment taxes on their share of net earnings, and file using their personal income tax returns. For these two types of entities, the Bush tax cut proposal has the immediate effect of reducing the owner(s) taxes a minimum of three percent.

Perhaps just as significant is the impact the tax cut will have on the tree service employees' take-home earnings. The climber who is single and earns $30,000 in taxable income a year will pay roughly eight percent less in federal taxes under the Bush plan than he/she does now. But the tax savings are little harder to come by in the realm of the average hourly wage arborist. Of course, for the married arborist with a working spouse supporting children, doubling the child tax credit and reinstating a 10 percent deduction for two-earner couples makes Bush's measure somewhat more palatable. Raising the allowable charitable contributions for non-itemizers isn't likely to create a great stir.

Arguably, for most tree care companies the most significant feature of the Bush tax cut proposal is its repeal of the estate tax, or death tax. The death tax can fall most heavily on small family businesses that are asset rich but cash poor. By itself, the death tax rates tops out at 55 percent. When combined with the owner's income tax rate and state taxes, the total tax burden can reach a crippling 68 percent. According to a 1993 survey, nine of ten successors whose family businesses failed within three years of the owner's death listed the estate tax as a contributing factor.

Listening to the ongoing tax debates and trying to make sense of all the rhetoric and analysis can be about as much fun as a root canal. Nevertheless, because the outcome could profoundly affect your business, it pays to stay informed and to voice your concerns through your elected officials.

Peter Gerstenberger is vice president of business management, safety and education for the National Arborist Association.
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Preservation is Cheaper than Replacement

By Wayne Outlaw

You just received a call from the supervisor of one of your crews. The supervisor tells you a valued employee gave notice. Even though the employee has not been with the company very long, you feel he is valuable, has tremendous potential, and is learning quickly. His attitude has been very beneficial to the crew and you feel he could have grown into a capable crew leader.

You are very concerned because, with the increasing workload, you cannot afford to lose him. Losing good employees that you have invested a lot of time and effort to train is happening all too often. You ask the supervisor why the employee wants to leave and the supervisor says “for more money.” What can you do?

Once an employee says he or she is leaving for more money, some owners’ immediate response is to raise his or her wages. This is usually not a good response due to profit considerations, and raising the pay of one employee may be disruptive with others. The reason to leave may be the working conditions, but there are many conditions that can simply be changed. Employees give many reasons for leaving, but problems can’t be resolved and turnover reduced unless the real reason is uncovered.

Since you want to retain your key employees, make it a priority to meet with the employee for an exit interview. Most human resource experts recommend exit interviews. The strategy, however, has real limitations in some companies. In smaller organizations it may be difficult to conduct an unbiased, open and candid exit interview. To be effective, an objective person must conduct the interview. It must be someone the employee will be open with and can disclose the real reasons for his or her decision to leave.

In some instances, even if the person is objective, the employee might not be motivated to tell why he or she is leaving. Many employees do not want to tell their boss why they are leaving. They may simply want to get the departure over with and leave.

There are other reasons employees do not want to tell their bosses why they are quitting. A few of the most common ones are:
- They want to “leave the door open,” because they might want to come back.
- They like the owner or manager and don’t want to open up and be candid about the real reason because it might hurt the person’s feelings.
- They don’t feel it would make any real difference if they tell why they are leaving.
- The problem that caused or precipitated leaving might have occurred with a supervisor, a family member or key manager that has been with the company for years. The employee feels the company may not really want to hear about it.
- In some cases, departing employees choose not to tell the owner or top manager because he or she may be managing employees in the same way as the incident that caused their decision to leave.

Recently, in a focused roundtable discussion with a number of owners of commercial tree care companies, we considered all the reasons employees had left or quit. A consensus was reached. The primary reason, or at least the precipitator of most employee turnover, boiled down to treatment by management. As we analyzed individual situations to determine the “real reason” or the event that precipitated turnover, in most cases it was the way the employee had been treated. A supervisor or manager had been rude, insensitive, or handled a situation inappropriately.

While many supervisors might have great technical or physical skills needed to accomplish tree work, it appeared from this roundtable discussion that few had the level of people skills necessary to get the greatest performance from employees. Some people have an innate instinct that helps them work with people, while others are not blessed with this trait or ability. The truth is, most managers have never been taught “healthy ways to correct inappropriate behavior” or how to “reinforce and reward positive behavior.” It must be learned like quality tree care must be learned.

At a recent National Arborist Association Winter Management Conference, we surveyed the audience to validate the perception from the recent roundtable discussion on the typical level of management skills. We wanted to find out what top executives feel about the need to improve the management skills in their organization. A survey was distributed to the group and a large portion of the companies completed it.

The Management Skills Survey evaluated key managers’ perceptions of the need to improve skills in 29 management areas, such as:
- Understanding the role of a manager and supervisor
- Improving leadership skills
- Analyzing and improving individual employee performance
- Coaching and counseling employees to improve performance
- Understanding employee needs and developing techniques to motivate them

The members evaluated themselves and supervisors. Very importantly, they felt supervisors have a:
• Strong need to improve in 33.6 percent of the areas
• Moderate need to improve in 27.4 percent of the areas
• Some need to improve in 27 percent of the areas
• Little need to improve 10.5 percent of the areas
• No need to improve in 1.5 percent of the areas.

The perception of top management’s needs was almost as severe.

This survey did not consider the size of company or measure employee perception of the supervisor’s needs. It looked only at the perception of members, but it did verify the need to improve the skills of those who manage arborists in the field.

What would be the real benefit or value of improving a supervisor’s management skills? It would mean happier, more loyal employees, more productive crews, increased customer satisfaction and better bottom-line profits – not to mention lower turnover.

Ironically, skills are critical, because the same person who attempts to correct a performance problem by yelling at an employee may be the one who complains loudly if someone tries to shape a tree into a healthy, beautiful plant by improperly cutting off limbs with inadequate or poorly maintained tools.

Many owners of commercial tree care firms spend countless hours chasing certifications or learning how to treat and cure tree diseases. Yet they may not devote time to developing the knowledge and people skills necessary to create positive, motivated, loyal, committed employees.

As an arborist, you would not expect clients to have beautiful, healthy trees if they have never fertilized, provided the proper amount of water, pruned to produce the desired shape, or periodically treated to eliminate disease. Yet some tree care companies expect an employee to thrive, grow and be productive without positive recognition, candid performance feedback, or a positive corrective action process when a problem occurs.

An awareness of employee needs and the management skills to create a positive, productive work environment is not instinctive, but is learned. Isn’t it time your organization invested in the management or people skills of its key employees and managers? The first reaction may be “it is expensive” to devote time and precious resources to building management skills. It is much less expensive, however, than continuously replacing employees. Besides, customers are served well and it feels so much better to retain employees – not to mention profits. Just as it is not wise to plant a tree and neglect it until it is stressed beyond saving, it is not wise to do the same to the most valuable asset of your company.

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Dick Miller knows that having the right tools for the right job can make all the difference.
John Deere Power Systems has introduced a new PowerTech 8.1 L engine with additional horsepower. The 8.1 L model lineup now ranges from 172 hp to 325 hp (128 to 242 kW). The new PowerTech 8.1 L engine with an intermittent rating of 325 hp (242 kW) is one of the many power choices in the John Deere PowerTech line, which ranges from 0.9 L to 12.5 L. Other enhancements include a new fuel system, standard air-to-air cooling, and improved electronic controls. The new engine meets Tier 2 emission requirements, while the new fuel system and full authority electronics allow for higher injection pressures, better timing control and more precise control of fuel injection. The air-to-air cooling system allows for better low-speed torque performance, lower fuel consumption, increased engine life, and less overall heat rejection. For more information, call (800) JD-ENGINE, e-mail jdpower@johndeere.com or visit www.deere.com/jdpower.

The Morbark Model 4000-P coloring system is now built with a heavy-duty tilt hopper, allowing easier access to lower augers and making maintenance and service easier. The hydraulic tilt function also allows easy clean-out of the top hopper by simply dumping material. The 4000-P produces colored wood waste at rates in excess of 200 cubic yards per hour. The Morbark Coloring System will handle the output of the most productive grinders. This portable mulch coloring has three feed augers and two mixing augers, along with 18 replaceable colorant nozzles. An anti-plugging system prevents jamming of material while a folding discharge conveyor enhances portability. For information, call (800) 831-0042 or visit www.morbark.com.

RedMax has introduced the HB2300, a compact handheld blower. Powered by a 22.5 cc two-cycle engine, the HB2300 develops a maximum air speed of 150 mph and maximum air volume of 353 CFM. An optional nozzle increases volume for tough jobs like moving wet leaves, mulch and debris. The noise level of the 7.9 lb. unit is 68 dB(A). The unit is completely enclosed in a durable red case and doesn't look like a typical hand-held blower. For information, contact RedMax, 4344 Shackleford Road, Suite 500, Norcross, GA 30093. Phone (800) 291-8251, Ext. 213; fax (770) 381-5150; or visit www.redmax.com.

Bandit’s 19-inch capacity Model 1900 towable and self-propelled tree and track whole tree chippers have been redesigned with a hydraulic feed system that nearly doubles its crushing and pulling power. The change allows 6- to 8-inch diameter capacity limbs to be folded, crushed and broken to feed into the chipper. The loader swing system features a dual motor drive, making the loader more responsive, increasing production while reducing wear to the loader ring gear. The Model 1900 Tree Bandits have been used for harvesting whole trees and producing paper chips and fuel wood chips. For information, call (800) 952-0178.

Praxis Corp. manufactures a 13hp Stump Machine that is highly portable and made from thick-gauge American steel and assembled using American components. The Stump Machine will grind down a 3-foot diameter oak stump to 6 inches below ground level in 30 to 40 minutes. Its 13hp Honda engine with Cyclone air cleaner powers an aggressive cutting blade with 12 tungsten carbide tips. Other features include a Noram high-performance centrifugal clutch, high torque drive system, heavy-duty disc brake system, low-vibration, dual-grip operator handle, Ingersoll Rand Fafnir bearings, super traction Sno Hog tires, Super 2 Vee banded drive belt and fast-change oil drain. The machine weighs 240 pounds and comes with a video on its operation and a step-by-step video on sharpening. Praxis also provides training and equipment for sharpening and maintenance. For information, contact Steve Hooser, Praxis Illinois Corp. at (888) 316-8200 or www.stumpmachine.com.
Sheyenne Tooling & Manufacturing has introduced the Quick-Tach Grapple, which attaches to and detaches from the bucket or fork on all popular skid-steer loaders. It detaches easily so operators can remove it quickly when they want to use the bucket alone. This can help prevent the accidental damage when grapples are kept in the raised position while the operator uses only the bucket. The four-tooth grapple comes in a choice of two teeth sizes, enabling it to retrofit most buckets on the market. In addition, the tooth pivot angle adjusts. The teeth are spaced at 15 inches and are high-carbon R100 steel for extra strength and durability. The unit has two 2-inch-by-8-inch hydraulic cylinders that are shielded to protect the hoses from catching on obstructions and tearing loose. For more information, call (800) 797-1883 or write to Sheyenne Tooling & Manufacturing, 7th & Lenham Ave., PO Box 647, Cooperstown, ND 58425, visit www.sheyennemfg.com or e-mail mail@sheyennemfg.com.

The Porter-Ferguson Division of Lowell Corp. offers two heavy-duty brush cutters and one point cut pruner. Applications for the tools include heavy pruning, brush and root cutting, routine trimming in nurseries, and highway, utility, farm and general property maintenance and clearing. The Forester Model 029OF is 27 inches long, weighs about 4½ pounds, and has a cutting capacity of 1½ inches; the Forester Model 039OF is 34 inches long, weighs 7¼ pounds, and is designed to cut 2-inch material. The brush cutters feature two cutting blades made of forged alloy tool steel that is heat-treated and ground to ensure long cutting life. Handles are made of heat-treated spring steel. Both Forester models have a slide power shift. The Porter Point Cut Pruner is designed for cutting small- and large-diameter material. It can cut down to its tips with minimal handle spread, making it ideal for nipping suckers. The handles open wide for cuts of material up to 1½ inches thick. Like the Forester models, the Point Cut Pruner has two cutting blades made of heat-treated and ground alloy steel. The pruner is 24 inches long and weighs 3 pounds. Porter-Ferguson is a division of Lowell Corp. For more information, call (800) 456-9355 or (508) 835-2900, or e-mail customerservice@lowelicorp.com.
Bobcat Announces '500K Contest'

Bobcat Company, a business unit of Ingersoll-Rand Company, announced the start of the “Bobcat 500k Contest” to celebrate production of its 500,000th Bobcat skid-steer loader. Compact equipment users who share stories about their toughest jobs – jobs that tested both operator and loader endurance – will have a chance to win one of 500 prizes. The grand prize winner will receive a 500K Limited Edition Bobcat 773 loader. Seven second prize winners will receive a $2,500 Bobcat attachment certificate, and 15 third prize winners will receive a $500 Bobcat attachment certificate.

Additional prizes include radio-controlled Bobcat models and Bobcat die-cast model collectibles.

Grand prize and attachment certificate winners will be determined mid-November and announced by early December.

Callbacks

Readers of the February issue of TCI magazine (who are less spatially challenged than the editors) noticed that the photo and caption on the left are incorrect. That would depend on which side of the road trucks drive in your country.

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Bayer Acquires Compass Fungicide

In December, Bayer Professional Care acquired Compass Fungicide (trifloxystrobin) from Novartis. The Bayer group now holds all patents, marketing authorizations, trademarks worldwide, and production and formulation expertise for the strobilurin-based fungicide line.

Compass, a broad-spectrum disease control product for golf courses and lawn and landscape ornamentals, offers systemic activity. Compass stops diseases on the surface of the plant and then locks into place due to its high affinity with the waxy cuticle of the plant. The result is a protective reservoir of fungicide for disease control.

Compass delivers the high level of broad-spectrum efficacy found in contact products, while offering the low use rates found in systemic products. It is particularly active against brown patch.

Compass expands the fungicide offering from Bayer Professional Care, joining Bayleton 50 Fungicide (triadimefon) in the control of diseases on flowers, foliage plants, shrubs, turf and shade trees.

For more information about Compass Fungicide and Bayer Professional Care, call Sara Buck at (800) 767-5021, Ext. 1299.
Introducing the JA14 by Jameson...

An advancement in pruner head performance.

The JA14 by Jameson is a compound action pole pruner head with a 1-1/4" cutting capacity. The compound action delivers extra power to the cutting blade plus allows the pulley arm to remain shorter and less likely to tangle with surrounding branches. The JA14 will mate to most 1-1/4" diameter round mounting surfaces.

What puts the JA14 in front of the pack are these advancements:

- All forged steel working components: forged hook, blade and pulley arm.
- Sharpened hook creates cutting action from the top and bottom.
- Oversized spring mounting pins reduces pin bending and breaking giving more up time in the field.
- Optional swivel pulley model (not shown) creates less friction against pull rope and reduces user fatigue.

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Dealer inquiries welcome.

No Job Too Small

By: Jeffrey Lee, Branch Management, Riverside, CA (909) 276-8060
Sponsored by The Bishop Company for the advancement of our industry.

It was Friday afternoon. The busy week was winding down, and Max Bunyan was finishing up the task of putting the equipment away for the weekend. At that moment, the phone inside Big Al Fontaine's cluttered office rang. Reluctantly, Big Al picked up the receiver and heard the Widow Carter's "nails on the chalkboard" voice reciting a story about the tea party she would be hosting on Saturday morning. Al rushed to flag down Max before he could leave the yard for the weekend. "The Widow Carter needs a branch removed from the oak in her back yard," Al bellowed. "It's hanging too low in her patio and she needs it removed today."

Thinking this would be a "quickie," and not wanting to unload a bunch of climbing equipment, Max ingeniously strapped a 16-foot extension ladder to the back of his pickup and headed to the Widow's gracious cottage.

After pulling into the driveway, Max made his way to the back yard. A brief discussion with the frail old woman sent Max to his truck for a ladder, and then to the oak tree in the back yard. The oak's sprawling canopy extended majestically over the Widow's house and shaded her entire yard. Max leaned the ladder against the lateral branch he intended to remove. The top rung of his ladder barely peered over the branch, which extended 20 feet from where Max started his first cut. Max was just beginning the second cut when he heard an ominous creaking sound from within the branch. Then POW!! Like a bomb, the branch snapped off at the cut. The remaining stub, which supported Max's ladder, leaped into the air. Max flailed and grabbed and held on for dear life. Helplessly, Max found himself using his own body to bridge the gap between the now 21-foot high branch and the 16-foot tall ladder. Well, well, well! If time could only reverse itself, poor Max (the one-man traveling circus) probably would have considered these other simple, but important options before he started this job:

Have a game plan:

Max showed upon the jobsite without a clue as to what was really going on. He had no climbing equipment, and was mentally unprepared for tree work. ANSI Z133.1 mandates that a job briefing work procedure shall be worked out carefully before any tree job is begun.

Proper equipment:

Once a sound game plan is established, be sure to include the equipment appropriate for each particular job. There are times when climbing isn't necessary - when a pole saw or a pole pruner might do - but whatever the case, use equipment that can reach and do the job safely.

If a ladder is to be deployed, be sure to use the proper methods of set up.

Never work alone:

Once a plan is in place, and the right equipment is inspected and on the job, safety dictates the presence of a second person. Many times, a second person can prevent accidents and be a second pair of hands in case the unforeseen occurs, whether it be rendering minor first aid or performing an aerial rescue.

Remember, accidents don't only happen on "big" jobs. Treat every job as if it is a "big" job.

By: Bishop Company, 1-800-421-4833

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Please circle 16 on Reader Service Card
Number of Free-Agent Workers Increasing

By Robert Rouse

Studies show that since 1980, the number of free-agent workers in the United States has more than doubled, with 1 in every 5 workers now classified outside the traditional labor force. A free agent is someone who works on a project basis, moving from assignment to assignment and company to company. By the year 2004, the number of free-agent workers is predicted to grow by another 11 million workers. Some experts predict free agents will comprise more than 50 percent of the skilled workforce in the next millennium.

Studies also dispel one myth about free-agent workers - that they want to start their own business. The American dream is changing, but it's not taking the form of everyone wanting to be an entrepreneur. People want control of their careers, but they

Results of Survey on Free Agents in the U.S.

1. Millions of today's workers are interested in becoming free agents.
   - Nearly 11 million workers are prepared to switch jobs and "definitely" enter the work force as a free agent if they are able to retain their level of pay and health care benefits without increasing their hours.
   - Fifty-seven percent of all workers have considered non-traditional employment, including work as a free agent.
   - Twenty-two percent of the full-time work force consists of free-agent workers.
   - The presence of free-agent workers in the workforce will expand in the future.

2. Today's worker has reinvented the "American Dream."
   - The "American Dream" is changing from owning your business to being your own boss. Being your own boss does not necessarily mean owning your own business.
   - This research dispels the myth that a large population exists within today's workforce that wants to run its own business.
   - People want control of their destiny, but they also want an employer.

3. Who is this worker of the new millennium?
   - The worker of the new millennium wants his or her job to reflect their educational experience.
   - The worker of the new millennium is educated. More than 70 percent of workers who will "definitely" become free agents have completed college coursework.
   - The worker of the new millennium is continuing his or her education to enhance skills and advance his or her career.
   - This worker is young, ambitious and looking for control over his or her destiny. Many will find this freedom as free-agent workers.

4. Many workers are seeking free-agent employment to escape current job restrictions.
   - A large majority of future free-agent workers are dissatisfied with the restrictions of their current employment.
   - Free-agent workers are more focused on career advancement than on length of time spent with an employer.

5. Professional workers are pursuing free-agent employment.
   - Thirty-eight percent of workers who will become free agents classify themselves as professionals.

6. Midwest states take the lead for free-agent workers.
   - The largest number of workers who will leave their jobs for free-agent employment will come from the Midwest.
still want an employer. They need an “agent” to help them find jobs and manage the other human resource issues around being a free-agent worker.

This is especially true in tree care. Many young arborists have the motivation to increase their income and possess the skills needed to run the technical operations portion of a business. What they lack is the entrepreneurial skills that are needed to run a successful business. For this category of arborists, free agency is becoming a more common option.

Employers must be able to tap into this workforce if they want to have access to this talented group of employees. Yet employers must understand that the free-agent workers have different needs and are motivated by different things than the traditional workforce.

For employees wanting to become free agents, there are cautions. Having the right skills, and continuing to build those skills, is the key component of success in the free-agent market. In addition, you must consider the impact of free agency. Many of the barriers to free-agent work are centered around the inability of people to have easy access to health care. Crafting individually tailored health and benefit packages to accommodate free agents is difficult, expensive, and in reality, often impossible for many tree care companies. This is especially true when the contract periods are short or part-time. You must look carefully at the tree care companies you plan to contract with and gauge how willing and able they will be to provide benefits. You will need to consider providing for your own health benefits.

For tree care companies, free agency is full of pitfalls and potholes. The key for
Student Career Days 2000 at TCI EXPO was a great success! The continued growth and support of this event is a positive reflection of the tree care industry at large. Here’s what some of the student advisers had to say about this year’s events:

“My students really enjoyed the meeting. The efforts NAA staff and TCI EXPO attendees made to make all students feel welcome are very important.”

- Tom Green, Western Illinois University.

“My students are starting to view this as a two-way street. They look to see which companies have a presence each year at Student Career Days and TCI EXPO. This event has become an important factor in deciding which company to join.”

- John Ball, South Dakota State University.

NAA Student Career Days Field Day was held at Bartlett Tree Research Laboratories in Charlotte, N.C. Students participated in workshops on cutting-edge techniques researched at the lab, such as root collar exams, treatments for soil compaction, and plant health care techniques. Stihl product specialists led workshops on chain saw field maintenance.

In addition, students competed for fun and prizes in the Tree Care Skills Competition. The competition featured a work climb and throw bag competition as well as a safety and arboriculture exam. Awards were presented on the TCI-EXPO trade show floor so that student competitors were recognized by the tree care industry as a whole.

Thanks to all the NAA-member tree care companies and associate member companies that partnered with the NAA to make this event possible. Thanks to all the students who made this event a great success!

Remember to mark your calendar for NAA Student Career Days 2001 at TCI-EXPO, Nov. 1 through Nov. 3 in Columbus, Ohio.
may simply be looking for a way to increase income. Others, such as experienced climbers, might be looking for a way to concentrate on the types of jobs they like doing, such as challenging take downs, in addition to any increase in income.

Can free-agency work for your company? That answer really depends on each individual case. The most common use of free agents in tree care is by small and growing companies. The company might hire a free agent specializing in particularly difficult take downs. The jobs might be limited to one or two days per week. The employer provides the crew and schedules the work. The benefits of this arrangement are that the employer doesn't have to hire and pay benefits for a full-time employee, especially one whose skills would not be utilized on a full-time basis. The employee is free to contract with other companies to keep busy on a full-time basis, maximizing the worth of the skills he has learned. Please also note: If you choose to "hire" a free agent and then use him or her as an employee, there are serious tax and OSHA implications.

Robert Rouse is a staff arborist with National Arborist Association.

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**Adopt a High School**

*By Thomas L. Green Ph.D.*

The arborist profession has experienced a worker shortage for years. One of the fundamental reasons for this problem is that we arborists do not do a good job of selling our profession. People and students especially do not know what an arborist is or does. High school graduates are not seeking careers in arboriculture because they do not know of such careers. Most have never heard of the word arboriculture, or if they have heard of the term, they still do not know what it means. High school guidance counselors also do not know what arborists are or do. With rare exception, few high school graduates ever attend colleges seeking careers in arboriculture. Ironically, traditional forestry pro-

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grams still attract students who find out upon graduation that there are more traditional forestry graduates than traditional forestry jobs. Those who finish in arboriculture/urban forestry (A/UF) find more jobs than people to fill them.

Almost all A/UF students at Western Illinois University come through the “back door.” That means they started at Western (or transferred in) in some major other than A/UF. One college administrator told me that about 70 percent of the students end up in a different curriculum than what they declared as freshmen. Very few of my students come in the “front door” – i.e. come to Western because of the A/UF program.

Another fundamental problem is that high school students are not learning much about botany. In a recent survey of my forestry (A/UF) students, I confirmed what I already knew: At least in Illinois, and I expect elsewhere, high school students are not taught botany. Almost all my students responded to the questionnaire that their botany training in high school was “below average,” “poor” or “none.”

What does this mean? Our high schools are not doing a good job teaching students about the green industry. I don’t know how to encourage high schools to teach more botany. So, it is up to the industry to teach the students. It is up to the industry to take its information about arboriculture to the students.

Job fairs
Most high schools have job fairs where companies, colleges, professionals and others can pitch their programs to high school students. Sometimes these are held at high schools. Sometimes job fairs are at public facilities where high school students can obtain passes from school administrators to attend. There should be an arborist at each job fair. In 1998, at the annual Illinois Arborist Association meeting, I gave arborists a CD-ROM, Careers in Arboriculture, and asked them to take the CDs to a high school near their work or home. The idea was to play the CD or give it to the students and talk about and promote their profession. A second-generation CD, Careers in Arboriculture in the United States, is now available for arborists to take to high school job fairs to promote the arboriculture profession.

Fun and games
Young children love fun and games. Young children love to climb. At the International Tree Climbing Championships, children are busy climbing all day. High school students also love to climb. For the past two years, the arboriculture industry has set up ropes for climbing at the National FFA Convention. Here thousands of high school and college students, many from urban schools, are exposed for the first time to climbing. The lines of students waiting to climb are long. For college students, there is the National Arborist Association Student Career Days at TCI-EXPO and SSA (Student Society of Arboriculture). The college students love to compete. They love to climb. They love to win prizes. However, very little is being done to get high school students in saddles and on climbing ropes.

I believe that the NAA, ISA, local arborist associations, ISA chapters, and/or tree protection associations could work together with city foresters and park directors and get high school students out climbing trees. With a few corporate sponsors, the students could get T-shirts, carabiner keyrings, and other rather inexpensive gifts and professional instruction for a day of tree climbing and competition.

Work/study programs and internships
Many high schools have work/study
programs that allow seniors to work outside of school for half days. There may be opportunities to employ students who can work half days. Summer employment for high school students is another option. Keep in mind that there are special safety restrictions and procedures limiting the type of work those under 18 can perform. Contact Bob Rouse at the NAA by emailing Rouse@natlarb.com to receive an e-mail on employing youths under 18.

Many college students must have an internship to graduate in certain college majors. My students are not required to have an internship but are strongly encouraged to work in the profession during summers. BE CAREFUL with high school student employees and college student internships. If they drag brush all summer or are stuck is some routine monotonous job and left there, you will burn them out before you get them, and they will seek another profession. Internships for college students should involve them in all facets of the profession.

Groundhog Job Shadow Day

Participate in the Groundhog Job Shadow Day student mentoring initiative developed by Secretary of State Colin Powell's America's Promise. The NAA has joined this nationwide program that introduces young people to the world of work by giving them an up-close look at the workplace. This year, more than 1 million young people and 75,000 businesses participated.

Many middle and high school students don't have the opportunity to explore various career options. Groundhog Job Shadow Day's goal is to give students a chance to explore various careers beyond what their parents may do for a living. Additionally, Job Shadow Day provides an opportunity for students in at-risk situations to be exposed to various career options they might not have the chance to explore otherwise.

Cynthia Mills, president of the NAA, challenged the NAA members—active and associate, U.S. and abroad—to each identify one student to work with next Feb. 2. Mills noted that, “We’ve all got employee problems. We all moan about the lack of awareness of arboriculture as a viable career. We all say we suffer from a lack of public awareness of our industry. If each NAA tree care company participates in this one activity with only one student—that is, 2,700 kids—at least 2,700 parents, and who knows how many schools, will learn about careers in arboriculture.”

This national program provides free materials to participating companies. For a free kit, go to www.jobshadow.org/get Started/howto_kit.html

Professional meetings

Each local ISA chapter, tree protection association and/or arborist association should be working toward attracting high school students to their professional meetings. High school students were invited to the last Illinois Arborist Annual Meeting, with their registration picked up by corporate sponsors. IAA members were willing to serve as mentors. The IAA now has a committee to expand the IAA-high school interaction. For the next IAA Annual Meeting, there are plans to split educational sessions and include some that are specifically for students.

Arborist industry commitment

I believe that part of the solution to the worker shortage problem is for our industry to make a commitment to promote itself better and to get involved with a community high school. There is a tremendous resource out there that we are not reaching. Be there at their job fairs. Get involved in your local arborist association, ISA chapter, and/or tree protection association to develop a "high school or student" committee. Find ways to help your community college or four-year school that offers an A/UF program.

There are probably many success stories of arborists interacting with high schools and high school students. If you have one, please share it with me by emailing me at tl_green@wiu.edu, and I will compile them for a future article.

Thomas L. Green Ph.D. is an Urban Forestry Professor at Western Illinois University.
The Sidekick is an invention by arborist Timothy H. Epperson of Durham, N.C. The device is a small, lightweight pole with a hook on one end of it. The 15-ounce pole extends from 27 inches to 9 feet and is designed to place and retrieve climbing, rigging or lowering lines to and from places in trees that are potentially dangerous to climbers — places such as the outer branch crotches with rigging lines to “lift” branches up and away from roofs, lines, etc.; or those few extra feet up into a dead tree’s rotten crownwork on a windy day.

The Sidekick attaches to the climbing saddle with a snap hook and chain. It extends easily by twisting the sections counter to one another. The uppermost section is extended using the thumb and forefinger. Once extended, lightly tightening it will hold the extension. For added ease, a Velcro patch atop the beaded end of the retrieval hook keeps rope from falling off if you want to place a small monkey fist into a difficult-to-access limb crotch directly above a climber.

Unlike a pruner pole, the Sidekick has no cutting blade, making it easier to handle and less dangerous to ground personnel should a worker drop the device while in a tree. Also, the lightweight Sidekick can be retrieved and carried with one hand, should a treeworker accidentally leave the Sidekick in the tree while descending.

A serious note of caution: The Sidekick is made of aluminum. It should not be used anywhere near the vicinity of wires that conduct electricity.

Timothy Epperson has been a full-time arborist for 23 years. He can be reached at 118 Clark Lane Read, Durham, NC 27707 or (919) 489-5678.
# Brush Chipper Knives

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The Federal Minimum Wage Law

Let's start with the Federal Minimum Wage Law. Because of the way the law is enforced, it is possible even for people who pay well over the minimum rate to violate the law.

Federal minimum wage is $5.15 an hour. The law, like everything else, is enforced on a workweek basis. A workweek is defined as a fixed and recurring period of seven consecutive 24-hour days. It is established by the employer and is not subject to change, unless the change is intended to be permanent.

Everything in Fair Labor Standards Act is on a workweek basis. This means that you have to look at what your employees earn each week and divide that amount by the number of hours they worked in that week — and the result better be at least $5.15. (A few states, such as California, New Jersey, Alaska and the District of Columbia, have higher minimum wages.)

Mistakes are made in paying minimum wage when an employee is paid commission, piece rate, or production bonuses. One of your salespeople may have made $50,000 last year, but what if he has a bad week? If he does not earn the minimum wage in one week, then you must bump him up to the minimum wage in total weekly earnings.

The other way that you can make mistakes is through deductions that benefit employers, such as cash shortages, breakage or bad credit cards. For example, what if you have an employee who damages property, and you want to take the money out of his paycheck? Federal law says that you can deduct from an employee’s weekly pay, but you must leave the employee with the minimum wage.

For example, let’s say an employee makes $6.15 per hour — a dollar an hour over minimum wage. In a 40-hour week, you could deduct $40 from his pay to recover the money owed for damages the em-
ployee caused. I hasten to add that laws in virtually every state require an employee's written consent for a deduction, and some states prohibit deductions altogether. This is one area where state laws are actually tougher than federal laws.

In overtime work weeks, you can only dock the employee down to the minimum wage for the first 40 hours. You can never dock them anything out of overtime hours. There are certain deductions that are not restricted by the FLSA. The first of these, obviously, are legal deductions. Employees may gross the minimum wage and net less after taxes, health insurance, child support payments, etc. These are legal deductions.

Cash advances of salary can also bring an employee below the minimum wage. You all know the drill. An employee comes to you in the middle of a pay period and asks for a cash advance. You advance him the cash, and he quits, still owing you money. In this case, you can deduct straight down to zero, since you prepaid the minimum wage when you gave him the advance. Before you hand out any cash, get an acknowledgment of the cash advance in writing and get an authorization that states that you, as the employer, will be deducting the amount from the next pay period. Use the magic words: "I authorize my employer to deduct it from my pay."

Vacation time comes under the same principle. If you advance vacation time before it has been accrued, you can recoup it, even if it cancels out a paycheck. Again, you must get this in writing.

If you permit an employee to make purchases from you — to buy computers, old trucks, or anything else — and then take the payment for the purchase out of his paycheck, that is just fine. Keep in mind that this does not apply to things that employees use on the job. For example, if they buy fuel, uniforms or safety glasses from you, that is considered a deduction and it is governed by the rules of deductions for the employer's benefit. If you had an old truck that you did not need anymore and an employee wants to buy it and have it deducted slowly from his paycheck, that would be the arm's length type of purchase I am referring to here.

Watch out for specific laws in your state, since most state laws are tougher than federal law.

Note that there is a difference between minimum wage laws and wage payment laws. A lot of states have wage payment
Overtime

For most employers in the tree care industry, the major impact of the Fair Labor Standards Act is overtime compensation. The law requires that you pay time and a half of an employee’s regular rate of pay for all hours worked over 40 in a workweek.

In order to understand some of the positions the Department of Labor takes, you need to understand the purpose behind overtime. Most people think that the purpose of overtime is money. That is not the principal intent. This law was passed in 1938, right in the middle of the Great Depression, when unemployment reached upwards of 25 percent. Congress made a policy decision that if an employer had 120 hours worth of work, three people should work 40 hours rather than two people working 60 hours. Consequently, Congress made it more expensive for employers to work people more than 40 hours per week.

Overtime is calculated as time and a half of an employee’s regular rate of pay. Let’s start with the workweek basis of enforcement. A workweek is a fixed and recurring period of seven consecutive 24-hour days. It begins whenever the employer wants it to, and it ends 168 hours later. You may select Monday through Sunday or Thursday through Wednesday. Once you have picked your workweek, you have to live with your selection. You may not change it seasonally. You may only change it if you intend to make a permanent change.

There are three consequences of the workweek basis of enforcement. First, there is no requirement under the FLSA for daily overtime. It begins whenever the employer wants it to, and it ends 168 hours later. You may select Monday through Sunday or Thursday through Wednesday. Once you have picked your workweek, you have to live with your selection. You may not change it seasonally. You may only change it if you intend to make a permanent change.

There are three consequences of the workweek basis of enforcement. First, there is no requirement under the FLSA for daily overtime. It begins whenever the employer wants it to, and it ends 168 hours later. You may select Monday through Sunday or Thursday through Wednesday. Once you have picked your workweek, you have to live with your selection. You may not change it seasonally. You may only change it if you intend to make a permanent change.
triggering an overtime obligation. A few states, like California, require daily overtime after eight hours.

If you have an employee that works 12 hours Monday, and works a normal 8 hours Tuesday through Thursday, on Friday at noon – after four hours of working that day – you can tell that employee to go home because the 40-hour limit has been reached. This scenario is perfectly legal. The employer is free to move the employee's hours around within the workweek in any way, thereby avoiding overtime. Once the employee has worked 40 hours, then anything over that within the workweek is time and a half.

The second consequence of the workweek basis of enforcement is that you may not average workweeks. If you pay every two weeks - normally after 80 hours - and an employee works 48 hours one week and 32 the next, you owe overtime for the 48-hour week. You may not average it out over the two weeks.

The third consequence is that there is no compensation time for overtime in the private sector. You cannot meet your legal obligation to pay overtime by giving employees time off – even if they want to work this way. If, like many companies, you like to bank hours during the busy season and let employees take off those hours in the slow season, you are violating the Fair Labor Standards Act. The public sector can do it; you cannot.

Holidays, vacation and sick days

Let's look at another scenario: An employee receives a paid holiday (eight hours) on Monday. (This could also apply to a vacation day or a sick day.) The employee then works Tuesday through Saturday, accumulating 48 hours paid, and 40 hours worked. Employees want eight of those hours to be overtime, but that is not legally required. You pay overtime only after 40 hours actually worked in the workweek. Not paid, but worked. Paid time off is allowed to be counted toward overtime if the employer wishes, but it is not a legal requirement.

Now, the calculations get difficult. The law says that you are supposed to pay time and a half of the employee's regular rate of pay. The phrase “regular rate of pay” can be misleading. If an employee normally receives $10 per hour, you might think that is his regular rate of pay. That's not necessarily so. The regular rate of pay is a highly technical, legal concept.

Rate of pay is determined on a workweek-to-workweek basis. Your regular rate of pay – the pay on which overtime is based – is determined by dividing the total dollars attributable to the workweek divided by the total hours worked in the workweek.

In other words, the regular rate of pay must include base pay as well as production bonuses, commissions, on-call pay, shift differential, push money, education, longevity and training pay. You pay overtime on all compensation, not just on base rate.

Let's assume that an employee who worked 50 hours this week earned a $100 bonus. That means the employee’s rate of pay was increased by $2 per hour. If an employee earned an annual bonus of $5,200, then you must allocate $100 per week to each of the 52 weeks in the previous year and retroactively calculate the additional overtime due by virtue of having raised the employee’s average rate of pay. This is the most complicated and most often violated portion of the FLSA.

Let me give you some examples of regular rate. If you have an hourly employee that makes $10 per hour and works 40 hours, then his regular rate of pay for a 40-hour week is $10. If in one week the employee earns an $80 bonus, divide the $80 by the number of hours (40) and you get $2 per hour, which must be added to the $10 per hour base pay. For that week, he was a 12-per-hour employee. If he worked 10 hours of overtime, he must be paid time and a half at the base rate of $12, or $18 per hour.

There are payments you can give to an employee without triggering additional overtime pay, such as Christmas bonuses, vacation pay, holiday pay or sick pay. You also do not have to pay overtime on a bonus if the bonus is discretionary.

A discretionary bonus is defined as one in which the amount and the decision to
pay it at all is determined only at the end of the bonus period. For example, at the end of the year you look at your books and decide that you had such a good year you will give everybody a $1,000 bonus. The important fact is that the decision to pay a bonus and the amount were decided at the end of the year. That is a true discretionary bonus. There is no additional overtime calculation required. However, if you tell employees at the beginning of the year that if they work hard and the company does well they will receive a bonus, then the bonus is no longer discretionary. If you announce goals or targets that will trigger a bonus, then the bonus is no longer discretionary. If you announce formulas or quotas, then it is not longer discretionary.

Money that you put into a group health or life insurance plan, pension or 401(k) is not part of the regular rate either. It is not subject to overtime. You also do not have to pay overtime on overtime. If you pay your employees any kind of premium at all for working over eight hours in a day or 40 in a week, then that is not part of the regular rate. If you have a union contract that calls for time and a half for work outside of normal hours, you do not have to pay overtime on that.

Here is another trap employers sometimes fall into. You must pay for the actual hours worked, and not just the schedule. Say you interview someone who says that he needs $550 per week. You agree to that, but you tell that person that he will need to work a 50-hour workweek to earn $550. That is agreed to also. You set his pay at $10 per hour, because if he works 50 hours with the straight time and overtime it will come out to $550. Everyone is happy.

Well, every once in a while, you may not have 50 hours worth of work for him to do, but because you are a nice guy and he is a good worker, you pay him $550 anyway. That guy thinks that you are the greatest employer that he ever had. This goes on for years. The payroll records show an hourly rate and time and a half. They show 40 hours of straight time and 10 hours of overtime every single workweek.

One day, an investigator comes in and looks at the payroll records and goes to talk to that happy employee. He asks the employee how he gets paid and the employee tells him that he gets $10 per hour and time and a half when I work over 40. The investigator has a hard time understanding how that employee has never missed an hour of work. The employee tells the investigator that once in a while he does not work 50 hours, but the employer is a great guy and he pays me whether I am here or not. The investigator smiles and the employer is in trouble.

Remember the purpose of overtime? To spread employment by making every single hour over 40 cost more money. The Department of Labor will treat that as a de facto salary. They will say that the employee makes $550 per week with no overtime since he has worked an average of 50 hours a week. Overtime on this would be 10 percent, so that would be $55 a week in back wages times 100 weeks in the two-year period and that's $5,500 that the employer owes in backpay. Can you imagine having 10 employees that the employer has been so nice to? This kind of thing happens every day.

No matter how you pay, whether it is hourly, commission, piece work, incentives, or any combination of these, fundamentally, you are dividing by actual hours worked and you are paying them according to the hours that they actually work. You have to do everything based on the number of hours worked.

There is one type of bonus that you can give your employees where you don't have to do this additional calculation. It is a bonus as a percentage of total earnings. Let's say that you set an employee up with an hourly rate of $10 per hour, but you actually pay her according to the hours that she works. She gets 40 hours at straight time and the rest at time and a half. If you want to give her a bonus, tell her that it will be 10 percent of total earnings. Because total earnings include overtime, so does the 10 percent. A percentage of a number that has overtime does not require an extra calculation.
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This tree care crossword puzzle appeared on page 76 of the March issue of TCI magazine.

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Educational sessions highlight the business side of Winter Management Conference. Sessions on "How to Sell Against a Cheaper Price," "Fresh Thinking" and "Building Your Business to Last... Forever" drew serious and enthusiastic crowds. Frank Bucaro (shown here) stressed the value of ethics in a successful business in his talk, "Taking the High Road."

Among other honors, Pat Felix was bestowed the NAA's Award of Merit for almost three decades of service to members.

Outgoing Chairman Jim Allard with Asplundh Tree Expert Company formally hands over the gavel to the NAA's new chairman, Hartney Greymont, Inc. President Mark J. Tobin.

From left, Jim Allard, Asplundh Tree Expert Company, Mark J. Tobin, Hartney Greymont, Inc.; John Hendrickson, Hendrickson the Care of Trees; and Greg Daniels, The F.A. Bartlett Tree Expert Company, take people "Behind the Scenes with OSHA."

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Pine Island Sound was a fertile fishing ground for attendees who went out aboard four-passenger backwater flat boats.

The Welcome Breakfast featured more than eggs, including awards presentations and a report on arboriculture in Brazil.
The Jimmy Buffet Parrot Head Ball opened the festivities in style.

All herald the end of another successful conference. A Roaring '20s speakeasy theme, complete with casino, made the last night a memorable one.

Swamp buggies ferried guests through the wilds of southern Florida on the Babcock Wilderness Tour.

Through their financial support, the NAA's PACT Partners helped elevate the business and social functions at the conference.

LOOK INTO THE FUTURE
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Disaster Recovery

By Phillip M. Perry

You arrive at work one morning to find your building in flames. The fire department is doing its best to hose down the structure, but it’s apparent nothing will be left. Your inventory, your equipment, your business records . . . all gone. Your employees are standing around, stunned. Now what?

This experience can happen to anyone. Fires, windstorms and power failures — with their resulting data loss — can strike at any time. Floods, earthquakes, hurricanes and tornadoes make the nation’s headlines every year.

In the worst disasters, businesses fold. But financial losses can be severe even for those operations which manage to stay afloat. The loss of accounts receivable information, for example, means businesses don’t know who owes them money. Customer lists may be irretrievable, putting a crimp in future earnings. Recent disasters have put this issue on the front burner for many business people.

“Disaster planning was once seen as an overhead and insurance situation,” says Richard L. Arnold, founder of the Disaster Recovery Institute in St. Louis, which conducts seminars on the topic. “It’s true that in many cases insurance premiums will be much higher if disaster plans are not in place. But because of the severe effects that disasters can have on operations, planning for cataclysm has taken a more prominent position in the hierarchy of business priorities. Says Arnold: “In recent years there have been enough natural disasters that business owners view it as a necessity and auditors view it as prudent business planning.”

So what should you do now? “Every business owner needs a disaster recovery plan,” suggests Arnold. “Those who don’t have one need to get one. Everyone needs to ask: How long can I be down before it starts affecting my profits?”

Here’s a step-by-step process for getting your own disaster recovery plan into play. Consult with your accountant and attorney to flesh out the details.

Step 1: Gather critical information

When disaster strikes, it’s too late to think about gathering information from sources that have been destroyed. Now is the time to create the information resources you’ll need in a time of crisis.

“You should start by putting together your data bases of information,” recommends Jeffrey Williams, president of Binomial International, a disaster-planning consultancy in Ogdensburg, N.Y. “In deciding what data to include, imagine yourself trying to run your business from a phone booth. Then make a list of the contacts you will need to call.”

Paramount, of course, will be lists of customers and staff members. These may already be in a database that can be backed up; otherwise, you will need to create a file of names, addresses and phone numbers.

Once that’s done, put together a list of “emergency responders.” These are individuals you will need to call to get your show back on the road. Here are some examples:

- Attorneys, accountants and insurance representatives.
- Service firms that can accomplish tasks such as removing water from the premises, cleaning, removing rubbish, painting, repairing electrical and plumbing systems, replacing locks, and repairing and installing data processing systems.
- Real estate agencies that may assist in establishing an alternate base of op-
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erations while restorations continue. Make copies of all of the above data and store the copies off-site in a bank safe deposit box or your home.

Step 2: Assign duties.
“Things will go much smoother if everyone knows what they ought to do in a crisis,” says Williams. Based on the data you accumulated in Step 1, assign tasks such as the following:
- Calling all staff members and suppliers to let them know what has happened.
- Notifying suppliers and insurance companies.
- Arranging for repair work by plumbers, electricians and restoration contractors.

You should decide on an office to conduct recovery operations. This may be your home or another place away from the main business. A copy of your emergency phone number list and your recovery plan should be kept at this location. Have a computer system in place into which the latest data can be installed. Under the best of conditions, this computer would be updated regularly with business data.

Step 3: Maintain the plan
Don’t just write the plan once and put it on the shelf. “Every six to 12 months you should review your plan to make sure it’s up to date,” notes Williams. “People change. Either they leave the organization or they get new phone numbers.” You don’t want to be stumbling around looking for current information when disaster strikes.

Get More Information
For information about seminars and sample disaster recovery plans, see the files at the site of Disaster Recovery Institute, 111 Park Place, Falls Church, VA 22046 or visit www.dr/uselink.htm, then click on the “Disaster Resource Guide” hyperlink for a cornucopia of resources.

Phoenix Disaster Recovery Planning System, a computer program for disaster planning, may be obtained from Binomial International, 812 Proctor Ave., Ogdensburg, NY 13669 or online at www.binomial.com.

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Understanding the potential for financial loss ahead of time will make the actual and psychological losses less severe. Start by identifying those departments in your business that have the most impact on cash flow, and those which are critical to operations. Then develop an emergency plan to either ensure their continued operation or institute a substitute action to minimize damage. Pay special attention to developing fallback systems for telephone and computer operations.

No matter how careful your planning, there will be some substantial impact on your cash flow and profits in the event of a disaster. Draw up an estimate of the impact, by number of days of suspended operations. Ask the following questions: What inroads will be made by your competitors who can pursue your current customers? What will be the impact on your cash flow by day? How will a disaster affect your ability to sell and deliver goods and services? How much will it cost to get back up and running?

**Insure for losses**

Speaking of the cost of recovery, business interruption insurance can be a critical part of keeping you in operation while you recover from a disaster. Such insurance covers you for your loss of business income, and reimburses your necessary expenses when a natural disaster forces you to completely suspend operations. Yet fire insurance pays only to rebuild or to buy goods and property - it doesn’t pay for the loss of revenue stream while you are waiting to rebuild.

“If you have a fire, your property insurance will typically pay for rebuilding, but not for the other expenses you will incur to continue in business,” explains Don Griffin, director of business and personal lines at the National Association of Independent Insurers (NAII) in Des Plaines, Ill. Business interruption insurance will cover such expenses such as ongoing payroll, phone bills, rent, electricity, and reinstallation of phone and computer systems.

Many businesses cover themselves with six months worth of business income insurance. Your commercial property insurance policy may already include compensation for business interruption; if not, you will need to have a rider attached or seek coverage from another carrier.

“Hundreds of carriers now cover property insurance,” says Dave Unnewehr, senior research manager for the American Insurance Association in Washington, D.C. “It is a very competitive field so you can aggressively shop around.”

Unnewehr suggests checking for a company’s stability with the three major ratings agencies – Moody’s, Standard and Poor’s, and Best’s. “Look into intangible factors such as speed of payment,” he suggests. “Hurricanes, earthquakes and other disasters trigger a multitude of claims, so you want a company that has a good track record during such times.”

Griffin also suggests you purchase “contingent business interruption” insurance, which protects you against loss if your flow of goods or services from a supplier is cut off because of a covered peril. This insurance is particularly important if you rely on one source for most of your supplies.

This article has covered some of the basic steps in protecting yourself against loss from disasters. You may get additional information about contingency planning at the Web sites in the accompanying sidebar. Taking some time to develop a plan now will pay rich dividends in the future.
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The ancient Chinese reportedly had a curse for those who prefer tranquility: “May you live in interesting times.” Whether by curse or choice, OSHA has certainly had an interesting year. The agency’s final ergonomics standard continues to generate controversy—not to mention lawsuits—and the dust has yet to fully settle over its infamous opinion letter on home offices. Although the confusion and criticism generated by OSHA’s actions have only recently gained widespread attention, safety professionals are well aware that confusion and criticism have plagued OSHA since its inception.

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safety engineer or lawyer. To further complicate matters, just when a law finally seems settled, OSHA may issue an opinion letter or adopt an enforcement policy that changes everything. Or, the agency may propose a new standard that sparks acrimonious debate and inevitably leads to court battles.

Press coverage of OSHA's recent adventures has not answered a basic question raised by this state of affairs: How does OSHA make law and why does the agency do it that way? This article attempts to answer that question by showing that OSHA operates within a complex matrix of legal, political and historical constraints. Understanding this context will give safety practitioners insight into the creation of the laws that have such profound impact on their profession.

In the Beginning

The Occupational Safety and Health (OSHA) Act of 1970 is the source of OSHA's authority. The act created the agency itself and laid the foundation for every standard that has followed. The act itself contains no standards. Congress recognized that it would be unable to legislate effectively in such a technical field, so the act simply created the agency and gave it the authority to establish and enforce occupational safety and health standards. Unfortunately, the procedural requirements imposed by the act put the agency in an awkward situation from which it has never fully recovered.

The OSH Act was not passed in a vacuum. In 1970, Congress faced strong, conflicting pressures that found their way into the act's procedural requirements. Congressional leaders perceived the immediate need for mandatory safety and health standards ("Senate Report No. 1282" 5182), yet business-friendly legislators opposed giving OSHA the authority to write binding standards without going through the same rigorous public-participation process used by other federal agencies to make law (Queener 328). The resulting compromise satisfied enough legislators to ensure passage of the act, but left OSHA in a precarious position.

The First Two Years

Congress addressed the need for immediate action by authorizing OSHA to establish binding standards with no public participation for a period of two years. However, this sweeping power came with a major caveat—OSHA could only adopt "national consensus standards" and existing federal standards, and it had to adopt them verbatim.

A national consensus standard is one adopted and promulgated by a nationally recognized standards-producing organization, such as the American National Standards Institute (ANSI), under procedures through which interested parties have reached substantial agreement. An existing federal standard is one already created by another federal agency. Congress believed adoption of these standards without change would satisfy the business community's concerns because this community had already influenced their content.

In addition, Congress authorized OSHA to cite employers immediately for violations of the act's General Duty Clause, which requires employers to eliminate "recognized hazards" in the absence of a specific standard covering that particular hazard.

The Agency on its Own

After the initial two-year period, OSHA had the authority to establish a new standard or modify an existing one only through the public-participation process—called "notice-and-comment rulemaking," a process commonly used by federal agencies. This compromise was designed to make the act more palatable to employers; in fact, however, it unexpectedly perpetuated the problems created by the wholesale adoption of existing standards.

The Outcome

In 1971, OSHA adopted the bulk of its standards from existing consensus and federal standards. This action achieved

Life And Times Of OSHA's PPE Standard

OSHA's general industry standard for personal protective equipment (PPE), which requires employers to "provide" appropriate PPE, was adopted from a national consensus standard in 1971 (29 CFR 1910.132(a)). The confusion surrounding it mirrors surrounding the agency whole.

To begin, the word "provide" does not indicate who must pay for PPE. OSHA attempted to resolve this issue through opinion letters, but those letters were inconsistent and did little to solve the problem. OSHA then issued a compliance directive in 1994 (Directive STD 1-6.6) that required employers to pay for PPE, but the Occupational Safety and Health Review Commission invalidated that directive because it arbitrarily conflicted with OSHA's previous position (Secretary of Labor v. Union Tank Car Co.). Finally, OSHA commenced the notice-and-comment rule-making process in March 1999—a process that continues to drag on.

Simply stated, the so-called "national consensus" on PPE that OSHA attempted to codify in 1971 has produced nearly 30 years of confusion. To some extent, this typifies the history of the agency.
Congress’s goal of immediate action, but it saddled the agency with a problem it has yet to overcome. Simply stated, national consensus standards were never meant to be law; they were created as nonbinding suggestions that are not coordinated with each other and, in the author’s opinion, many were not drafted with the care and precision given to legislation.

In 1976, Robert Moran, then chair of the Occupational Safety and Health Review Commission, addressed this problem:

"... because of the rush in which the initial standards were adopted, we got a lot of would-be regulations that didn’t fit the act’s definition of what they should be and what they should do. The initial package (and virtually all of it is still around) contained in profusion standards which were:

1) not binding, not enforced and not written in terms that are amenable to enforcement;

2) not exclusively concerned with worker safety (that is, the safety of equipment, buildings, consumers, the general public and workers was intermingled);

3) not applicable to industry as a whole, or in some cases even to all parts of a single segment of an industry;

4) not without conflict and [various] inconsistencies;

5) not specific enough so that an ordinary businessman or employee could understand them (Moran 19-20)."

Furthermore, many of the standards in place merely stated that employers “should” – rather than “shall” – comply. Yet, the agency adopted these standards verbatim per Congress’s direction, thus leaving employers to wonder whether they were enforceable.

As a result, OSHA was forced to begin with an unwieldy, inconsistent and disjointed body of standards to enforce. Even Lane Kirkland, president of the AFL-CIO in 1980 and a staunch defender of occupational safety legislation, admitted that “this hodgepodge collection of standards and OSHA’s early efforts to enforce them probably did more to damage the initial acceptance of the entire program than any other single action” (Kirkland 730-31). It must be reiterated that this state of affairs was not entirely the agency’s fault – Congress had left it no choice.

That is what OSHA faced in 1971 and still faces today. The agency cannot create, modify or eliminate any standard without going through the lengthy notice-and-comment process. Given its finite resources, OSHA has focused its efforts on adopting new standards instead of revising the standards adopted during its first two years of operation. Although the agency was able to revoke a large number of the more inconsequential adopted standards via its “standards deletion project” of 1997-98, many re-
main in force today (“Preamble to Revocation Notice” 726-27).

Making a New Rule

Notice-and-comment procedures are designed to ensure that all interested stakeholders – employers, employees (often via unions) and safety and health professionals – have an opportunity to participate in the creation of a technically accurate, balanced, effective standard. This is often easier said than done.

Notice-and-comment rulemaking consists of four main phases. First, OSHA writes a standard. This can be a lengthy process – one that continues to grow as more layers of governmental oversight are added. A proposed standard can be developed internally or in cooperation with a committee of affected parties through a process known as “negotiated rulemaking.”

Next, OSHA formally proposes the standard and publishes all scientific data used to develop it. This is a crucial step – and mistakes can be costly. For example, in 1991, a federal appeals court refused to enforce part of OSHA’s lead standard because some data used to determine economic feasibility were not properly disclosed to the industry (American Iron and Steel Institute v. OSHA).

The comment period allows the public to examine the proposal and supporting data. Anyone may submit written comments to OSHA, and the agency holds public hearings, which allows interested stakeholders to provide live testimony and question agency officials and other witnesses. The duration of these hearings varies, depending on the proposed standard’s scope, complexity and origin.

For example, standards developed through negotiated rulemaking and other noncontroversial standards often generate little hearing testimony. Conversely, the embattled ergonomics standard required nine weeks of public hearings. More than 700 witnesses testified, and hearing transcripts totaled 18,337 pages; an additional 50,000 pages of written comments were received after the hearings concluded (“OSHA’s Ergonomics Chronology”).

Next, OSHA examines all comments received and evaluates their merit. The magnitude of this task also varies, depending largely on the level of employer response. For example, the agency’s 1987 standard on methylenedianiline (MDA) was developed through negotiated rule-making and received little public comment. Public hearings took only two days.

In contrast, standards developed internally or that face stiff opposition (such as the ergonomics standard) generate a large volume of criticism which requires a major evaluation effort. Based on its review, OSHA must then amend the proposed standard to reflect any legitimate concerns raised – or offer a rational explanation for not doing so.

Finally, OSHA publishes the final standard and explains how it addressed comments received. This explanation
allows the public to see that the agency has met its statutory mandate to evaluate and consider all comments. Any parties not satisfied with the outcome can mount a legal challenge alleging that OSHA failed to properly execute its procedural responsibilities. The final ergonomics rule contained hundreds of pages of such explanation — and legal challenges are already under way.

**Filling in the Gaps**

Clearly, creating a new standard is a major undertaking. OSHA likely made the correct decision when it elected to not engage in rulemaking to fix every problem that accompanied its wholesale adoption of standards in 1971. Instead, to address ambiguities and contradictions present in many of those standards, the agency has chosen to rely on informal enforcement guidance and letters of interpretation (“opinion letters”). These documents guide compliance officers and inform employers how the agency might handle ambiguities. Furthermore, OSHA simply does not enforce some of the adopted standards. For example, no employer has been cited for the use of “closed front” toilet seats (former 29 CFR 1910.141(c)(3)(iii)).

**Going Too Far?**

Few would object to OSHA’s use of discretion when the stakes are limited to toilet seats. However, the agency’s use of informal documents and enforcement strategies has not always been so successful when the stakes are higher. The most notorious example of an opinion letter gone awry is the December 1999 letter asserting jurisdiction over home offices. That letter attempted to address an ambiguity in the OSH Act itself, not a standard. Regardless of the legal merits of the agency’s position (which it quickly withdrew), OSHA made a politically unwise choice.

The political response to OSHA’s home office letter illustrates a primary employer concern about use of informal guidance documents. Simply stated, critics contend that through these documents, the agency attempts to circumvent its rulemaking burdens. A senior vice president of the National Assn. of Manufacturers recently told a congressional committee that “officials at OSHA seem reluctant to use the legal process of amending regulations because it is too difficult” (Baroody). The committee subsequently offered these comments about OSHA (and other executive branch agencies):

“Regrettably, the committee’s investigation found that some guidance documents were intended to bypass the rulemaking process and expanded the agency’s power beyond the point at which Congress said it should stop. Such “back door” regulation is an abuse of power and a corruption of our constitutional system” (“Non-Binding” 1).”

Recent agency actions have only fueled the fire. For example, a federal court of appeals struck down the agency’s cooperative compliance program in April 1999 because the program was not adopted through the notice-and-comment process (Chamber of Commerce v. Sheyenne Tooling & Mfg. 800-797-1883 • 701-797-2700 • 701-797-2584 Fax www.sheyennemfg.com

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OSHA). The agency had argued that it was merely a procedural enforcement strategy, but the court concluded that the program imposed new burdens on employers and should have been subjected to the public-participation process.

Other examples of alleged “back door” rulemaking include OSHA’s multiple attempts to change regulations covering arborists. In 1998, OSHA issued an opinion letter indicating that its logging standard—which had never before been applied to tree trimmers—would, indeed, govern commercial tree-trimming companies. The National Arborist Association (NAA) threatened to sue and OSHA retracted the letter. Then, in 1999, the agency issued another opinion letter stating that it was unilaterally changing the type of fall protection to be worn by tree trimmers working from aerial lifts. NAA again threatened to sue and OSHA retracted its letter. Although these incidents affected only a small number of employers, they vividly illustrate the critics’ allegations.

The ergonomics standard caused similar concerns. In the author’s opinion, the standard is one of the most vague standards OSHA ever adopted. Before it was rescinded by the new Bush administration, it left the agency with tremendous discretion to shape its actual impact on industry through enforcement strategy. In other words, OSHA’s information guidance documents would have played a large role in the practical meaning of the standard. This would have allowed the agency to work out details while bypassing the rigorous of notice-and-comment rulemaking. However, it would also have exposed OSHA to more accusations of “back door” rule-making.

Conclusion

The OSH Act forced OSHA down a difficult path. The agency was forced to adopt in-place standards in the beginning and is required to use notice-and-comment rulemaking to create new standards. Many critics would contend that OSHA attempts to dodge these requirements through the use of informal guidance documents—and one can cite enough examples to make that a debatable proposition.

Regardless of how this debate is resolved, the fact remains that OSHA’s actions are often the result of the peculiar context in which the agency operates. Safety practitioners who understand this context are better able to understand how and why OSHA makes the decisions that shape the safety profession.

Timothy G. Pepper, Esq., is an employment attorney with Coolidge, Wall, Womsley & Lombard in Dayton, OH. He holds a B.S. in Mathematics and a J.D. from Ohio State University, and is a graduate of OSHA’s 30-hour course in construction safety. Pepper’s practice is focused on representing employers in labor and employment matters, including OSHA counseling and litigation. Reprinted from the February 2001 issue of Professional Safety, Journal of the American Society of Safety Engineers.

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Trees don’t die suddenly from natural causes, unless the causes are fires or storms. However, trees can show symptoms of decline suddenly after long periods of predisposition followed by infections.

Friends have sent me reports about “sudden oak decline” in California. Calls have also come in. Friends have asked for my opinion. I have not seen the trees. I have seen no data, or dissection and autopsy reports. If the decline is sudden, the growth increments should show this. Regardless, as requested, here are some of my thoughts.

I start with the premise that the decline is not sudden. Next, because a species of phytophthora, which is ubiquitous in those soils, has been isolated, I believe that some predisposing factors had to affect the boundary walls of suberin that should form before non-woody roots, especially mycorrhizae, shed. My first thought is a problem due to waterlogged clay soils. I know the areas with decline have clay soils, with some areas having thick layers of heavy clays. I have dug roots in those soils and have examined soil pits. I have dissected many trees in that area, including live oaks and their close relatives. I do have some “inside” information on the soils and the trees.

My first thought was about waterlogged clay soils. I called my son Bob in Corona, Calif., and asked him to please send me the weather data for that area for the past few years. He faxed me long lists that went back to 1919! I found what I was looking for from weather data from Berkeley and North Coast Drainage areas. From December 1996 through January 1997, the area received 19 inches of rain. Two months! From November 1997 through February 1998, the area received 36.71 inches of rain! Nothing going back to 1919 even came close to that amount for those time periods. The time periods of the two heavy rains fit exactly the periods when non-woody roots and mycorrhizae should be shedding and new ones forming.

I know some people say they saw the decline in 1994 and 1995. The heaviest rain year in that area was in 1983 with 48.42 inches. But most of the rain fell in March. Records are not complete for 1991 and 1992. In January 1995, 10.37 inches of rain fell. Because there are so many microclimates in the area, and because heavy watering of lawns is common, it is possible that waterlogging at critical times could have occurred. This could explain the earlier reports.

I may be all wrong, but I believe if researchers check the weather periods I checked they will also see the amounts of rain that fell during these critical periods.

The heavy rains at those times were a “freak” of nature. The trees are paying the price!

We know that we should treat the tree as well as the disease, but that seldom happens. If the decline is sudden, autopsies should show this easily. (See my article on predisposition and suberin boundaries in the November 2000 issue of TCI.)

Here is a summary of my thoughts: Heavy rains at critical times caused waterlogging in clay soils; suberin boundaries did not form as non-woody roots shed or died; many infection courts; low amounts of air in soils; infection by species of phytophthora; decrease of root energy reserves; buildup of pathogen populations; root defense decreases further; invasion spreads rapidly; top decline becomes obvious; trees begin to die.

Dr. Alex L. Shigo is the owner of Shigo & Trees, Associates in Durham, N.H.
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At Bartlett, we’re not just utilizing the latest scientific advances in tree care we’re pioneering them. Our sales representatives stand head and shoulders above the competition because they’re backed by a team of scientists at the Bartlett Tree Research Laboratories. This gives both you and your customers an advantage you can’t get with just any other tree company.

THE F.A. BARTLETT TREE EXPERT COMPANY

Family-owned since 1907, Bartlett is experiencing rapid growth and expansion. We’re looking for the best and the brightest. Currently we are searching for individuals with a strong desire to succeed as arborist sales representatives in these regions: Northeast, Metro-NewYork, Mid-Atlantic, Southeast, Midwest, Texas and California.

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HAWAII - Tree Climbers and Working Foremen. Climbers MUST have a minimum of 5 years climbing experience (which includes pruning, shaping, rigging, take downs and removals) and a current driver’s license (a CDL license is preferred). Foreman applicants MUST be a certified arborist (with knowledge of disease diagnosis and fertilization), have a minimum of 5 years climbing experience (which includes pruning, shaping, rigging, take downs and removals), 5 years utility line clearance experience, experience working with cranes and have a current driver’s license (a CDL license is preferred). Pay starts at $18.00 per hour but is based on experience. Benefits include paid medical and dental insurance, paid federal holidays, vacation pay, 401(k) pension plan and a profit-sharing plan. Send resume with salary history and employment references to:

Jacunski’s Complete Tree Service, Inc.
PO Box 4513, Hilo, HI 96720
Phone: (808) 959-5868
Fax: (808) 959-0597

Tree Crew/Spray Technician

Experienced tree climbers and spray technicians needed. We have cake! Call Dan at Autumn Tree Care Experts (847) 729-1963 or fax resumes to (847) 729-1966.

EXCITING CAREER OPPORTUNITIES FOR SERVICE INDUSTRY MANAGERS

Come Join One of the Largest Vegetation Management Companies in the United States

DeAngelo Brothers, Inc. is experiencing tremendous growth throughout the country, creating the following openings:

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We have immediate openings in:
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We are responsible for managing day-to-day operations, including the supervision of field personnel. Business/Horticultural degree desired with a min. 2 years experience working in the green industry. Qualified applicants must have proven leadership abilities, strong customer relations and interpersonal skills. We offer excellent salary, bonus, and benefit packages, including 401(k) and company paid medical coverage.

For career opportunity and confidential consideration, send or fax resume, including geographic preferences and willingness to relocate, to: DeAngelo Brothers, Inc., Attention: Paul D. DeAngelo, 100 N. Conahan Drive, Hazleton, PA 18201. Phone: (800) 360-9333, Fax: (570) 459-2690. EOE/AAP M-F.

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The Davey Tree Expert Co.
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Kent, Ohio 44240
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Exciting Career Opportunity for Tree Trimming Personnel

DeAngelo Brothers, Inc., is a vegetation management company with five (5) regional U.S. offices servicing railroads, utilities, industries and state departments of transportation for the last twenty years. There is an immediate need for the following positions:

Climbers-Class I and II
Foreman and Bucket Operators
Tractor Operators

CDL License, experience in arboriculture, urban forestry or related fields a plus. We offer excellent starting wages, company benefits, excellent working conditions and the opportunity for year-round work. For a confidential interview, mail or fax your resume to: DeAngelo Brothers, Inc., 100 N. Conahan Dr., Hazleton, PA 18201. Attn: Charlie Sizer. Phone: (800) 360-9333; Fax: (570) 459-0321.

EOE / AAP / M-F

Looking for the next challenge as a sales arborist?

The Care of Trees in the Washington, D.C., area is recruiting a manager for its newly created Tree and Forest Conservation Division. This person should have 2 years successful sales experience and the knowledge and background in preserving existing trees on construction sites. A B.S. in Urban Forestry/Arboriculture or related field is highly desirable.

Contact Ron Rubin for further information at rrubin@thecareoftrees.com or (703) 471-1427.

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Large Chicago metro area firm needs experienced tree care personnel to immediately fill the following year-round openings: Production & Crew Foremen; Sales; Climbing Positions; Office Management.

Homer Tree Care, Inc. offers wages above industry standards with benefits including Health, Dental, Disability, Life, Paid Holidays, Paid Vacation and Profit Sharing. The overwhelming demand for our services proves that our name is synonymous with the tree care industry. Please submit resume with cover letter to Homer Tree Care, Inc., 1400 S. Archer Avenue, Lockport, Illinois 60441, or call Rich or Steve at (815) 838-0320 /Fax (815) 838-0375.
**Tree & I.P.M. Sales**

Qualified person to sell for established full-service tree company. Must have previous experience and Certified Arborist license helpful. Full benefits including 401(k)/Profit Sharing. All replies confidential. Fax or send resume to:

ANTIETAM TREE & LANDSCAPE
405 N. Burhans Blvd.,
Hagerstown, MD 21740
Attn: Roger Finn.
Phone (301) 791-3500
Fax (301) 791-3756
Email: roger@antietamtree.com

**Climber Foreman**


**PRODUCTION MANAGER**

Join the tri-state’s most prestigious and oldest tree and shrub care company. Be part of a team of nationally recognized leaders in arboriculture. Candidate must have a minimum of 3-5 years exp. in residential tree care, duties will include but are not limited to managing the day-to-day operations of all field personnel, supervision of training and safety programs, routing of plant health care crews, ordering supplies and equipment. This individual must possesses strong leadership and communication skills. ISA certified and able to speak Spanish a plus. We offer an excellent compensation and benefits package, including medical, company vehicle, retirement fund, paid holidays, vacation and continuing education. If you are looking for a goal-oriented company with unlimited growth potential, look no further.

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Regional Manager
Almstead Tree and
Shrub Care Company
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Office (800) 427-1900
E-Mail atc@bestweb.net
On the web www.almstead.com

**Climbers Wanted**

Min. of 3 years experience in all aspects of aerial tree care. Must have or be willing to obtain Class A CDL and ISA certification. We offer top wages, benefits and continuing education. Please call (770) 992-1973 or fax resume to (770) 518-9527 (Atlanta, Ga.).

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**Tree and Lawn Applicator**

Tree Care Company looking for an experienced pesticide applicator to work in New Hampshire and Maine. Must have or obtain a NH or Maine applicators license. We offer year-round employment, career growth and education opportunities, competitive wages, paid holidays and vacation, medical coverage, IRA plan, and a friendly working environment. Please send a resume or call Herb for an interview.

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1. **Company Service Representative**
2. **Operations Manager**

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Service Representative will develop new clients and manage the properties for existing clients. Operations Manager will oversee day-to-day operations for production efforts.

Compensation depends on experience and results. Benefits include Pension and 401(k) plan, vacation, medical coverage, monthly auto allowance following training and other benefits as specified in our Policies, Procedures and Benefits document.

For further information please contact:

Tom Shotzbarger, General Manager
McFarland Tree and Landscape Services
255 W. Tulpehocken St.
Philadelphia, PA 19144-3297
Phone: (215) 439-3970
Fax: (215) 439-1879
email: mcfarland@onramppcom.com

... continued on page 64
Plant Your Roots at Almstead

Almstead Tree & Shrub Care, the Northeast's most actively expanding tree & shrub care company, is seeking certified Arborists to join our family. Work territories in affluent areas of NY, NJ, and CT. Incredible opportunities for growth. Find out why your fellow arborists prefer Almstead. We offer full administrative and marketing support, state-of-the-art equipment, and continuing education.

Interested arborists call 1-800-427-1900, or fax your resume to 914-576-5448, attn: HR Manager.

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San Francisco Bay Area Tree Service Company looking for top climbers. We specialize in working with difficult or dangerous trees - crane and technical rigging, heavy equipment, trimming, pruning, shaping and cabling. Applicants must have experience working with cranes & mechanical skills. Class A or B license a plus. If you are a top climber, you may qualify. Top pay, medical and 401(k). (925) 254-8733 Fax; (925) 254-5645.

Tree Crew/Spray Technician

Experienced tree climbers and spray technicians needed. We have cake! Call Dan at Autumn Tree Care Experts, (847) 729-1963 or Fax resumes to (847) 729-1966.

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Fairfield County, CT - Growing company with over 20 years impeccable tree care experience is looking for quality-oriented individuals to join our staff. Experienced and professional candidates are needed. Responsibilities would include tree removal, cabling and bracing, truck and equipment maintenance. Supervisory positions are available. Excellent compensation, paid vacation/holidays, medical benefits, including dental and pension plan. We offer a drug-free environment. Please contact O'Neill's Tree Care, Inc., PO Box 2387, Darien, CT 06820, (203) 655-7865 or fax resume to (203) 327-5455.

... continued on page 66
Standard One Ton Forestry Body: Model MP-11

Overall Body Dimensions:
Length 138” Height 60” Width 92”

Chip Box Material: (galvannealed)
1. Floor ......................................... 10 ga. plate
2. Sides (removable) 3'-6” high .(2)pc. design- 12 ga. plate
3. Top: (removable) 8’ long ........ 14 ga. plate
4. HeadBoard (stationary) ......... 12 ga. plate
5. Tailgate (270° swing) .......... Expanded Metal w/tubing frame
6. Runners ................................. .6” structural channel
7. Cross members .......................... .3” structural channel
8. Side vertical supports .............. .3” x 3” sq. tubing

General
1. All G-60 galvannealed material
2. Sides: Fabricated in (2) pcs. for easy removal
3. All wiring in conduit
4. Sealed lexan lens lights meet FMVSS 108 specifications
5. Anti-sail mud flaps
6. Hydraulic dump hoist
7. Safety body prop
8. Trailer light connector 6 pole; Elec. back up alarm
9. Pintle; or pintle/ball combination trailer hitch with tow hooks
10. Bodies: mounted, undercoated, coal tar epoxy coating inside chip box, primed and painted
11. Stainless steel tool box hinge pins w/grease zerks
12. Tool Boxes - “Weatherproof” - Bulb type weather stripping
13. Top includes (4) corner lifting eyes
14. Chipper Air Exhaust Vents

Tool Boxes (14 ga. galvannealed material):
1. Underbody tool boxes: (two) 48” long x 20” high x 17” deep
2. Locks: Slam locks, keyed alike with hidden theft resistant rods

Cross Box:
1. “L” cross box - which includes underbody tool box
   Cross box: 24” long x 92” x 37” high across chassis rails; (6) swivel rope hooks; (1) shelf; (3) gal. water cooler holder

Optional:
1. Top ladder pruner rack

NOTE: Chassis cabs available to complete package 84” C/A Chassis cab required

Southco Industries, Inc.
1840 E. Dixon Blvd. • Shelby, NC 28152
e-mail: southco@shelby.net
(800) 331-7655 or Phone: (704) 482-1477
Fax: (704) 482-2015 or (800) 458-8296
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**Production Manager**
Maxed out in your current position? St. Louis, Mo. residential tree care co. in operation for 25 years is looking for a well-rounded individual with strong leadership qualities and the ability to train 12-15 team members in safety, equipment use, proper technique and efficiency. Must be able to schedule multiple projects and crews, maintain client satisfaction and high quality standards. Climbing experience a must. Salaried position with benefits, vacation, holidays, medical, retirement, bonuses and advancement. Send resume to Metropolitan Forestry Services, Inc., 502 Old State Rd., Ballwin, MO 63021.

**Hiring**
Ambitious, energetic, ex'd tree climbers w/pick up truck & equip. $200 - $500 + per day. Year-round work in warm, friendly Baton Rouge, LA. Potheads, drug addicts and ex-felons need not apply. Best time to call 8 a.m. or 7 p.m. Monday thru Friday; 10 a.m. to 12 noon on Saturday. Keep calling till you reach me personally. Tree Surgery by Ricky Vincent (225) 683-3800.

**Tree Service/Landscaping Production Manager & Supervisor:** Educated & experienced in proper tree care & landscaping techniques, familiar w/business side of green industry, able to aid in estimating & carrying out jobs; personnel selection, motivation & management; must communicate effectively w/clients & workers. Drivers license required, CDL a plus. Highly regarded company in S/E Pa. w/20+ yr. history offering competitive salary, benefits & 401(k) to right individual. E.O.E., Happy Tree, Ltd. Serious applicants call (215) 257-7650 to set up interview, or fax resume to (215) 257-0170.

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D&L Land Management, Inc. in Apopka, Fla., is organizing a new tree farm. We are seeking a landscaper with hands-on growing experience. Must be experienced in growing landscape trees and know how to spade trees out of the ground. For more information, contact Cheryl at (407) 886-0852, Ext. 24.

**IRA Wickes/Arborists**
Rockland County based firm for over 70 years seeks qualified individuals with experience. Arborists / Sales Reps, Office Staff, Crew Leaders, Climbers, Spray Technicians (IPM, PHC, LAWN). Great benefit package includes 401(k) matching, advancement opportunities, E.O.E. Check us out on the web at iarawickes.com. E-mail your resume to info@iarawickes.com. Fax us at (914) 354-3475 or snail mail us at Ira Wickes / Arborists, 11 Mc Namara Rd., Spring Valley, NY 10977.

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'76 Ford LT9000 w/IMT 1331 crane

Stock #2672
'95 Ford F800 w/Nokka 3955 Loader

Stock #2800—'94 Peterbilt 357 Cab & Chassis
Stock #2753—'85 Ford LTL9000 w/98 Prentice F90T Loader
Stock #2596—'95 Ford LTL9000 w/'97 Hood 7000 Loader
Stock #2691—'93 Peterbilt w/93 Prentice F90 Loader
Stock #2362—'98 Ford LT9522 w/96 Prentice F90T Loader
Stock #2637—'92 Int'l w/90 Prentice F90T Loader

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Two 200-gallon 10 GPM Minnesota Wanner 5.5 HP Honda sprayers, each w/ 200' 1/2-inch Green Garde hose on electric reels. Excellent condition $3,000 for both. Call Scott at Pickwick Plant Care (203) 637-8733.

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...continued on page 70

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The Staten Island Esplanade. The trees in the pavement, planted five years ago, are in a skeletal soil material. The trees on the right, which are all showing substantial dieback, are in a walled berm of topsoil.

This is unfortunate slogan of the American street tree. Despite the tree care workers' best efforts to properly install and care for trees planted along roads, walkways, and other high-traffic areas, the life expectancy of such trees is often less than 10 years.

Bringing trees into an urban environment requires commitment by tree care workers to follow through on maintaining the health of the tree. It also calls for willingness on the part of engineers and contractors to find a workable compromise between the needs of the tree and the needs of the roads, buildings and other structures near the tree. Roads and buildings require certain minimum standards for soil compaction to ensure stability, while trees require the exact op-
composite - loose soils that allow for proper drainage and root growth. For safety and economic reasons, it is often less desirable for designers and contractors to adjust building standards, which means that fighting for the health of the tree is often a losing battle.

A new item on the market, CU-Structural Soil, is aimed at satisfying both the engineer’s need to satisfy pavement design requirements and the tree care worker’s need to provide a substrate that allows for healthy root growth. The tree-friendly soil mixture of crushed stone, clay loam and a stabilizing hydrogel allows for root growth and air and water penetration by forming a stone lattice in which the spaces existing between the stones are partially filled with soil. CU-Structural Soil can be compacted to satisfy structural requirements, allowing it to be used as a continuous base course beneath the pavement. Because the new soil mixture allows for growth beyond the confines of the traditional urban tree pit, the tree care worker is better able to maintain healthy street trees without having to resort to crisis management techniques for individual trees suffering from insufficient drainage, root strangulation, inadequate water or nutrients, and other problems commonly associated with urban plantings.

Jason Grabosky, a professor at the University of Florida at Gainesville who worked to develop the soil system while a graduate student at Cornell, sees a variety of potential benefits for urban landscape planning and tree care.

“I see a great potential for benefit when the idea is used as a tool when a tree is forced into a paved situation. The benefit is increased life expectancy for trees and putting horticulture into the design phase of construction, rather than a window-dressing to be cut during budget adjustments,” Grabosky said.

CU-Structural Soil can be mixed on-site with a front-end loader, with the hydrogel being used to ensure that the soil and stone stay evenly mixed throughout installation. The amount of structural soil necessary can be adapted to accommodate the varying depths to subgrade, but a minimum of 24 inches is recommended for adequate root growth. Following the installation of under-drainage, the mix is laid down and a geotextile is installed, if necessary, to separate the mix from the standard base course for the pavement layer. For street trees, the root zone could include the entire area from the building face to the curb — allowing for considerable increase in rooting area compared to traditional tree pits. This increase in root zone size should translate into healthier, longer-living urban trees.

An additional benefit of the new soil system is that it can help eliminate pavement failure caused by the root growth of street trees that have become established. Trees that are able to overcome the harsh growing conditions created by typical street tree planting systems often do so by extending their roots between the pavement and the highly-compacted soil underneath. This leads to the cracking and buckling of the pavement as the roots expand with age, leading to unsightly and sometimes dangerous results. The tripping hazard created when pavement is disrupted by root growth can lead to liability issues and a premature need for pavement repair.

While the use of CU-Structural Soil does involve an increase in site preparation costs over traditional street tree installations, the long-term performance provided by the system should pay for itself by reducing maintenance costs and eliminating the need for frequent tree removal and replacement. Grabosky does, however, warn that the system is not a cure-all. He stresses that the new soil should be used as part of a well-planned overall design.

As for the future, Grabosky is looking forward to future data that will allow refinement of urban tree planting techniques.

“If I look forward to many years of tinkering with the system approach, and development of other aspects of introducing roots under pavement,” Grabosky said.

Anyone interested in finding out more about using CU-Structural Soil can contact Ameriq, Inc. at (800) 832-8788.
### Events & Seminars

**April 7, 2001**  
Rhode Island Tree Council  
Annual Conference  
Newport, R.I.

**April 7, 2001**  
ISA Southern Chapter Annual Meeting  
Sheraton Birmingham  
Birmingham, Ala.  
Contact: Dwayne Carter (336) 789-4747

**April 21, 2001**  
Committee for the Advancement of Arboriculture  
"Lightning Protection and Installation"  
Freehold, N.J.  
Contact: (732) 431-7903

**April 24, 2001**  
Mass. Arborist Association Dinner Meeting  
Wayland, Mass.  
Contact: (508) 653-3320

**April 25, 2001**  
National Arbor Day Foundation  
"Trees, People and the Law"  
Columbia, S.C.  
Contact: (888) 448-7337 or www.arborday.org

**May 2001**  
National Arbor Day Foundation  
Hazard Trees Workshops  
Nashville, Tenn.  
Morgantown, W.Va.  
Contact: (888) 448-7337 or www.arborday.org

**May 1-3, 2001**  
Urban Wildlife Management Conference  
Arbor Day Farm/Leid Conference Center  
Nebraska City, Neb.  
Contact: (888) 448-7337 or www.arborday.org

**May 4-7, 2001**  
ISA Western Chapter Annual Conference  
DoubleTree Hotel & Modesto Convention Center  
Modesto, Calif.  
Contact: Bob Tate (530) 892-1118 or Ray Morneau (650) 964-7664

**May 6-8, 2001**  
Southern Chapter of the ISA  
"Tree Structure and Mechanics: How Trees Hold Together And Fall Apart"  
DeSoto Hilton, Savannah, Ga.  
Contact: Dwayne Carter, (336) 789-7766

**May 7-18, 2001**  
Committee for the Advancement of Arboriculture  
Basic Tree Climbing School/Course  
Thompson Park, Lincroft, N.J.  
Contact: (732) 431-7903

**May 8-10, 2001**  
Utility Safety Conference & Expo 2001  
Atlanta, Ga.  
Contact: Denise Kula (847) 639-2200 or www.utilitiesafety.com

**May 11, 2001**  
Committee for the Advancement of Arboriculture  
Aerial Rescue and Electrical Hazard  
Thompson Park, Lincroft, N.J.  
Contact: David Shaw (732) 431-7903

**May 15, 2001**  
National Arbor Day Foundation  
Hazard Tree Workshops  
Nashville, Tenn.  
Contact: (888) 448-7337 or www.arborday.org

**May 16, 2001**  
Committee for the Advancement of Arboriculture  
Chain Saw Safety  
Thompson Park Lincroft, N.J.  
Contact: David Shaw (732) 431-7903

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May 17, 2001
National Arbor Day Foundation
Hazard Tree Workshops
Morgantown, W.Va.
Contact: (888) 448-7337

June 3-5, 2001
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Lied Conference Center
Nebraska City, Neb.
Contact: (888) 448-7337
or www.arborday.org

June 23, 2001
N.J. Chapter of ISA
N.J. Tree Climbing Championship
Cadwalder Park,
Trenton, N.J.
Contact: Steve Chisholm, (732) 462-7278

July 11, 2001
N.J. Chapter of ISA
N.J. Certified Tree Expert Exam
Rutgers University
New Brunswick, N.J.
Contact: John Perry (732) 833-0325

July 14, 2001
Michigan Forestry & Park Association
Tree Identification Workshop
Michigan State University
Contact: (517) 482-5530

July 16-17, 2001
PLCAA
12th Annual Legislative
Day on the Hill
and Cemetery Project
Washington, D.C.
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July 20, 2001
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The Scott Arboretum
Swarthmore, PA
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TPI Summer Convention & Field Day
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July 26-27, 2001
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Green Industry Trade Show & Seminar
Seattle, Wash.
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August 12-15, 2001
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ISA Milwaukee 2001 Conference & Trade Show
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Milwaukee, Wisc.
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What's New in Climbing Saws?

By Michael Roche

The improvement in climbing saws over the past few years is one of the best things to happen in the field of arboriculture. Saws today are lighter and better balanced. In addition, the prices seem to have either stayed the same or actually come down a bit for some of the more expensive models. All this while maintaining excellent power and chain speed. I've been climbing trees for 17 years and the difference now compared to climbing saws even 10 years ago is huge. In the past, saws were too heavy for arborists to be able to climb trees.

<table>
<thead>
<tr>
<th>Company</th>
<th>Suggested Price</th>
<th>Weight W/O Bar</th>
<th>Horsepower</th>
<th>Max, NoPower/Load RPM</th>
<th>Weight*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Max 2500 TS</td>
<td>$360.99</td>
<td>6.4 lbs.</td>
<td>1.19 hp</td>
<td>12,000</td>
<td>.30</td>
</tr>
<tr>
<td>Tanaka TCS 3401</td>
<td>$349.99</td>
<td>7.9 lbs.</td>
<td>1.8 hp</td>
<td>13,000</td>
<td>.37</td>
</tr>
<tr>
<td>Shindaiwa 357</td>
<td>$337.57</td>
<td>8.8 lbs.</td>
<td>1.8 hp</td>
<td>11,500</td>
<td>.33</td>
</tr>
<tr>
<td>Efco 935 D</td>
<td>$269.95</td>
<td>8.6 lbs.</td>
<td>1.7 hp</td>
<td>11,500</td>
<td>.32</td>
</tr>
<tr>
<td>Echo CS - 3400</td>
<td>$249.99</td>
<td>7.6 lbs.</td>
<td>NA</td>
<td>12,000</td>
<td>NA</td>
</tr>
<tr>
<td>Husqvarna 335 XPT</td>
<td>$399.95</td>
<td>7.5 lbs.</td>
<td>2.2 hp</td>
<td>13,800</td>
<td>.47</td>
</tr>
<tr>
<td>Stihl 200T</td>
<td>$479.95</td>
<td>7.9 lbs.</td>
<td>2.2 hp</td>
<td>14,500</td>
<td>.46</td>
</tr>
</tbody>
</table>

* Higher is better.
with. Instead, you had to estimate how much rope you would need to get it to the top, tie the saw onto that spot on the rope, climb the tree, then haul the saw up after you tied in. Now, saws have become so light, it's easier to climb up the tree with saw, saving the hassle of pulling it up afterward.

In the world of climbing saws, there seems to be two main styles: Reed valve engines and piston portal engines. Reed valve engines, which are made by Red Max, Tanaka, Shindaiwa and Efco, are lower profile and tend to be lighter (but not always), have a little less power, and be less expensive. The manufacturers are quick to point out that although they give up power, their saws are easier to maneuver and lighter to swing from pruning cut to pruning cut. One saw in particular is incredibly light. There are also significant cost savings with these saws.

Piston portal saws are manufactured by Stihl and Husqvarna. Their saws are clearly more powerful. The shells of their saws also seem to be heavier duty, resulting in less breakage, but these saws are also more expensive. The makers seem to be saying, yes, you are going to

"Obvious efforts were made by the manufacturer to make this an excellent saw for pruning and removals. The handle alone has several useful features: there is a thumb rest on the side, allowing the operator to turn the saw on its side easily; the handle is textured for grip; and there is a small spur behind the trigger finger, helping your hand stay in place. A good-sized hole in the back of the handle allows for different types of lanyard or clip attachments. The handle, however, does get in the way of the fuel and oil tanks and you have to tilt the saw annoyingly when it's time to refill."
pay more for our equipment, but it is going to cut quicker, and if you treat it roughly, it’s going to hold up better. These saws can manage pruning and removals, while the engines of the reed valve saws lack the power a lot of climbers want in a saw for larger takedowns and are best left for pruning work and small takedowns.

I tried out and liked all the latest climbing saws. Let’s face it – all these companies have been in business for a long time and know how to make chain saws. Checking out equipment on the cutting edge of any industry is fun. Each saw has a few highlights worth pointing out.

**RedMax** is one saw that has set a new standard in lightness. The saw is only 6.4 pounds, and holding it, I feel like I’ve got a spoon in my hand. (If this is how lightweight saws have become in the past 10 years, what are they going to be like 10 years from now?) The handle is contoured where your right hand sits, giving each finger a comfortable slot. The fuel and oil tanks are smartly placed so that the handle doesn’t block them when you need to refill. The saw has virtually no vibration. It would be a good saw for pruning that involves many small cuts in tight locations, or if you have a tree that requires lots of swinging around and limb walking. One feature I particularly like is the location of the chain adjustment screw. Instead of being tucked in tight between the bar and the engine, the adjustment screw is located on the outside of the saw next to the chain brake. When you tighten the chain, the screwdriver is angled perpendicular to the bar instead of parallel. This can be especially handy if you have to tighten the chain while still in a tree. Instead of sending the saw down to the inexperienced groundman – who would take 20 minutes to fix the chain and still get it wrong – you can easily adjust it while hanging from a rope. If the saw is off and you put your index finger on the trigger, it balances perfectly. It is a joy to hold in your hand. The people at RedMax say older climbers and climbers with back, shoulder and arm injuries in particular like this exceptionally light saw.

**Tanaka** finds its niche in making a solid, all-around climbing saw. It’s not the cheapest or the most powerful, but it is a nice saw that gives power at a reasonable price. The engine has an air force filtration system that reduces filter maintenance and replacement. One of its features is a purge bulb. If you run the saw out of gas, using the purge bulb will mean you’ll have fewer pulls to get the saw restarted. Also, if the saw vapor locks when used in hot weather, hitting the purge bulb will release heat, allowing you to run the saw. Jeff Wright, president of Tanaka USA, says the saw has been on the market for 2½ years and that “there have been no serious technical problems from guys in the field.”

A few years ago, **Shindaiwa** came on the market with its climbing saw, and it became an instant success. For years there was only one high-end
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climbing saw and several low-end models (some called them "throw-away" models because guys would throw them out of trees in disgust). Shindaiwa saw the need for the mid-priced model and helped drive the market. They worked with arborists to make a saw that climbers would want. They hauled prototypes up trees and through narrow crotches to learn what made for the right profile, and they dropped it from trees to learn how to make it sturdier. From start to finish, this saw was made as a climbing saw and was not reconfigured from a previous model. The manufacturer reports this saw has excellent torque at low rpm's, which is good for big cuts. Shindaiwa's marketing department was reluctant to send me one, so I did not get a chance to run it.

At $269.95, the Efco 935 D (formerly Olympyk) is the second lowest priced saw in this study. Dave Tilton, head of marketing at Tilton Equipment, the importer of Efco, says that several of his dealers have gotten their customers to change over from the really cheap "throw-away" saws to the Efco and those customers have been especially pleased. It is a very basic saw that cuts well. The screws to take off the bar cover are smaller than a standard chain saw wrench, and tightening the chain was difficult due to the deeply recessed adjustment screw. There doesn't seem to be any major technological breakthroughs on this saw, but that is exactly why it is less expensive. That said, this saw has more power than I would have ever expected and cut through my test logs very well. The 935 D vibrated quite a bit when I ran it, but I felt like it could handle pruning and small takedowns fine. If price is a major factor when purchasing a saw, then this saw is worth looking at.

The Jonsered Pro 35 is the same as the Efco 935 D, with a few cosmetic differences.

You might say the Echo CS-3400 is medium in all things except price. It has medium weight, sturdiness and chain speed. Echo refuses to rate saws on horsepower but it cut into a test log at an average rate. The one thing it is not medium on is price. It is the least expensive saw I used — making it a pretty good saw for the money.

The two screws used to tighten the chain are smaller than a typical chain saw wrench and the saw requires use of a purge bulb for cold starts. It vibrated quite a lot and was noisy when I ran it. What will make a person interested in this saw is that it is a pretty solid saw for a lot less money. Like the
Efco, if price is a major factor, give this saw a look. The Husqvarna 335 XPT is one of the two piston portal engines and is priced at $399.95. There is a noticeable increase in power when this saw is compared to the saws listed above. Obvious efforts were made by the manufacturer to make this an excellent saw for pruning and removals. The handle alone has several useful features: there is a thumb rest on the side, allowing the operator to turn the saw on its side easily; the handle is textured for grip; and there is a small spur behind the trigger finger, helping your hand stay in place. A good-sized hole in the back of the handle allows for different types of lanyard or clip attachments. The handle, however, does get in the way of the fuel and oil tanks and you have to tilt the saw annoyingly when it’s time to refill. This saw has an excellent ergonomic design, allowing climbers to pull it up a tree easily and fit it into tight cutting situations.

The Stihl MS 200T (formerly 020) is the most expensive climbing saw but is also the most powerful. Stihl would argue that the extra money is worth it. It has the exact same horsepower as the Husky but its chain speed is higher, and I noticed a difference in how fast it cut a branch. This smooth-running saw accelerated quickly and cut through an 8-inch log very well. With the engine off and my index finger on the trigger, the saw balanced perfectly. It’s a little boxy in shape compared to the Husky, but its power and smoothness kept making me like it. Sometimes after getting out of a tree you have to get a ground saw and make a dozen bigger cuts in order to drag the limbs over to a chipper. With the 200T, I would feel confident that I had enough power to make those few cuts and not have to bother with a second saw.

Decide before you buy

If you are in the market for a climbing saw, you need to make a few decisions. First is price. The reed valve engines (RedMax, Tanaka, Shindaiwa and Efco) are cheaper. How often do you have to replace these saws due to theft, being dropped out of a tree, or being run over by a truck? You have to consider power. The piston portal engines (Husqvarna and Stihl) cut faster but will cut into your wallet more as well. And finally, think about weight. We all want the lightest saw possible when we are swinging around in a tree. There are a lot of great choices these days. Armed with the right information, you should be able to get the perfect saw.

Michael Roche is a certified arborist and owner of Stowe Tree and Landscape Services in Stowe, Vt.
New law makes for busy season in Oregon

Arborists in the Salem, Ore., area had a busy few months late in 2000 as homeowners tried to complete tree work ahead of a law restricting the removal of trees.

The Seattle Times reported that the law, passed in response to the decimation of some neighborhoods by developers, requires a variance be obtained before more than five trees are removed from a single property. An earlier version of the law would have required town approval for any tree larger than 24 inches in diameter.

"We've probably had our busiest December ever," arborist Elwood Newhouse told the newspaper. "We've had at least a dozen customers we've taken trees out for that were scared because of the ordinance."

Newhouse said homeowners were having trees removed just in case they might want to build additions in the future.

What sparked the ordinance? Residents who complained that developers were clear-cutting new neighborhoods before starting construction. Doing so enabled them to avoid another law requiring them to retain or replace 25 percent of all trees on a piece of property.

One nation under oak?

Apparently undeterred by recent election woes in the United States, the National Arbor Day Foundation is holding a vote of its own aimed at determining which species should become the official national tree. While all 50 states have official species, no such national designation exists.

John Rosenow, president of the foundation, told The Associated Press it's important that the country have a single tree, if only as a symbol.

"Having a national tree will call everyone's attention to the importance of our trees and our natural resources that are ours to care for," he said.

Twenty-one species are on the ballot. Some, such as elm, pine, birch, maple and spruce, can be found in much of the country, while others have more regional ties, such as the kukui, found only on Hawaii, and the paloverde, which is found mainly in the desert Southwest.

The foundation hopes that whichever species emerges victorious will be adopted by Congress as the national symbol. Congress has tried three times to designate the oak the national tree, only to have proposals wither in committee.

The foundation plans to announce the winner on April 27: Arbor Day. Votes will be taken up until the day before at the foundation's Web site: www.arborday.org.

Have a baby, plant a tree

With all the problems in the world, trees are often forgotten on the pages of major newspapers. But the advent of the New Year brought a burst of attention to the idea of planting trees in urban areas.

In Canada, the city of Calgary, Alberta, decided to give its tree-planting program a twist. Starting on Father's Day, the city will plant a tree for each child born during 2001, according to The Associated Press.

The plan, backed by the city and several local companies, enables expecting parents to register to have a tree planted along with a marker displaying the child's name and date of birth.

Experts have told Calgary to plant at least 140,000 new trees in coming years to offset the effects of expanded commercial and residential growth. About 12,000 new babies arrive annually in the western Canadian city.

Portugal plans to chop 1.3 million trees

Construction in Portugal on a huge new reservoir, described as Europe's largest man-made lake, was set to begin recently with the felling of 1.3 million trees, The Associated Press reported. Cutting all the trees is expected to take a year.

The reservoir will flood nearly 62,000 acres and extend 50 miles in southeastern Portugal. A 315-foot-high dam across the Guadiana River is to be completed next year, after which the reservoir will begin filling. The dam will generate hydroelectric power for the region, and provide water to turn the dry region into a fertile farming and tourist area. Environmentalists say it will be a disaster.
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The recent death of a climber in a lightning-damaged tree reminded me of an occasion in my earlier climbing days.

When removing Dutch elm diseased trees in the 1940s, there was a diseased tree overhanging a corner of two streets. It was about 80 feet high, and one 18-inch leader was hanging over the electric wires. The decision was made to jump out the top of the leader over the wires and into the Street.

There was ample room to do this, as the leader leaned out over the road. The top of the leader could easily be cut off to land into the street. I put on my spurs and ran up the tree leader, being careful of the electric wires. Traffic was stopped, and I jumped the top off into the road. This allowed the rest of the leader to raise up away from the wires.

I tied a rope to the top portion of the leader I was on and started down to cut it off below the electric wires. As I descended, there was enough room between the wires and the leader to have my hands around the leader. When I got down to the level of the wires, my hand went into a cavity where the wires had burned the leader. My heart sank as I realized the leader was rotted. The leader could have broken when the weight of the top jumped off. This was my first lesson in making a thorough inspection of a tree before climbing it. Sure the wires probably hid the cavity. But I did not do a good inspection of the tree.

I tell my students: walk around the tree beyond the branches, checking the tree. Then check the bark and trunk at ground level before trusting the tree to climb. In the instances of lightning damage, a more thorough inspection should be done to determine the strength of the tree. This should be done before the method of removal is determined.

Oscar P. Stone is a horticulture consultant in Marlboro, Vermont.
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