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Include the Sandman in Your Safety Checklist

Given any thought lately to whether or not the crewmember above you with that chain saw got a good night’s sleep last night? ... Or the person next to you feeding the chipper? ... Or the one driving the truck this morning?

Before you discount this column, listen to some of the latest statistics about sleep deprivation, and you just might be updating your safety checklist tomorrow morning. They can be found in an article by Lyric Wallwork Winik in last month’s edition of Parade Magazine.

“Lack of sleep is an epidemic social disease,” according to Dr. Christopher Earley, a neurologist at Johns Hopkins. The National Sleep Foundation reports that 62 percent of Americans have trouble with sleeping multiple times in a week, and 40 percent say sleep deprivation gets in the way of functioning. Jodi Mindell of St. Joseph’s University reports that 27 percent of us doze off while driving each year, and 100,000 accidents happen due to sleep deprivation. Winik states that “Just 100 years ago, Americans got nine hours of sleep a night. Today, many of us barely get seven.”

Going directly to the results of the National Sleep Foundation’s 2000 Omnibus Sleep in America Poll (OSAP) on the Internet, I found more interesting information for us. Quoting directly from the survey results:

“Nearly one-half of those surveyed (46%) say that working more than 10 hours in a day makes them too sleepy to do quality or safe work. This finding is cut in half for working 8 hours or less (25%) or 8-10 hours (24%).

In a separate question, respondents were asked whether sleepiness interferes with their ability to function in their jobs. Of the respondents who stated that their work was diminished:
  ♦ More than six out of ten (61%) say their concentration is diminished.
  ♦ More than one-half (51%) say sleepiness interferes with the amount of work they do.
  ♦ Four out of ten (40%) say the quality of work they do suffers.

So how do we change behaviors? Most of us wouldn’t hesitate to let the crew leader know that one of the crewmembers has an alcohol problem, or isn’t following the safety procedures of the company. Some things just seem so straightforward in safety that we aren’t willing to risk the threat to ourselves from somebody else’s carelessness. But talking about sleep?

Staying alive is pretty compelling, and peer pressure can be one of the most effective ways of changing behavior. Remember how cool it once was to smoke cigarettes? Now, smokers stand outside in the rain away from the front door, because peer pressure moved them there.

So are you willing to help make sleep deprivation a safety consideration in your company? Tomorrow a crewmember could say, “No, I didn’t stay up to watch the game last night. I wanted to live today.”

Do you have the courage to make the Sandman part of your safety program? Have you ever checked to see how many hours of sleep somebody got when you’re investigating an accident? Wouldn’t it be interesting to find out if it was that easy to reduce a percentage of accidents by adding a good night’s sleep to safety procedures.

It’s not a lightweight issue. Let’s make sleep deprivation “uncool.” It could be the difference between serious injury, disability, life or death.
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THE PREMIER MICRO-INJECTION SYSTEM

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This red spruce root (Picea rubens) has compartmentalized the Armillaria infection, but space for storage has been greatly decreased. Note the fungus wedge in the bark.
How do root rots kill trees? Do they? Are the “killer fungi” the primary cause? What is meant by predisposition? Who is Sorauer, and why do we need to know something about his work? It is time to take a closer look at root rots, and especially those caused by species of Armillaria. I say species of Armillaria because we know that more species than Armillaria mellea are involved.

The subject of armillaria root rot has been discussed many times. I will try to give some information that is not usually reported. First, as with any problem, it is important to understand the background information and some history. That is why I plan to include predisposition and the father of the subject, Paul Sorauer, in this brief discussion.

History: Hartig and Sorauer

The year 1874 is a good time to start. This is the year that Robert Hartig published his famous book on important diseases of forest trees. The first subject in this book is armillaria root rot. Hartig called the fungus Agaricus (Armillaria) melleus. Hartig took the disease concepts of Anton De Bary and Gotthelf Kühn and applied them to trees. This was a monumental moment for all trees. Hartig proved that the fungus fruiting on a wound was the same as the fungus causing the rot behind the wound. The single fungus, single disease concept was accepted and began to move quickly. One reason was that problems of decay in living trees and wood products were considered very economically important.

Also in 1874, another book was written. It was a handbook for plant diseases by a person history seems to have forgotten, or left behind, Paul Sorauer. More than half of his book was on abiotic causes of diseases and predisposition. Although his book was reprinted six times prior to 1934, his concepts on predisposition just were not able to compete with the concepts of a single pathogen for a single disease, including decay in trees and wood products. The strange part of this story is that arguments went on for decades about whether decay in trees could even be considered a disease. Why? Because decay was said to be the breakdown of dead heartwood. How could you have a disease of dead matter? The heartrot concept that followed was really a decomposition concept. The response of the living tree to the wounds and the infections was not considered. Also, isolations for fungi were done on malt agar alone, which does not support growth of bacteria and non-decay causing fungi. Consequently, associated microorganisms were not detected frequently.

Over the years, the concepts of Paul Sorauer have made more sense to me. A major reason why his work is so difficult to understand and accept is because it is difficult to remember the many seemingly unimportant events and agents that accumulate over time and predispose a host to pathogens that could kill or cause decay. It is easy to see and touch the decayed wood, the large sporophores and the declining tree. If the sporophores are obvious when the tree is declining, the fungus inside the tree that relates to the sporophores must be the cause. This story repeats and repeats.

This point is well-taken with armillaria root rot. How could
White spreading "fans" of mycelium from an Armillaria infection are shown at the base of this white birch. As tree defense decreases from root infections, the pathogen often grows rapidly into the bark.

anyone say that a declining tree that has many mushrooms at the base is not dying because of the fungus infection? The mushrooms of Armillaria species do indicate without a doubt that the fungus on the inside is the same as the fungus of the fruiting bodies on the outside. Hartig proved this. We hear it said many times over and over that Armillaria is a tree killer or the armillaria root rot killed my tree!

At this point, I'm sure Sorauer is turning over again, as a pinwheel, in his grave.

Why are root rots called killers?

Have you ever wondered why there are so many fungi known to cause decays in trunks of trees, yet few are cited as the cause of decline and death? The answer usually given is that the rots are compartmentalized. Don't roots compartmentalize infections also? Of course they do! And, they usually do it more effectively than trunks. So, why is it said so often that root-rotting fungi, such as Armillaria species, kill trees?

A major problem is that trunk wood and root wood is thought to be similar. When you start with a false premise, confusion or myth will always follow. Root wood is different from trunk wood in many ways. Trunk wood and root wood both store starch in living cells, but root wood has a much greater percentage of living cells than trunk wood. When I$_1$-KI is poured over the cut surfaces of trunk wood and root wood of the same tree, the root wood will be much darker in color, indicating more starch in more living cells.

Starch is not soluble in water. However,

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when water molecules are chemically “inserted” back into starch by way of amylase enzymes, the starch is converted back to glucose. Glucose is the fuel for life. Glucose also “runs” the defense system. When glucose reserves are high, defense is high. When glucose reserves are low, defense is low. When defense is high, we say the organism is healthy. Most pathogens are opportunists and wait until defense is low before they attack.

Before I continue with this subject, I should give some other characteristics of root wood. Roots also mechanically support the tree. Root wood does have lignin, but not as much as trunk wood. This is best shown when you cut trunk wood and root wood of the same tree and feel the difference. It is much easier to cut root wood than trunk wood. Roots transport liquids that contain essential elements for tree life. The diameters of root wood vessels, or tracheids, are usually larger than those in trunk wood.

Great numbers of living parenchyma cells usually surround root wood vessels. The living cells in root wood also “make” many substances essential for tree life. Roots do not have a pith. Roots do not have a green cortex. Roots do not “make” their own energy. Roots do not have heartwood. Space for storage of energy reserves is of top priority.

Storage space equals defense
Back to compartmentalization for more on why root rots are cited as tree killers. The good news is that roots are effective compartmentalizers of infections. The bad news is that when the compartmentalization processes repeat faster than the ability of the generating tree to produce enough new healthy wood in new positions, troubles for the tree start. As more and more root wood is compartmentalized after repeated attacks by pathogens, it is not long before space for storage of energy reserves begins to decrease. As energy reserves decrease, defense decreases. As defense...
continues to decrease, a point is reached where energy reserves are so depleted that further compartmentalization does not function. No defense! Pathogens can then grow at will in the host. This is how species of *Armillaria* and other root-infecting microorganisms serve the final death notice to trees. Much more still must be said. (Poor Sorauer.)

**Root canker rots**

Species of *Armillaria* have a unique ability to rot wood and form wedges into the root bark. In a sense, *Armillaria* species are root canker rots because this is also an ability of canker rots of trunks. And, the fungi that incite trunk canker rots usually infect branch stubs that have weak protection zones. Protection zones at the base of the trunk branches or root branches depend on energy reserves for protection substances. The story repeats as energy reserves decrease, protection zones become weaker and finally lose their ability to resist invasion by the pathogens.

Canker rots are caused by fungi that can rot wood and form wedges into the bark. When conditions are best for rotting wood, they rot wood. When conditions are not best for rotting wood, the pathogens form large wedges into the bark. As the bark wedges increase in size, they squeeze and eventually kill the cambium from the bark side inward. Then the defenseless wood beneath the bark is easily invaded by the pathogens. In time, the expanded volume of infected wood is compartmentalized. As this host-pathogen "seesaw" continues, the host can "win" if compartmentalization is fast and effective, and enough new wood is formed to store more energy reserves. The host begins to "lose" when the pathogens begin to occupy more and more space.

Perennial trunk cankers have a similar ability to grow slightly in wood and rapidly in bark. The difference is that the fungi that incite perennial trunk cankers are not able to grow rapidly in wood and cause decay.

**Predisposition means low defense**

Time for Paul Sorauer to enter again. How does his predisposition concept fit into this story? First, think about where problems blamed on species of *Armillaria* are most serious. I think you will agree that in urban areas it will be in places where intensive work is done to provide beautiful landscapes. In forests, it will be where the trees are heavily cut—as in clear cuts, plantation thinning or intensive selection—repeated at short time intervals. There must have been a reason why Robert Hartig spent 30 years studying *Armillaria* spp. And why it was the first subject in his first book. The forestry management methods in that part of the world favor conditions that invite species of *Armillaria* and other root-rotting fungi.

In forests, *Armillaria* spp. also follow defoliations, such as those caused by gypsy moth caterpillars, and diseases such as beech bark disease and oak wilt. Also, mushrooms of *Armillaria* species are common on stumps. Removal of the top does not mean that the woody roots die immediately. As the energy reserves in the roots decrease, the point is reached when defense systems no longer function. The "clean-up crews" enter. Tree removals in urban areas, even when the stumps are ground down, still provide root wood for opportunistic pathogens. As populations of the pathogens build up, they may attack trees that have stronger defense systems.

What Sorauer said was that when conditions or other agents cause defense to decrease, predisposition starts. The hosts become easier to attack or the host is predisposed to attack.

**Everyone will obey nature's laws**

Agree or not, all living things will obey natural laws of energy and matter. The laws state that no organism or system will remain orderly (healthy) unless there is a continuous supply of energy, and that energy and matter cannot be destroyed but only converted to other forms.

The law of conservation of matter "clicks" in when the energy flow of any system becomes inefficient. The energy still remaining in the system—the tree and especially the roots—will not be wasted. This is what I mean when I say that the "clean-up crew" enters. Some other organisms will "come in" to use the remaining energy in more efficient ways. The wood is made up mostly of cellulose, hemicellulose and lignin. All of these substances have a carbon, hydrogen and oxygen...
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As Armillaria infections and infections associated with other root-rotting fungi spread into larger roots, the infections are compartmentalized, but storage space is decreased to the point where defense processes no longer function. Then, the pathogens grow rapidly in the host.

How do the pathogens get into the roots?

Species of Armillaria are ubiquitous in soil. The black shoestrings, or rhizomorphs, can easily be found growing around many living, healthy roots. The fungi in this genus have been found throughout extremely large land areas. My point is that they seem to be everywhere, just waiting for the right conditions to attack. If they are everywhere, why do they not kill all trees? Just as the sun and the cold are triggers for other problems, so it is with Armillaria species. The gun must be loaded or in a state where the trigger, once pulled, will set it off. Again, low defense is the condition for infection. But where do they get in?

Roots have many branch roots, just as trunks have many branches. As described briefly above, there is a protection zone at the base of branch roots just as in trunk branches. When energy reserves are low, the protection zones are weak.
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Roots in forests where no human activities have gone on for many years still have many wounds. As roots squeeze against each other, dead spots and cracks may form. As roots squeeze against rocks, the same type of wounds may occur. Then there are insect wounds and wounds caused by small animals. My point is that the pathogens do not have to "look hard" to find openings into the roots.

The rhizomorphs always seem to be there. As wounds are inflicted and as branch root protection zones weaken, the pathogens attack.

In areas where soils receive high amounts of water, another type of wound or opening can occur. When water is abundant, the suberin protection at the base of mycorrhizae may not form. With leaves, the leaf starts to die and then the basal abscission zone forms. With mycorrhizae, the mycorrhizal organ dies after the abscission zone forms. When the zone does not form, it serves as the perfect infection court for microorganisms, such as those in the genus Phytophthora. The dead spots could also be openings for other organisms.

What to do?

Now comes the hard part! What can be done to reduce injuries by root-infecting organisms? A major actor in this story has not been discussed—humans. I believe that humans and their activities are major causes of root rots, by way of predisposition.

When trees, knowingly or unknowingly, are over-watered (to support weed-free green grass), over-injected (because you can kill everything, good guys and bad guys and no need for diagnoses), over-mulched (so what can we do with all these chips?), planted too deeply (we have always done it that way), over-braced (it won’t fall over, even in a high wind), over-amended (maybe if we throw more stuff on, all will be better), it is a wonder trees grow in our urban areas. And the assaults go on and on.

What must be done to slow the pace of “overs” is to learn some simple tree basics. Ignorance of tree biology has been, and still is, the major problem of trees worldwide. That goes for urban trees and forest trees.

♦ For all tree managers, or for people who aim to cultivate trees in urban or forest areas, the ten most common trees they deal with should be identified. Of all the trees a person looks after, usually 90 percent will be ten or fewer species. Then list—write—at least 20 features of the tree. When there are removals or logging, take a few minutes to examine the insides of the trees. Start a sample collection. The more you learn about the tree, the better and faster will be your decisions to have treatments that promote health.

♦ If you know that large woody roots are infected, do not add fertilizers to those areas or the fertilizers will benefit the pathogens more than the tree.

♦ If roots must be cut for any reason, make cuts with sharp instruments. No need to paint.

♦ When transplanting trees, always remove broken and crushed roots.

♦ When storms bend trees to the point where some roots are splintered, it is best to sever the root at the tree side of the splintered area. Care must be taken that the injured root or the severed roots do not make the tree a high risk for failure.

We need a more complete story if we are to reduce injury caused by root rots

In 1960, I started studies on root rots. Roots of many red pine, Pinus resinosa, in plantations were dug out and dissected to study Fomes annosus, now called Heterobasidion annosum. Later studies were done on what was called Armillaria mellea on red spruce, Picea rubens, and beech, Fagus grandifolia. Many of the beech trees were in decline from beech bark disease. Hundreds of trees were dug out and dissected. Thousands of isolations were taken from selected specimens. The published results showed that the infections “followed” the CODIT patterns, and that many other microorganisms—bacteria and non-decay causing fungi—were involved in the diseases.

I also believe from research done years ago that spores of Armillaria spp. from mushrooms pass through insects, usually fungus gnats, before they germinate.

In the end, there will always be some bug or some obvious sporophore on a declining and dying tree. They will get the blame for the death. When you see these signs and symptoms, think about all the predisposition factors that set the tree up for the “clean-up crew.” Then pity poor Sorauer!

Dr. Alex L. Shigo is owner of Shigo and Trees, Associates in Durham, N.H.
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Managing Today's Younger Workers

By Wayne Outlaw

Why can't I get today's younger people to care like I did when I started out?" Something similar is often heard whenever owners of tree care companies get together. Workers who entered the job market in the last ten years are significantly different from their counterparts of the past. These twenty to thirty-something year-olds with their new ideas and values may very well reshape not only the job market, but business.

Tree care has long relied on younger workers, and it is critical owners understand this workforce to provide the conditions to attract, reward and keep those employees. With unemployment at all-time lows and dipping below three percent in some areas, tapping all sources of the labor market is critical. More importantly, members of this group are your leaders and managers of tomorrow.

The first generation of "latch-key" kids, often products of divorced or dual-career families, learned independence early. They are also the first generation to see their parents affected by restructuring and downsizing, and see it as evidence of the lack of corporate loyalty. These events have molded not only their habits, but their values. No longer is blind loyalty to a company, or even an idea, considered fashionable in their circles. They are very serious about their careers and are very dedicated; however, their dedication may appear different than some older managers might expect.

They can be incredibly motivated and dedicated, however they draw the line at encroachment on their personal lives. You hear phrases like, "I want a life outside of work." This may be a result of seeing their parents dedicate many years and hours per week to an organization that restructured, downsized or eliminated their position. The desire for a life outside of work may not be a desire for pleasure, but rather a desire to keep balance in their live to allow time and energy to sustain relationships that they consider important.

This is the first generation to enter the workplace without the values associated with life-long employment. While they may want jobs to be long-term, frequent job changes do not appear bad to them and may reflect their career strategy of moving toward greater responsibility and income.

This lack of expectation for life-long employment has a significant effect on tenure in an organization. Because these employees do not see changing jobs as negatively as did those in the past, they tend to respond differently. Years ago, it was not uncommon for an employee to work for years, all the while complaining that they were unhappy in their job. Today's younger worker, if unhappy, tends to take action as soon as a suitable replacement job is found—or even earlier. This mandates that employers eliminate problems, such as poor managers or lack of training, that cause irritation and dissatisfaction. Especially with today's fully employed workforce, there are too many other opportunities for a dissatisfied worker to remain on the job very long.

To create a job that employees are attracted to and want to remain in, the employer must understand the needs of workers. Their drive for independence has created the need for flexible hours and even flexible work strategies, which can be difficult for an arborist trying to meet schedules and customer expectations. Benefits must also reflect the needs of today's younger worker. They may value child care, elder care and education reimbursement more than the traditional 401(k) or retirement plan.

Many younger workers are exactly what
employers claim they want: workers who don’t expect job security, are committed to self-education, are comfortable with new methods and technology, and aren’t fazed by relentless change. They enter the workplace very aware of the economic challenge of their generation to do as well as their parents.

Our attitude surveys have determined this group has specific values that are different from previous generations. They value a company that appreciates them and their contribution. They want to work for companies that use positive, ethical management practices, not outdated methods of fear and intimidation. The days of a foreman telling an employee “do it or else” are over. Younger workers want to know what the company will do for them, and they feel their effort, knowledge, and loyalty can be exchanged for items of equal value.

To manage younger workers, it is not enough to understand the wants of a generation or group. It is essential to find out what each individual wants. Employers must understand that each individual’s needs and wants are different, and unless fulfilled, the result will be a lack of interest, poor performance and turnover.

It is essential that organizations and managers communicate with younger employees clearly and openly. Candid, honest and frequent communication will do a lot to build loyalty. They expect and demand it more than employees of past generations.

They generally want ways to achieve in business and still be able to meet their personal goals. If business objectives block personal objectives, business loses. However, these individuals need to be challenged because if they are not, they will apply their talents to outside projects or another job. For the generation that grew up with video games and watching MTV, it is essential to keep them challenged and their minds stimulated.

For years, we have heard that managers need to understand employees and use positive management techniques to help them attain their goals. Our experience with clients indicates this is even more important when they have a large number of workers under thirty. There is no need for radical or different approaches to managing the younger worker. The same solid, “good sense” management techniques used for years will pay dividends in managing today’s younger worker.

The change today is they are not a luxury, they are a necessity.

Wayne Outlaw is author of “Smart Staffing: How to Hire, Reward, and Keep Top People For Your Growing Company.” He may be reached at http://outlawgroup.com.

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The Royal Sport is a new hybrid truck, made by Royal Truck and offered through Ford dealers nationwide. Royal's bed design, big enough to carry 4-foot x 8-foot plywood sheets, conforms to cab and bodylines, combining style and utility. It has in-line automotive door-style handles, sealed-gas shocks to hold doors open and eight compartments, including two spaces long enough to hold fishing rods, guns or baseball bats. Four of the compartments have side-opening doors with adjustable lock-in-place shelves and two are 8-inch high rollout drawers. There are removable inserts for the 87.5-inch long, top opening spaces to accommodate small parts such as nuts, bolts, etc. All spaces are completely weather-stripped and have locks and hidden hinges for security. Dudley DeZonia, president of Paramount, California-based Royal Truck, initially expected the truck would appeal to business and trade buyers, but upscale recreational purchasers have been equally enthusiastic. "People see it as the perfect combination of utility truck and recreational pickup," DeZonia added. "Sportsmen and RVers get lots of secure storage with the comfort and style of a high-end pickup. Trades people get easily accessible compartments and a sleek design that presents a nice image for their business. The Royal Sport comes with 8-foot or 9-foot bed options depending on the truck model Ford is also offering a 2000 model year "commercial upfit" incentive to eligible end users, depending on chassis model. The new design can be ordered at any Ford dealer. Additional information can be obtained from Royal Truck at 800-834-7692, or at e-mail roytruck@aol.com.

For the past 50 years, Rexius has been developing and perfecting the Express Blower, a pneumatic conveying system. Operated by one person through remote control, it quickly and efficiently spreads large quantities of organic material—even to remote locations—and leaves a smooth finished appearance only blower spreading can offer. All models are equipped with a self-feeding system. There is no waste and no need to hand feed or shovel. The dust suppression system keeps the working conditions as clean as possible. All models come with a lift tailgate system for easy off-loading and clean-out capabilities. On-board hose sections make set-up to inaccessible areas fast and easy. Depending on the model, the blower is capable of blowing up to 800 feet. Specially designed hose storage areas keep hoses neat, accessible and out of the way. Hoses come in four and five-inch diameter, making it possible to blow fine bark products up to coarser wood mulch. Operators receive extensive blower truck training after purchase of the unit. In addition, advertising and promotional assistance is available to aid in your marketing efforts. For more information contact Express Blower at 800-285-7227 or visit their web site at www.expressblower.com.

John Deere announced that its popular four-wheel-drive loader High-Lift option, custom fitted in the past, is now available direct from the factory. When the load is lighter and dump height critical, High-Lift arms with special bucket links can add substantial reach to a variety of Deere's loader models and increase bucket and fork clearance. Crews using a High-Lift package can maneuver in tighter quarters to dump and reduce damage to trucks, rail cars and other high-side transports. It can also stockpile material higher and use space more efficiently. The extra height allows a full bucket roll that reduces cycle times dramatically over standard-length-arm loaders. With greater reach and excellent visibility, loader operators can distribute material evenly and stack it more precisely. The High-Lift option is backed by the CounterParts™ program, which means users can count on machine-down parts replaced in under two hours or they will be delivered free the next day. For more information, call 800-503-3373 or visit their web site at www.deere.com/ind.
Leonardi Manufacturing Company, Inc. is pleased to announce the purchase of the rights to manufacture Levco stump grinding teeth. They now stock Levco Standard, Levco Beveled, and Levco Tiger teeth, as well as the accompanying accessories, which include the replaceable, threaded weld-on base, torx wrench, and bolts. The increased strength in all of these teeth is the result of using a higher alloy, heat-treated steel. The Standard tooth is single-ended with a sharp cutting angle, now with thicker carbide. It can be used with all horsepower machines and is the fastest cutting and sharpest of the Levco teeth. The Beveled tooth was the newest of the Levco line. Both the Beveled and the Tiger teeth can be used for rockier soils. The Tiger teeth should be used for higher horsepower machines. For more information, contact Leonardi Manufacturing Company, Inc. at 800-537-2552 or e-mail: LEONARDIMFG@worldnett.att.net.

Vermeer Manufacturing Company announced the introduction of the TG800 Tub Grinder, designed for large volume wood and yard waste disposal, waste reduction and recycling tasks. It has a powerful electronic fuel-injected, twin turbo-charged and after-cooled Caterpillar 3412E, which delivers 800 hp (596 kw) into a gear reduction transmission driven hammermill. The high efficiency, microprocessor-controlled transmission enables the tub grinder to deliver maximum torque with minimum hammermill wear. Offering the largest inside tub diameter in the industry (11 ft., 3.35m) with a large top flare, the grinder is capable of taking on heavy-duty, high production grinding applications. The tub design virtually eliminates material bridging and the belly conveyor, a 60-inch (152 cm) wide belt, operates at 774 feet per minute and has moveable plows for material movement. The 49-inch (122 cm) rear discharge conveyor has a maximum loading height of 18 feet (5 m) and an adjustable belt speed of up to 1300 feet per minute. The tub grinder features a tested Falling Object Canopy located above the ground control panel, tub lift and neutral start interlocks. It also has the Thrown Object Restrain System, which increases work site safety and tub-grinding production. For more information, contact Brian Metcalf or Daryl Bouwkamp at Vermeer by calling 888-837-6337.
R. Douglas Cowan Elected Chair of American Forests' Board of Directors

R. Douglas Cowan, chairman and CEO of Davey Tree, was recently elected chairman of American Forests’ board of directors. “Davey Tree and American Forests have both cared for North America’s urban forests for more than 100 years,” said Cowan. “And through our relationship with American Forests, Davey has been involved in several notable efforts, including sponsorship of the National Register of Big Trees and the Global ReLeaf program.

Deborah Gangloff, executive director of American Forests, said the transition from board member to chairman was a natural progression for Cowan. “His guidance, wisdom, and care for the environment have been a tremendous asset to American Forests and he has played an important role in the organization becoming a world conservation leader.”

By sponsoring The National Register of Big Trees in 1990, Davey Tree and American Forests hoped to illustrate to the world the impact trees have on our lives. The Register recognizes the largest and most enduring specimens of trees in the U.S. and emphasizes the importance of tree preservation. “With Davey Tree’s help, we have been able to produce and distribute a beautiful color calendar each year, upgrade the software package that keeps track of the champs, make the Register accessible on the web, and bring people professional photographs of the national champions,” said Gangloff.

Davey is also a corporate sponsor of Global ReLeaf, an American Forests program that has planted more than five million trees across the United States alone.

The Davey Tree Expert Company provides tree services, grounds maintenance, vegetation management and consulting services to utility, residential, commercial and governmental markets throughout the United States and Canada. It is employee-owned with nearly 6,000 employees.

Free Safety Feature Updates For Your Brush Bandit

Performance First, Inc. is offering a series of safety update kits free of charge for all Brush Bandit Chippers not already equipped with the devices. The offer includes: weld-on infeed extension pan, wooden push-paddle and mount, spring lock for hood pin, chipper hood engine disable switch, infeed chute pull cord stop and hood lock pin with attaching chain. To take advantage of this offer or for more information, contact your local Bandit dealer or write to Performance First, Inc., Attn: Data Department-J.H., 6750 Millbrook Rd., Remus, MI 49340. Fax: 571-561-2986. Kits will be shipped to local Bandit dealers for your pickup.

Michael B. Weidner was named president and chief operating officer of ACRT, Inc. He will manage the arboriculture consulting and training firm’s day-to-day operations. Founder Richard E. Abbott will continue as chairman and CEO of the Cuyahoga Falls, Ohio firm.
Blount International, Inc. purchases Fabtek, Inc.

Blount International, Inc. announced the completion of the purchase of the assets of Fabtek, Inc. Fabtek is a well-known manufacturer of a full line of forwarders, harvester heads and small tracked feller bunchers for the timber harvesting industry. The Fabtek product line greatly expands Blount's product offering in the cut-to-length markets. All Blount forestry products, including Fabtek, will continue to be marketed under individual product brand names. Fabtek will now become a part of Blount's Industrial and Power Equipment Group, a leading manufacturer of timber harvesting equipment under the Prentice, Hydro-Ax, CTR and now Fabtek brand names. The Group maintains facilities in Prentice, Wisconsin; Owatonna, Minnesota; Zebulon, North Carolina; Tulsa, Oklahoma; Menominee, Michigan and Curitiba, Brazil. Dennis Eagan, President of the Industrial and Power Equipment Group said, "We are extremely pleased to have Fabtek and its employees as part of Blount's family. With our expanded product lines, Blount offers our customers and dealers increased profit opportunities and an enhanced competitive position in the timber harvesting markets." Headquartered in Montgomery, Alabama, Blount International, Inc. is a diversified international company operating in three principal business segments: Outdoor Products; Sporting Equipment; and Industrial and Power Equipment. Blount International, Inc. sells its products in more than 100 countries around the world.

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Sherrill Announces New Greensboro, NC Location

Sherrill Arborist Supply, the largest tree care supplier in the U.S., announced the grand opening of their store in Greensboro, NC. Located at 200 Seneca Drive in Greensboro, 45,000 square feet of showroom, warehouse, offices and service area are under one roof. There is convenient access to I-40 and I-85. You can contact the new location at 336-378-0444 or visit their web site at www.wtsherrill.com
Pre-Election News From Washington

OSHA Begins New Inspection Plan

Commercial tree services' work sites will be subject to wall-to-wall safety and health inspections by the Occupational Safety and Health Administration (OSHA), according to an enforcement directive that went into effect Sept. 8. This will occur despite the fact that the industry's illness and injury rate falls below the stated threshold for inspection.

The agency will conduct 4,200 site inspections of diverse businesses over the next several months as part of its site-specific enforcement program, launched in 1996 when employers were first required to answer an OSHA injury and illness survey. Under the latest agency compliance directive, 00-05 (CPL 2), OSHA will inspect mid- and larger-sized sites—those with 40 or more workers—focusing initially on those with a lost workday injury and illness rate of 14 cases per 100 workers or greater. The target rate is nearly five times the average lost workday injury rate for the nation's work sites, OSHA said.

OSHA's area offices that conduct the actual inspections could ultimately inspect another tier of sites with a lost workday injury and illness rate of 8 cases per 100 workers or greater, according to the directive. The industries selected for the latest round of 4,200 inspections include manufacturing; livestock operations; dairy farms; poultry and egg producers; general farms; and ornamental shrub and tree services. Also on the list are trucking and courier services (except air couriers); public warehousing and storage; trucking terminal facilities; water transportation services; air transportation; airports, flying fields and services; packing and crating; refuse systems; motor vehicles, parts, and supplies; lumber and other construction materials; metals and minerals (except petroleum); scrap and waste materials; groceries and related products; beer, wine, and distilled beverages; lumber and other building materials; department stores; nursing and personal care facilities; and hospitals.

With few exceptions, OSHA chose the targeted industries because they reported an average lost workday rate higher than 5 cases per 100 workers to the Bureau of Labor Statistics, which conducts a separate annual survey in part to produce national injury and illness figures. Ornamental tree and shrub services were selected even though the overall rates for the industry classes were below 5 cases per 100. The "historically large number of fatalities in those industries made them of special concern to OSHA," according to the directive.

Ergonomics: Congress Criticizes OSHA

Senator Christopher Bond (R-Mo.) and other senators criticized the Occupational Safety and Health Administration and the Labor Department Sept. 28 for withholding important contractor documents from General Accounting Office investigators who have been reviewing the use of paid witnesses in OSHA's controversial ergonomics rulemaking. In a letter to the department, Bond, joined by Sens. James Jeffords (R-Vt.), Michael Enzi (R-Wyo.), and Fred Thompson (R-Tenn.) said OSHA and the department's Solicitor's Office have kept important contractor documents from GAO for months, even as they assured investigators that they had supplied all of the requested information. GAO outlined its request for documents in a July 6 letter to the Labor Department and was assured that it had access to all of the information relevant to various witnesses who were paid by the agency to testify in favor of its rule at hearings held earlier this year.

"The DOL's failure to disclose to GAO the full body of relevant information led GAO investigators to operate for months under the misimpression that they had seen all pertinent documents," the senators said.
The Labor Department has strongly defended the use of outside contractors in the OSHA rulemaking, arguing that additional resources are needed to augment the relatively small number of OSHA regulatory development staff that guides such rulemakings through the lengthy rulemaking process. Previous job safety and health rulemakings had been completed with the assistance of contractors, but the practice drew little attention until now.

GAO investigators and the Labor Department began negotiating in July over the terms of GAO’s access to the OSHA documents, some of which were considered privileged by the department.

The senators requested the GAO investigation in response to concerns expressed earlier this summer by the chairman of a House Government Reform subcommittee, Rep. David McIntosh (R-Ind.), over the use of paid witnesses in the OSHA rulemaking. McIntosh in May called for the investigation of some 70 contracts used for work on the ergonomics rule and awarded from 1996 to 2000.

**DOT Hours-of-Service Rule**

Congress reached an agreement on a rider in the Department of Transportation funding measure that would stop the agency from working on a rule to strengthen the limit on hours commercial drivers can work without rest.

Conferees on the bill (H.R. 4475) were said to have settled the issue by agreeing to keep the Senate language, which would block a final rule from being issued before Sept. 30, 2001, which marks the end of fiscal 2001. The Clinton administration has backed off from opposing the limitation. However, DOT would still be permitted to move the rulemaking forward by continuing to gather input from commercial drivers and other interest groups over the next year. The department proposed the new limits in April and had planned to publish a final rule by the end of 2000 (30 OSHR 375).

**West Nile Virus Concerns Spread**

A number of Northeast and Mid-Atlantic areas have found evidence of the virus in dead birds, although there have been few signs of concern in humans. Even so, precautionary action has expanded with accelerated efforts at prevention. To the dismay of activist groups and despite the current regulatory climate in the State relative to pesticide application (see page 40), area authorities have begun mosquito control efforts. Also, on Sept. 25, a New York federal judge denied an environmental group’s motion to block mosquito spraying.

Peter Gerstenberger is vice president of business management, safety & education for the National Arborist Association.

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Reclaiming the Floods ...

By Tim Ard

Picking a shop

There are four major decisions in life:

1. Faith in God
2. Marriage and forming your family
3. Your life’s vocation
4. Selecting a small engine sales/repair shop. After the top three, the fourth should be a simple task, huh? Well, in my travels I hear more about the age-old concern—where can I get the needed saw parts or a small engine repaired properly? Small engine shops are as different as shoes. Some seem to fit some people, some don’t. Here are a few suggestions:

- Locate dealers through ads, friends, phone book, etc.
- Visit the dealers before you need to buy equipment or parts.
- Get acquainted with the owner and his or her important personnel—sales and mechanics.
- Find out the commitment level to customers by checking on equipment selections, parts stock, etc.
- Ask for a tour of the sales and shop facility. If they don’t have time for this after you have waited your turn in line that day, they will likely be too busy to handle your needs correctly when you return for repairs.
- Ask about what training they have had on the product lines they carry. If they do not attend annual training classes, they likely have a below-average relationship with their suppliers.
- Are things organized and clean?
- Are they familiar with their suppliers’ manuals and brochures? No shop anywhere can keep everything in stock. The important thing is that they know how to look things up.
- Are they familiar with the product lines they represent? If they don’t have the answers, are they hesitant about finding the information to meet your needs?

This article doesn’t do much for water damage, but it addresses a very serious concern of many chain saw operators around the world: what to do to start a chain saw or brush trimmer that has been flooded in its own fuel. What causes an engine to flood? I have some theories that may help and, in effect, keep you out of high water.

Four things are needed to make it all happen in an engine—compression, air, spark and fuel. All of them can produce a flooded engine. Take a look at how they work to better understand what happens during a flood.

Compression

It’s what happens when the piston begins its upward movement toward the cylinder head and spark plug. The piston compresses the air and fuel mixture in a squeezing action between the two parts, cylinder head and piston. In most engines, this compression must reach between 100 psi and 180 psi. It takes this level of compression to insure even combustion and create the force needed to spin the crankshaft.

If the compression is too low, it will cause the engine to act flooded. This
condition is usually brought on because of scoring or excessive ring wear of the cylinder wall and piston. In a two-cycle engine, the fuel/air mix is compressed in the crankcase, then pushed up the porting to the combustion area. If the piston ring/cylinder wall seal is weak, the mix passes the ring area on both strokes. Sometimes the engine acts lean, sometimes rich, according to the severity of the scoring or ring wear.

A mechanic can check the compression with a gauge and inspect the cylinder and piston through the exhaust port. You can get an impression of the compression by slowly pulling the starting cord with your switch in the off position. You should feel a good bit of resistance as the piston reaches the top of the cylinder. This is not a highly accurate compression test but is a good place to begin the evaluation of your engine’s compression.

**Air**

Air is mixed with fuel to **fan the fire**, so to speak. Oxygen in the air is the catalyst, mixed with the fuel, to make the volatile explosion in the cylinder. Air enters the engine through the air filter. If the filter is blocked with sawdust and dirt, you can bet it isn’t going to pass all it can, or needs, through the filter.

Any restriction in the airflow creates a rich condition in the engine. The filter must be clean for mixtures to be correct. Clean or replace your air filter regularly. The procedures can be found in your owner’s manual.

**Spark**

An internal combustion engine needs a spark to ignite the fuel mixture in the combustion area. It must be strong enough and at the right time. The ignition system usually consists of a flywheel, magneto/coil, wire and a spark plug. Without spark, the engine will pass the unburned fuel mixture through the cylinder area and into the muffler, causing a flooded engine.

Your mechanic can check the spark with an ignition tester. Some of today’s ignition systems are very tricky and have to be grounded correctly. The old technique of holding the plug against the cylinder and pulling the rope to look for spark is not only dangerous (because of fire) but may also cause damage to your ignition system.

If you suspect the spark plug isn’t firing, I would suggest you install a new plug of the same type—then try to start the engine again.

If it’s been a while since you last used
Larger saws burn more fuel and therefore require high-volume air filters.

Fuel

The last possibility, fuel, is probably the most common flooding cause. Too much fuel is the definition of flooded.

If your engine can't burn all the fuel being fed into it, the engine floods. No spark, low compression, and not enough air being mixed with the amount of fuel will produce a flooded engine. In addition to the common fuel problem mentioned above, two other factors should be considered that are not well understood by two-cycle operators.

First, fuel must be fresh and of high enough volatility to burn correctly. Don’t try to buy a year’s worth of fuel to save money. Buy only enough for your immediate tasks. I recommend the gasoline not be more than 30 days old. This will help to guard against the fuel losing its volatility. Try to buy at least an 89-octane gasoline to mix with your two-cycle lubricant, and use the mix oil suggested by your equipment manufacturer. They wouldn’t recommend it if they didn’t trust it.

Second, mix the fuel (oil and gasoline) at the manufacturer’s suggested ratio. Less or more oil affects your engine’s ability to lubricate and burn the mix cleanly. Mixing a little more oil doesn’t insure better abrasion resistance. It usually causes gum and carbon that makes your engine hard to start and can cause major scoring problems.

Understanding the basics are important—here are a few common flooding causes. These are not in any order of priority. All eight can cause flooding, but numbers 6-8 are probably most common.

1. Old fuel
2. Heavy oil mixed fuel
3. Restricted air filters
4. Restricted exhaust
5. Improper carburetor adjustment
6. Over-choking the engine at start
7. Failure to place throttle in fast idle position
8. Failure to place the switch in the on position

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If it’s been a while since you last used the saw, read the starting procedures in your owner’s manual. It should read something like this for a cold engine:

- Check all safety features and adorn proper PPE
- Place the ignition switch in the on position
- Place the choke lever in the start (on) position
- Place the throttle in the fast idle position (some saws do this automatically with the choke lever)
- Pull the rope through until you hear the engine fire one time. Listen closely for this firing. It may take several pulls.
- Place the choke (off) in the run position
- Pull the rope again (not more than five pulls) and the engine should start
- Press the throttle lightly and quickly to remove the fast idle and let the engine return to idle speed.

If the saw or trimmer engine is warm (operating temperature):

- Check all safety features and adorn proper PPE
- Place the ignition switch in the on position
- Pull the rope through (two pulls)
- If engine doesn’t start, place the throttle in fast idle position
- Pull the rope, the engine should start
- Never choke a warm engine!
- If the engine is flooded, let it sit for five minutes and try again. If the engine still doesn’t start, return to the top of the list(s) and begin again. If the second attempt doesn’t work, start at the beginning of this article.
- If that doesn’t work, visit your local small engine repair center for a check up. Sometimes speaking with a good mechanic can be a worthwhile counseling session.

Tim Ard is president of Forest Applications Training, Inc. and is a nationally known professional chain saw applications instructor. If you would like receive more information or have questions answered regarding chain saw applications, send a note to Forest Applications Training, P.O. Box 1048, Hiram, GA 30141 or e-mail to timard@forestapps.com or visit the Forest Applications Training Web site at http://www.forestapps.com

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Presented by Mike Henning

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Florida Citrus Canker Eradication

By Richard Yach

In 1995, an area southwest of Miami experienced an infestation of a citrus canker strain. In June of 1997, another outbreak of the canker was detected in the commercial groves of Manatee County, Fla. Of all the agricultural pests and diseases that threaten citrus crops, citrus canker can be one of the most devastating—potentially threatening the entire $8.5 billion dollar annual commercial citrus industry of Florida.

This citrus canker has struck Florida in the past and hit the citrus industry hard. In 1910, the first U.S. report of the citrus canker was in the Gulf Coast states. Before it was declared eradicated in 1933, more than $6 million was spent in Florida alone to destroy about 258,000 grove trees and 3 million nursery trees. In the Gulf Coast States, from Florida to Texas, nearly 20 million trees in nurseries and groves had been destroyed by 1934 because they had been infected or exposed.

Citrus canker is a highly contagious disease caused by bacteria that can affect and destroy entire crops. It causes trees to weaken, lose leaves and drop fruit prematurely. Infected fruit will have visible cankers, which hurt the quality of the fruit. Despite a variety of herbicides available, there is no cure. The only solution involves identification and removal of infected and exposed trees.

Through a joint effort of the Florida Department of Agriculture and APHIS—the Animal and Plant Health Inspection Service of the USDA—steps have been taken to identify and eradicate the disease.

APHIS has plenty to keep it busy. Its
current plate of problems to monitor and deal with include the plum pox virus, the long-horned beetle infestation, the West Nile Virus issue in the New York area, and pseudorabies, among others.

The difficulty of identifying and locating citrus trees affected by the canker was extreme. Citrus canker spreads swiftly over short distances by wind-driven rain, flooding, air currents, insects and birds. Like most bacterial plant diseases, citrus canker is greatly influenced by temperature and moisture conditions. The disease is most likely to develop when heavy rains occur during a period when the temperature is greater than 68 degrees Fahrenheit. This perfectly describes warm, humid and rainy South Florida.

Although personally unharmed by the bacteria, humans can also transfer the disease. Movement of infected plants, seedlings, graftings and fruit is the primary means of spreading the canker over larger distances. Contaminated clothing, tools, packing boxes, and other items associated with harvesting and post-harvest handling of fruit are also potential sources of infection. To forestall this problem, quarantine was the only answer until the diseased plants and those likely to be contaminated could be identified and eradicated. Once eradicated, and the quarantine lifted, residents will be able to replant citrus trees as soon as the federal authorities allow.

Imagine taking a complete census of all the orange, grapefruit and lime citrus trees in Miami-Dade and Broward counties. Because this laborious task would take too long, and the canker would spread by the time the census was done, sampling techniques were employed.

While sampling and identification were being done, a quarantine was put on Broward, Miami Dade, Hendry, and Collier counties in South Florida and Hillsborough and Manatee counties in Northwestern Florida near Tampa-St. Petersberg. No citrus fruits or plants could be moved.

Four study sites were selected based on their relative isolation from each other. In the beginning, 19,000 citrus trees were identified, and their location plotted using satellite-based global positioning technology. The disease status of each was then determined on a 30-day basis by a field plant pathologist. The trees identified as infected were presumed to be the direct or the indirect source of subsequent infection in the area.

The main conclusion researchers drew from their data is that subsequent infected trees were within 1,900 feet of the original infected tree 95 percent of the time. Therefore, to eliminate the next generation of canker infections, all citrus trees within 1900 feet of the infected...
citrus groves, the Florida Department of Agriculture and APHIS wanted to arrest the problem before it reached the commercial orange groves in Palm Beach County.

Tree inspectors were sent door to door, backyard to backyard. If a tree was in the 1,900-foot circle encompassing an infected tree, it was marked with yellow paint for eradication. More than 600,000 residential properties were surveyed within the quarantine area and nearly 65,000 citrus trees have been cut down at this writing.

The eradication began in earnest at the end of April 2000. Contracts for the cutting of the trees would require a small army of workers. Asplundh, Ashbritt and Manuel Diez Farms were awarded the cutting and disposal contracts.

"I have 55 crews of five to six men each going house to house where the government officials have designated," reports Juan Montero, Superintendent for one of three Asplundh sections working in the area. "Asplundh is using close to 1,000 workers and there are an equal number for the other two companies."

Montero’s men are removing 20 trees a day on average, and are expected to finish by late December. At that rate, well over 350,000 trees will have been cut, chipped, and their stumps ground down by all the companies involved.

As you can imagine, grinding 350,000 stumps required purchase of quite a few new machines. Vermeer Manufacturing Company alone shipped 155 new SC252 stump cutters to Asplundh. AshBritt brought in 69, and Manuel Diez Farms, who landed one-quarter of the cutting and disposal contract, picked up 11.

On Saturdays, the Vermeer dealer from Pompono Beach sends two mechanics to each Asplundh yard. They perform preventive maintenance on as many stump cutters as they can do in a day, greasing bearings, changing teeth, and changing engine and hydraulic oil when necessary.

By the start of 2001, the Florida Department of Agriculture and APHIS hope to have the problem under control, so people can plant new citrus trees. Florida’s citrus industry is too important to allow this bacteria to infect it. Despite the sacrifices made by tree owners, it is in everyone’s best interest for the program to be completed.
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TREE CARE INDUSTRY - NOVEMBER 2000

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Prior Notification Pits Right to Know Versus Requirement to Tell

By Rick Howland

It sounds harmless enough. New York’s Neighbor Notification law requires applicators of pesticides and herbicides to give 48 hours notification to abutters within 150 feet of any areas being treated.

Signed into law by Gov. George Pataki on Aug. 31, the legislation has become a signpost in the emerging twilight zone of one’s right to know versus the requirement to be informed about the materials being used in one’s environment. In reality, it means major headaches for the tree care professionals in New York and potential headaches in states that tend to adopt copycat legislation.

None of the three sides in this New York brouhaha as yet have a clue as to how, or if, the legislation will work. Predictably, activists aren’t too happy because the law doesn’t go far enough. Tree and lawn care professionals see it as a major, potentially unworkable situation compounded by too many unanswered questions, and New York officials have yet to put in place processes or guidelines—even as to how the notification must be made.

However, the bottom line is, as one Empire State NAA member put it, “The law’s the law, and we have to abide by it ... or try to.” And the law says they will have to be in compliance by March of 2001.

While outside New York this may appear to be a rather obscure problem right now, sooner or later virtually every arborist or landscaper is likely to be affected. States like New York are out in front leading the charge, while others like Maryland have managed to enact a workable system.

The core of the issue is the right to know. Activists claim abutters deserve the right to know what materials are applied and when—generally prior to application. Their argument is that airborne or contact contamination might present anxiety or health problems for abutters whose neighbors have had their properties treated. The objective of neighbor notification is to be able to warn neighbors who might wish to protect themselves, their pets or play areas—even if all they plan to do is keep the laundry off the line and the kids inside.

There may be a greater, more political agenda at stake than the right to know. Legislation that leads to complicated notification procedures creates barriers to a substance’s use. The ulterior motive would be to create sufficient barriers that application becomes virtually impossible. Put another way: if activists can’t have their way in banning certain materials or application methods by creating so many roadblocks, it becomes virtually impossible to apply a substance that’s technically legal to use. Chip away a little at a time until nothing is left.

The symbolic battle lines were most clearly drawn in June when the New York State Assembly approved and passed on to the governor the 48-hour pesticide neighbor notification bill.

The legislation grew out of a dispute over tree spraying on Long Island after a moth infestation, during which pesticide drift created some neighborhood bad blood.

In addition to requiring pesticide applicators to give 48-hour advance warning to property owners within 150 feet of the area to be treated, the law also includes written notice in areas popu-
lated by schools and child-care centers and allows for two alternate dates to accommodate weather conditions.

(Right now, the law applies only to synthetics and other materials that EPA classifies as exempt—not horticultural oils and insecticidal soaps.)

This bill continues to complicate matters by shifting to the counties the ability to further regulate, enforce and modify the rules. Consider the impact on a tree care company that does business in two or more counties. On the same day one might have to prepare for three types of notification procedures—one for each county, and one for the state. Speculation? Perhaps, but no one really knows yet.

Now that the law is signed, the real work begins. What does it all mean?

According to Tom Golon, owner of Wonderland Tree Care in Oyster Bay on Long Island, professionals have been invited to review the law. No public hearings were held, however, and professional applicators were only invited to submit comments by mail. After the law was enacted, it is up to the DEC to establish the rules and fine points of its enforcement.

Golon has seen the notification issue as it progressed through three stages. As a member and former president of the Long Island Arborist Association, he saw the group fend off, for a time, a Nassau County notification regulation. In winning their lawsuit, they proved that only the state can make laws regulating pesticide use.

"Laws like this make doing business harder and harder. We certainly need regulation, especially to protect the public against unlicensed operators," he says, "They’ll be hard to enforce, however, especially against the unscrupulous. It’s another case of preparing for a day that will never come," he notes, pointing to an existing New York law that already requires applicators to contain drift to the target area.

An attempt was made to push for a state registry whereby those who want to be notified of treatments would be identified, easily located and notified. With the new law, everyone within 150 feet of a property being treated must be notified within 48 hours.

Some of Golon’s headaches include unlisted phone numbers and 30-acre properties abutting scores of others.

The compliance questions go on and on. How does notification work with multiple dwellings or rentals or restaurants? Is notification by phone or in writing?

"I do integrated pest management," explains Golon. "During my inspections, I may not have to treat, but now I would have to notify neighbors, even if I do nothing, just in case. Sometimes, I work on a two-acre home, spray only three plants on the deck, and leave."

Golon is also worried that the public will be upset when it discovers that notification isn’t consent. "People don’t realize that when a notification flyer arrives in the mail, there’s nothing they can do to stop treatments or change our schedules."

Another of Golon’s concerns is that the law may force operators to change the way they do business. Instead of multiple visits with low pesticide use, he sees the potential for fewer visits using materials that last longer and may be less environmentally friendly in the long run.

As bad as this legislation is, it could have been much worse, according to Responsible Industry for a Sound Environment (RISE). Fred Langley, state issues director for RISE, sees it this way. "RISE’s position is that we don’t oppose notification if it’s warranted. But we do object to burdensome, overly detailed notification requirements," which is how RISE would characterize New York’s neighbor notification law.

For example, notification is mandated, but how will it be accomplished? Signs? Phone calls? Visits? Door hangers? And what if an abutter doesn’t want to be bothered?

There are other questions too, such as who is to be notified—the occupant, landowner or both? How does an applicator know whom to notify and how is that to be determined and proven?

Then there is the issue of fairness, since the new law targets one industry. The law applies to arborist and lawn care firms. Exempt are golf courses, cemeteries, and farming operations, which have their own set of requirements.

"We worked with sponsors of the bill to work out legislation that would be reasonable and fair, but it is far from perfect and remains particularly burdensome," says Langley.

RISE favors a system similar to one in Maryland, under which property owners have their names listed on a registry and are notified at their request.

Eleven other states have already opted for the notification registry. "You put your name in, and an applicator can cross-reference properties and notify only those who need or wish to be notified," explains Langley. "To put things in perspective, in registry states only .01 percent actually sign up to be notified."

"Laws like New York’s unfairly shift a questionable burden, which might best be shared, totally to the applicator," Langley says. He is critical of the legislation’s final form, charging that it was a response to a "well-networked group looking to establish a possible role model for other states to follow."

The issue of prior notification exists to varying degrees across the country. The right to know is an important part of anti-pesticide activist agenda and not likely to go away. When incidents of application upset people in neighbor-
hoods, they are used as catalysts for legislation.

There is a lot applicators can do to avoid this kind of legislation in their states, suggests Langley. Be professional and avoid situations that might cause problems. For example, he recommends notifying neighbors if you notice pets, kids, toys or laundry.

“Part of being a good steward of the product is to avoid problems that bring down legislation and regulation,” Langley concludes.

Opponents of New York’s law point to states like Maryland as a model. Paul Wolfe, owner of Integrated Plant Care in Rockville, Md., spends 100 days a year on client properties doing applications, and has been involved with the issue for more than a dozen years.

“Some counties here wanted pre-notification of customers,” says Wolfe. “We formed an industry group that took them to federal court and won.” Like the Long Island group, the suit proved that states have authority, not local jurisdictions.

The activists were beaten back on several occasions, Wolfe notes. “Reason ultimately prevailed that mandatory, intensive notification was not necessary. For those of us treating trees and ornamentals, there are many things that prohibit us from being on a specific site on a specific day. Wind or rain, for example, affect drift and a material’s life span.

“With an integrated pest management approach for treating properties, there are times when we don’t know if we have to spray,” explains Wolfe. “Sometimes when we visit, we’ll see plants don’t need treatment, so there’s no reason to pre-notify.”

He cautions that a law like New York’s that forces full pre-notification will put pressure on to apply materials when they actually may not be needed. In Maryland, Wolfe and his peers will contact abutters who have signed on to a state registry.

“We are required to notify people prior to application,” he notes. “In Maryland, this can be done via phone the night before or that morning. We can knock on the door and let residents know, or leave a note if no one is home. We’re also required to post a flag once application is completed, showing our name and the treatment used. This is a sensible solution for the right to know issue. Frankly, activists don’t want us to spray, period. They can’t ban the product, but they can make it difficult for us and tie our hands.

“Everyone is watching New York,” says Wolfe. “How will this law be enforced? Who will police it? Will it be on a complaint basis? When a group of homes are treated, will the neighborhood be annoyed about five repeat notifications? It will be interesting to see how homeowners react to constant notification.”

While New York is only the current legislative hot spot, the entire industry needs to listen carefully for the drumbeat for the right to know. Specifically, listen for the rumble of prior notification of abutters as it gets louder, and along with it, the din of controversy over whether the process is burdensome or even workable.

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**New York Neighbor Notification Law**

**Compliance Issues and Methods in Review**

By Diana Cardillo

The New York State Neighbor Notification law, Chapter 285 of the Laws 2000, was signed by Governor George Pataki on Aug. 21, 2000. The Neighbor Notification Law was added to Title 10 of Article 33 of New York’s Environmental Conservation law. It provides a mechanism to allow New York counties, and New York City, to pass a local law to “opt into” a set of requirements, which include procedures for mandatory advance notification to occupants of dwellings, multiple dwellings and other structures on abutting property, and other requirements.

The law requires:
- posting of notification signs (perimeter markers) by homeowners for residential lawn application;
- posting of informational signs at retail establishments that sell general use lawn care pesticides, and for commercial pes-
ticide applicators (performing the application of pesticide to ground, trees, or shrubs on public or private outdoor property) to provide at least 48 hours advance written notification to all abutting properties within 150 feet of the pesticide application.

The following four exemptions exist:

1. application of pesticides for the purpose of producing an agricultural commodity
2. application of pesticides around or near the foundation of a building for the purpose of indoor pest control
3. application of pesticides on behalf of agencies (subject to visual notification requirements), where the application is within 100 feet of a dwelling, multiple dwelling, public building, or public park
4. application of pesticides on golf courses or turf farms.

The notification must contain information regarding:

- address and date of application (with two alternative dates)
- name, telephone number and pesticide business registration number or pesticide applicator certification ID of the person applying or supervising the application
- product(s) being applied
- EPA registration numbers
- standard text for use in the body of the notification concerning pesticides
- telephone numbers of agencies consumers could call for additional information about the process or materials being applied.

The notification requirement applies to all pesticides as defined in the DEC Rules and Regulations Part 325, which include pesticides, herbicides, fungicides and termiticides. There are a number of exempt items to the Notification Law, including:

1. application of anti-microbial pesticides
2. aerosol products with a directed spray in containers of 18 ounces or less when used to protect individuals from imminent threat of stinging and biting insects
3. use of non-volatile insect or rodent bait in a tamper resistant container
4. exempt pesticides classified by the EPA as exempt
5. material meeting the EPA reduced risk criteria, including biopesticides
6. boric acid and disodium octaborate tetrahydrate
7. horticultural soaps and oils that do not contain synthetic pesticides or synergists
8. granular pesticides
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cited as "not to exceed five thousand
dollars for a first violation, and not to
exceed ten thousand dollars for a subse-
quent offense ...". According to some
certified applicators in New York, the
fine structure of the Department of En-
vironmental Conservation (DEC) has
traditionally been high, and these are not
perceived as extraordinary.

As of the writing of this article, five
counties have chosen to "opt-in" to the
program—Albany, Erie, Nassau, Suffolk
and Westchester counties. The law does
not take affect until March 1, 2001, accord-
ing to Dan Farrell, a DEC spokesperson.
The DEC has an extensive outreach pro-
gram to industry and residents to receive
comments on the Draft Regulations, which
will be made available in the early part of
2001. Currently, a Preliminary Draft Regu-
lations document has been distributed and
comments were returned by October 13.
A copy of the regulations can be found on
the DEC Web site (www.dec.state.ny.us),
or by calling 518-457-7482.

According to the DEC, the manner in
which written notice is supplied include,
but are not limited to a mailing or an
applicant may leave the notice with a
responsible adult or in a conspicuous
location on the abutting property. If this
is beginning to sound like an expensive
proposition, it may be.

The DEC estimates that if in-person-
delivery of notification were made, an
additional 1.5 hours of time would be
required for each job. They cite the fol-
lowing example: for a company with
300,000 accounts that receive five appli-
cations a year, an additional 2,250,000
hours of labor would be required. At $10
per hour, this will cost the company 22.5
million dollars.

On a smaller scale, DEC estimates that
notification will cost a company with
300 accounts $22,500. The DEC also
suggests that the added cost incurred can
be passed on to the consumer at an esti-
mated rate of an extra $15 per
application.

Despite the law's broad scope, some
applicants in New York support pas-
sage. "We feel that it is workable," insists
John lurka, executive director of the Pro-
fessional Certified Applicators of Long
Island (PCA). lurka, an employee of The
F. A. Bartlett Tree Expert Company,
notes that "the disadvantage is the cost
to the consumer. It will cost considerably
more for them to take care of their trees,
shrubs and lawns."

Nevertheless, lurka prefers the new
law to less comprehensive and restrictive
laws elsewhere. States such as Connecti-
cut, Pennsylvania and Maryland
maintain registries of sensitive individu-
als who have requested notification.
crease. Some companies may comply, while others will not. Some companies may be forced to change the services they offer. Just keeping track of which materials require mandatory advance notification could prove time-consuming.

Lurka doesn't plan on keeping track of which materials are exempt. "We feel we must perform pre-notification on every pesticide application," he says.

Even companies without the technological and human resources of Bartlett may find blanket notification to be the easiest way to go. Creative Automation Solutions (CAS), an engineering and computer software firm located outside Baltimore, Md., is investigating the feasibility and cost factors of an electronic, automated solution for generating written notifications.

According to Mark A. Smith, president and owner of CAS, "The software solution currently in development will accept electronic work order data, perform a match against state and/or county tax record data to affix the 'parcel swisskey.' [This is the key field that links a property to all other sources of data in-
With this information, and an algorithm to extract the swiss-key into its component parts, a spacial query can be performed on the digitized map data to identify abutting properties.”

After the abutting properties and mailing addresses have been extracted, the process would then continue to a third-party fulfillment center contracted by CAS that would generate the physical notifications in either letter or postcard form, and mail them.

“We plan on utilizing ‘spacial query and analysis’ routines on county-supplied, digitized data to identify abutting properties based on client-supplied work order data. Of the counties that have announced their decision to opt-in, Suffolk, Nassau and parts of Westchester counties maintain data in a digitized format that lends itself strongly to beta-testing a solution as early as December of this year. Further investigation on the data from Albany and Erie counties will be conducted in January 2001,” continues Smith.

“A prime concern to CAS in developing a sound solution for our clients is the accessibility and accuracy of the state and county real property data,” he says. “Some counties are reluctant to provide data due to recent Freedom of Information Act issues, so it’s difficult to access their data,” concludes Smith.

Members of CAS’s staff held several meetings with DEC employees, including the Geographic Information Systems Unit and the Office of Real Property Services in Albany. Smith’s conclusion from the meetings?

“It is clear that the electronic data infrastructure at the state level does not support the obvious need for an electronic, automated solution for neighbor identification on a statewide level,” he says. “State records can be up to a year old. Some counties have implemented the use of digitized map data, which lend themselves to an electronic, automated solution. Some counties have not, while others refuse to make their data available. Of the counties that do have digitized data, most of this data is approximately a year old and may not be accurate enough for our clients’ needs.”

If all of the computer challenges are ironed out, how much will it costs arborists to comply?

“From the preliminary numbers submitted, the cost for mailing the notifications will be significantly lower than the example costs provided by the DEC,” asserts Smith. “It’s too early to quote an exact cost. Once beta-testing is completed, final costs and pricing will be published.”

Diana Cardillo is a senior product specialist with Creative Automation Solutions, which has been serving the green industry since 1991. She can be reached at 1-800-49-ARBOR or via e-mail at: dianac@creativeautomation.net.
Look Out Above

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

The outdoor climbing seminar brought industry professionals from all walks of life to the park. Chippers, stump grinders and all the latest equipment, tools, and technology were scattered in an organized chaos upon the grassy knoll. Seminar participants “worked the park” with exciting stories of past triumphs, and tried to cut deals with vendors displaying their wares.

The busy park bordered a wilderness area and the forest environment was peppered with enormous Eucalyptus trees whose leafy boughs provided much-needed relief from the sun.

Eager to join the throng, Big Al Fontaine parked his precious 4-wheel-drive truck in the shade of a huge Eucalyptus which had long since given up the ghost. Unbeknownst to Al, disaster was developing high above.

Big Al got out of his rig and started to make his way toward the group. At just that moment, the mighty Eucalyptus released a mammoth branch from its ghostly grip. The branch twirled and plummeted. Picking up velocity as it fell, the ballistic branch devoured the distance between itself and Big Al’s vehicle, which was parked in the precise target area for the approaching branch.

The commotion of the park was halted with a sickening crunch when the branch harpooned Big Al’s truck. Pieces of deadwood flew in all directions like shrapnel from an enemy grenade. Big Al’s truck lay in ruins, along with his pride. Big Al could have avoided this predictable and dangerous incident by applying a couple of simple principles.

Inspect for Hazards: Electrical hazards are usually easy to spot and respect, but tree hazards can manifest in many different forms. The presence of dead, broken and dying limbs is usually a giveaway for potential (unseen) hazards, but always remember to also look for conks and mushrooms, and other less obvious signs of decay. Let’s not forget about bees-or furry creatures such as squirrels-whose presence may hint at hidden cavities within the tree. Those cavities are potentially dangerous areas of structural weakness.

Target: A tree sitting in its natural environment poses no threat to life or property, but the same tree placed among people, traffic, buildings, etc. is instantly transformed into an instrument of disaster-with bone-crushing or even life-threatening potential.

Take a moment to recognize the potential for disaster and avoid placing yourself, your equipment and other assets in harm’s way. Once a potential hazard has been identified, take it seriously.

Remember: trees don’t know what lies beneath them. Trees don’t know how much experience and education you have. Only you do!
The Great Fungi Experiment Lives Up to Its Name!

By Jennifer Scott-Lifland

One of Southern California's oldest and most effective environmental organizations is TreePeople. For 27 years our mission has been "to inspire the people of Los Angeles to take personal responsibility for the urban forest—educating, training and supporting them as they plant and care for trees and improve the neighborhoods in which they live, work and play."

Since TreePeople’s creation by Andy Lipkis, we have planted more than 1.5 million trees in Los Angeles. With the help of hundreds of volunteers, between 12,000-14,000 seedlings are planted in the mountains surrounding Los Angeles every year. TreePeople is a partner with four other Los Angeles tree groups in a multi-year, multi-million dollar green project involving Los Angeles schools, called Cool Schools, which is funded by the Department of Water and Power. Through this program and TreePeople’s Campus Forestry program, we will help schools around the country become greener, healthier places at which to learn and play.

With such extensive tree planting projects in progress, it was only logical that as tree care manager I was extremely interested in testing the potential benefits of root inoculation with beneficial mycorrhizal fungi and bacteria. So, with the help of plant pathologist Bob Sparnicht and chief investigator Mark Zipeto, I set up a trial project in order to evaluate the effectiveness of beneficial root fungi and bacteria under field conditions in Southern California.

We named our test the "Great Fungi Experiment," and selected a location in Sun Valley near the intersection of the Hollywood Freeway (170) and the Golden State Freeway (5) in the San Fernando Valley of Los Angeles County. The planting area consisted of the roadside shoulders on both sides of Sheldon Street for a distance of approximately one-third mile, from Roscoe Boulevard to Arleta Avenue. This area is adjacent to undeveloped acreage, which is used as a spreading ground for storm water.

California pepper, Schinus molle, was selected for planting because of its adaptability to our climate, its ability to survive with low maintenance once established and its relative freedom from insect and disease problems. The trees available were container-grown specimens in 15-gallon containers. Although not a native species, it has proven its worth in similar locations. The soil at this site is primarily a coarse, sandy texture, low in humus and nutrients, with excellent drainage and poor water-holding characteristics.

On Oct. 4, 1997, TreePeople volunteers and a crew from the Los Angeles Conservation Corps planted 30 trees on the west side of Sheldon Street. Then on June 6, 1998, TreePeople volunteers planted 50 more trees on the east side of Sheldon Street. (The absence of street lights on this side of the street allowed for many more trees.) Upon return visits, we have noticed a number of gopher mounds in parts of the planted area. No rodent protection was installed with any of the trees, but root barriers were installed to minimize later curb or sidewalk damage, which might occur as a result of surface rooting.

Finally, on Oct. 24, 1998, we set up our experiment; the trees were measured and root inoculations were carried out. Because of their relatively low branching habit, measurements of their trunk...
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circumference were taken at 36 inches above soil level, and all but nine of the 80 trees fell in the range from 3.00 inches to 4.13 inches in circumference, with an average circumference of 3.45 inches. Numbers were assigned to each tree and the adjacent curb was marked with a black marking spray, in addition to which, the tree stakes on each tree were identified by colored tape. The trees were divided into three groups, and the treatment they received was replicated on every third tree throughout the planting.

Treatment #1 (marked with red tape) was the control and received no treatment. In Treatment #2 (called the trowel method and marked by green tape), trained volunteers applied a root inoculation to each tree. It consisted of six ounces of Mycor Tree Saver Transplant and .4 ounces BioPak Biostimulant. It was incorporated into the soil in the trees’ root crown by digging three holes, 3- to 4-inches deep by trowel, and mixing the additives into the soil as it was replaced in these holes. In Treatment #3 (called the deep treatment or injection method and marked by yellow tape), each tree received a total liquid root injection of approximately 3.7 gallons, divided among six insertion points around the perimeter of the original container to a depth of approximately four inches. The liquid injection mixture contained 4 ounces of Mycor Tree Injectable, 8 ounces BioPak Biostimulant, one pound Urea 48-0-0 and eight pounds Nitroform Powder Blue 38-0-0 per 100 gallons. This mixture was furnished and applied by Mitchell Pest Control, Inc., a commercial arborist volunteer, using a spray tank in which to mix the materials thoroughly and a tree fertilizer gun to make the injections.

Immediately after the treatments, each tree was watered thoroughly and at intervals during the succeeding years, the trees have been watered.

In order to evaluate the benefits of the root inoculations, a schedule of follow-up measurements has been carried out. The first post-treatment trunk circumference measurements were taken by TreePeople volunteers on June 26, 1999, on March 3, 2000 and again on June 17, 2000. From this data, graphs were prepared summarizing the changes in both trunk circumference and trunk cross-section area, which have occurred during the approximately 20 months since the inoculations. Of these two methods for reporting the data, only the calculations using the cross section area of the trunk reflect the change in volume of trunk mass, which is generally accepted as the most significant index of total improvement in tree growth. It should be noted that the period from July 1, 1999 through Jan. 31, 2000 was one of the longest drought periods in recorded weather history in Southern California.

Studies of the changes in the growth rate of trees has repeatedly shown that it is most strongly dependent on two factors—the availability of water and the availability of nutrients essential for plant growth. Of these two, moisture is by far the most important factor, since every element obtained by a plant from the soil must be in an aqueous phase in order that it can move into and throughout plant tissue.

The “Great Fungi Experiment” taught us a lot. The root inoculations, whether by the
trowel incorporation method or by liquid injection, resulted in significant improvement in the rate of growth under extremely unfavorable growing conditions. Of even greater importance is the fact that, aside from this initial improvement in plant establishment and growth, which in itself is certainly impressive, the establishment of beneficial mycorrhizal fungi on these trees will continue to give them the ability to outperform the control trees for many years to come. Although this report is based upon only a relatively short period of time, our observations have been so encouraging that by sharing them, we hope others engaged in urban tree planting and care will decide to try this new technology in their own field plantings.

Jennifer Scott-Lifland is tree care manager for TreePeople. She would like to thank Mark Zipeto, Mike Albanese, Jim Summers, Bob Spartnicht, Dr. Donald H. Marx, J. Harold Mitchell and the many TreePeople volunteers who have contributed their time and energies to the “Great Fungi Experiment.”

**Average Trunk Circumference**

<table>
<thead>
<tr>
<th>Measurement Dates</th>
<th>Average Circumference in Inches</th>
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</thead>
<tbody>
<tr>
<td>10/24/98</td>
<td>#1 - Controls</td>
</tr>
<tr>
<td>6/26/99</td>
<td>#2 - Trowel</td>
</tr>
<tr>
<td>3/3/00</td>
<td>#3 - Injection</td>
</tr>
<tr>
<td>6/17/00</td>
<td></td>
</tr>
</tbody>
</table>

**Stock #62727**

2001 Sterling Acterra M7500, Cummins ISB, 260 hp w/’97 Eagle T30 Loader, Joysticks, 23’ boom.

**Stock #2547**

1994 Ford F700, 5.9L, 175 hp with 2000 Nokka 3955 loader, 18-foot steel bed w/32” sides.

**Stock #2547**


(2) **2000 Sterling LT9513**, Cat 3306C, 300 hp with 2000 Prentice 120E loader, 25-teleboom, .25 cord butt-type grapple. Stock #62330 & #62331


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The latest edition of features more topics, drawings, and some new handy charts.

Jepson’s start as a writer came while preparing to give climbing workshops. He decided to write a small manual to help facilitate teaching for the workshop. The small manual was very popular with the trainees, encouraging Jepson to expand on the original concept.

Jepson bases the manual on a step-by-step tree climbing system called P.E.P. This three-letter acronym stands for Pre-Climb Inspection, Entry and Position. The organization of the manual follows this concise and logical system. Each procedure and technique is fit into the P.E.P. model and instructions for each are given in an accurate and clear manner.

To compliment the systematic approach of the manual, Jepson incorporated artwork by Bryan Kotwica for those of us

---

**The "Sit-Stand" Method**

1. **Place ascenders on the rope and attach the climbing system to the climbing saddle.**

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

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

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

**"Rope Grab" Options**

- **Footlock**
- **Foot ascender**
- **Foot loop**
who need a little help visualizing each procedure. Does Kotwica's name sound familiar? It should! He is the tree care industry's very own artist. Kotwica creates monthly artwork for the NAA's TREEWORKER newsletter for field personnel, as well as drawings for other NAA publications, such as the latest Pocket Guides. Kotwica's accuracy in the technical aspects of his artwork isn't just good drawing technique. He has been working in the tree care industry for over a decade! This experience, combined with pure talent, results in some of the finest technical drawings available.

This versatile manual is an excellent complimentary guide for training videos, can be used with on-the-job training, and also makes a handy pocket reference. It also compliments the NAA Pocket Guide series that discuss and illustrate the most common safety issues in our industry.

TCI EXPO 2000 is a great place to review this manual. It will be carried by many of the arborist suppliers on the trade show floor. You may also contact the International Society of Arboriculture, consult your arborist supply catalogs, or contact Beaver Tree Publishing by e-mail at: bevtree@eot.com.

Robert Rouse is staff arborist for the National Arborist Association.

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Pruning Tips:  
The Japanese Laceleaf Maple  

By Cass Turnbull

The Japanese laceleaf maple (Acer palmatum Dissectum) is one of the world’s most elegant trees. The magnificence of the winter branch pattern is such that even most hedge shear maniacs will halt before its awesome delicacy and grace. When looking for the perfect focal point for a small and frequently viewed area, one is hard pressed to do better. But just how to properly prune a Japanese laceleaf maple is a source of great concern for the average homeowner, and a source of great joy (and income) for the knowledgeable professional.

What doesn’t work

Don’t try to keep a laceleaf maple small. I have seen gardens where people have tried diligently to contain them, using selective thinning cuts to keep the top down, and selective heading to restrain the width. But the heavily thinned branches seem to age rapidly, peel and crack—a sign that dieback is next. Overthinning and overpruning can stimulate a resurgence of watersprouts, which are always a warning bell that something is wrong.

The most common cause of mal-pruning is mis-siting. Usually the dainty new maple is perched at the front stairway’s edge, insuring its inevitable obstruction of foot traffic. The best solution to the severely mis-sited tree is to transplant it. We recently salvaged a 40-year old laceleaf maple (8 feet x 8 feet x 5 feet tall). When moving a Japanese maple, take special care not to break the branches—they are quite brittle. Immediate water is the key to success, as well as diligent watering the first full year.

I have only seen one full-grown Japanese laceleaf maple that has been reduced in size successfully. It was in a Japanese garden within a larger botanic garden in Missouri. Farther on in the same landscape was its twin, but it looked sadly nipped and nibbled on—no doubt from a similar attempt to “control” it.

The Miracle of Deadwooding

Arborists love old, neglected laceleafs because one is assured of transforming a scraggly brown mop into a piece of artwork. I remember one impressed client who said, “I thought I just didn’t have the right kind.” And it’s so easy! Eighty percent of the work is simply the removal of collected dead leaves and accumulated dead wood. Just gently run your fingers through the branches, combing out the leaves. Then the gardener “thumb prunes” out the tiny dead twigs that have occurred since last year. They are easy to spot, since they are light gray in color, not matching the rest of the living branch. Using thumb and forefinger, the pruner gently squeezes, until the dead twig snaps out.

Larger dead and dying branches should also be removed. They are usually located at the bottom and inside of the tree, where they have been shaded out. Which brings me to correct positioning. One works from the “bottom up and the inside out.” Like an auto mechanic, the pruner is often found lying under the tree, legs sticking out, working on his or her back. Prune not only the dead branches but also the limbs that have been so severely shortened that they are of no further use (and would probably die sooner or later anyway).

Timing

I prefer summer pruning because one can gauge when the tree has been sufficiently opened up to see inside to “the bones.” Laceleafs tend to get a bit heavy and thick looking in full sun, and they can be successfully thinned out to give them a lacey feel. Take care not to thin or over-thin in very hot weather, since the bark is easily sunburned. Despite how it sounds, sun burning the bark on any tree is a serious problem.

Early winter is also a good time to prune. For novices, it is easier to follow the branch patterns when the leaves are off. But it can be harder to spot deadwood. To make sure a limb is dead, use your hand pruners to peel back a tiny bit of bark. If the thin sheath of cambium just beneath the bark is green, the branch is still viable. If it is brownish or worse, cut away!

Not long after the winter solstice, the sap begins to rise in maples and, if one prunes before the leaves are out, you are likely to see the cuts “bleed.” We are told that this doesn’t permanently damage the tree, but it looks scary. Most good arborists wait with their major work until the leaves are out. In the early spring, I once cut a large limb on a sunny day. It wept heavily, and I worried that, as the temperature dropped to below 30 degrees that night, the wet area might freeze and crack.
More so than on any other plant, it is important to use high-quality, sharp pruning tools when pruning laceleaf maples. The cuts must be exact, neither leaving the hint of a stub, nor cutting too close. In the first instance, the stub dies back and ruins the good looks of your elegant plant; and in the other case, the “flush cut” can open the branch to disease and dieback. I vividly recall my Japanese pruning instructor showing us “shell pruning.” He ran his hands along the branch and extolled the virtues of “smoothness” and “agedness” in our pruning endeavors. The branches on laceleafs are so brittle—and the bark so thin—it is easy to make pruning cut mistakes, tears or stubs. One must invest in a professional pair of bypass pruners, and an ARS-type folding pruning saw. One arborist of my acquaintance has located a special tool called a Japanese keyhole saw, which works especially well to make the fine and exacting cuts required on Japanese maples.

Skirting

Some little maples are so engineered that their skirts drag in the mud. That is to say, the lower limbs flow down to the ground and beyond. One remedies this situation by taking off some of the lower limbs entirely to the trunk, and selectively heading some of the others. Always cut to a side branch that is big enough to take over as the branch end. Usually the side branch is at least one-half the diameter of the parent stem, and faces out.

The rest of your pruning is done either to solve a problem (e.g. removing the one, most interfering limb that sticks out into the sidewalk) or to lend definition to the plant. Thinning out branches uniformly throughout the plant will give it that airy look. Be careful not to “strip” them all out to the ends. Better to take some large and some small branches, frequently standing back and walking around to judge one’s progress. It helps me to think that I am separating various layers of limbs rather than thinning each branch separately. Remember, it’s easy to take it off, hard to put it back.

New pruners on a crew are prone to overthin. It is true that one should take out crossing, rubbing branches, but remember you are not trying to eliminate them—especially if they represent a fair portion of the plant. To remove all the crosser/rubbers would mean total destruction of a laceleaf, whose branches tend to wander and double back in curious ways. At the end, finish up by thinning out the top a bit from outside. This gives the plant a uniform “beaded curtain” or “lace” effect.

The entire process of pruning a large, neglected laceleaf maple can take between one and three hours, so remember to be patient and move slowly. In the end, you will be amply rewarded. The laceleaf does all the work, but you’ll get all the credit.

*Cass Turnbull is the founder of PlantAmnesty in Seattle, Wash.*
Wanted ... Dead
Asian longhorned beetle

The Asian longhorned beetle is a serious pest of hardwood trees that has no natural enemies in the United States. It first arrived in the United States in the early 1990s aboard wood packing material, such as pallets and crates, from China.

The beetle attacks healthy hardwoods, including Norway, sugar, silver and red maple, horsechestnut, poplar, willow, elm, mulberry and black locust. If this insect were to become established here, it could destroy millions of acres of trees.

Asian longhorned beetles do not normally spread fast, so there is still hope that this pest can be contained. The beetles tend to attack one or two trees, eating until the food runs out. Only then will they move on to other trees.

Adult beetles are active only during summer and fall. During the rest of the year they stay deep inside infested trees, making eradication with insecticides almost impossible.

The only way to eradicate the beetle is to remove and destroy infested trees. In New York City, thousands of street and residential trees have been cut, chipped and burned at a cost of more than $5 million.

The Animal and Plant Health Inspection Service (APHIS) is calling on arborists to help contain the pest. In addition to being aware of what the beetle looks like, APHIS asks that tree care professionals learn to recognize the telltale signs of beetle infestation. Finally, and most importantly, do not spread the infestation unintentionally by trimming or removing an infested tree and transporting the wood elsewhere.


Trimming even the largest trees has never been easier. Our new TM-270 Series offers a working envelope that is greatly enhanced with a 270 degree upper boom articulation and 135 degree lower boom articulation. With approximately 50 feet of side reach, you can get to more trees – and more of each tree – in less time – all without moving the truck.

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The following are regulated articles within regulated quarantine areas:

- Firewood (all hardwood species), and green lumber and other material living, dead, cut, or fallen, inclusive of nursery stock, logs, stumps, roots, branches, and debris of half an inch or more in diameter of the following genera:
  - Acer (maple)
  - Aesculus (horse chestnut)
  - Betula (birch)
  - Hibiscus syriacus L. (Rose of Sharon)
  - Malus (apple)
  - Melia (chinaberry)
  - Morus (mulberry)
  - Populus (poplar)
  - Prunus (cherry)
  - Pyrus (pear)
  - Robinia (locust)
  - Salix (willow)
  - Ulmus (elm)
  - Citrus

The fight against the beetle continues. Removals are taking place in Illinois and New York. Survey crews are checking trees for reinfection. Please be aware of this serious pest when you are in the field.

### Quarantine Areas

See map at right for quarantine areas in New York City.

**City of Chicago Quarantine.** That area in the Ravenswood community in the city of Chicago that is bounded as follows: Beginning at the intersection of Kedzie and Bryn Mawr; then east along Bryn Mawr to the end; then east along an imaginary line to the shoreline of Lake Michigan; then south from the intersection of Kedzie and Bryn Mawr, along Kedzie to Diversey Parkway; then east along Diversey Parkway to the end; then east along an imaginary line to the shoreline of Lake Michigan; then north along the shoreline of Lake Michigan to the point of beginning.

**DuPage County Quarantine.** That area near Addison in DuPage County that is bounded as follows: Beginning at the intersection of Fullerton Avenue and Swift Road; then east along Fullerton Avenue to Lombard Road; then north along Lombard Road to Army Trail; then west along Army Trail to Swift Road; then south along Swift Road to the point of beginning.

**Village of Summit Quarantine.** That area in the Village of Summit that is bounded as follows: Beginning at intersection of Archer and 59th Street; then south along Archer to 67th Street; then east along 67th Street to the end; then east along the railroad tracks to Sayre; then north along Sayre to 59th Street; then west along 59th Street to the beginning.
Congratulations. This summer you decided to keep your employees busy and earn a little extra money plowing snow this winter. And you landed some commercial accounts that could turn a tidy profit. Part of that contract, however, includes keeping the sidewalks clear. According to the experts, sidewalk snow removal is different from plowing the driveways of your residential tree clients. What do you need to know to manage employees efficiently?

Managing performance in snow and ice removal operations is a complex issue. It involves all of the components of productivity. In most companies within the green industry, people are hard working ... or at least they believe they are. Announcements of productivity increases will most likely be interpreted by your people as a demand for front-line workers (specifically the sidewalk snow-removal workers) to work harder. This is not true. We want them to work more effectively and be more accountable for the results of their efforts. This is true not only from the standpoint of the contractor, but also from the viewpoint of the customer.

People are, by nature, territorial. We tend to accept responsibility and be more accountable when our territory is defined. It is difficult for workers to mentally get their arms around their territory, zone or responsibility because in snow and ice management the areas are so large and so removed from each other. It is also difficult to keep track of performance until everyone knows and understands the outline of the territory(s).
The Modern Sidewalk Snow-Removal Laborer

Sidewalk snow work is a people-intensive activity. The labor intensity of sidewalk snow removal has improved, and the percentages may change in the future, but people power will be the heart of the business for years to come. We have not been able to substantially reduce the man-hours per lineal foot of walk, even in light of improved ice control materials and more sophisticated, state-of-the-art equipment. In fact, it is a proven fact that a man with a “snowpusher” is considerably more productive than a man with a snow blower if snow fall is less than 8 inches.

There will be no relief in the near future for the labor shortages facing our industry. The US Department of Labor has confirmed our fear that the pool of available workers is shrinking and will get even smaller in the future. The industry will continue to experience more companies (mostly competitors) chasing fewer available workers.

We need to evaluate the importance of production workers. For the owner of a tree care company with highly trained and well-paid employees, it can be difficult to shift focus to seasonal and low-skilled employees. Nevertheless, the reality is that the production worker in snow-removal operations (often the lowest paid and generally an on-call, part-time employee) should be the focal point of your management systems. A production unit for sidewalk snow removal is a crew that includes labor, equipment, material and transportation. The labor for one production unit usually consists of one crew leader (or working foreman) and one or more crew members.

The crew leader has emerged from the ’80s as the specialist of the ’90s, with an expanded role in on-site management of snow removal and ice melting operations. The difficulty and expense of communication links and direct supervision of mobile service crews—coupled with the need to have an experienced, knowledgeable employee on the property at all times—has reshaped the value and job description of the traditional working foreman or crew leader. Organizations that recognize this expanded role for the crew leader will streamline their organization by eliminating middle managers and production supervisors. They will redistribute these assets, all the while upgrading the role of the modern day crew leader.

Most snow-related production workers who are attracted to our industry like to work outdoors, or are doing snow removal as part of a year-round activity that includes tree care, landscaping or...
property management. Normally, they do not object to physically demanding work. You will probably also have to concede that your skilled arborists won’t want to drop their saws for snow work. Brush draggers and groundworkers, however, may be excited about the change of pace. They may need a pay differential for winter work, which often means working in conditions that are intolerable to others in the workforce.

What specific traits should we look for when hiring a production person to work under an experienced crew leader? After the basic requirements have been met, look for the person that needs to be active at all times and who appears to be bursting with energy. The production worker we look for usually has little regard for detail and is difficult to train in the classroom. They learn by doing and are good candidates for on-the-job training, provided the objective is getting them to take action, not improving their knowledge. The sad reality is most true production people on sidewalk snow-removal crews leave our industry because we do not see ourselves as managing a production operation. This is true in landscape management operations, as well as snow removal operations.

A production organization should be staffed and organized so the entire operation is a support system for the production workers and production units. Sidewalk snow removal should be viewed as a production-oriented task. The functioning production organization should be structured so that management will not interfere with production. Production workers perform best when they are managed as team members, or athletes, rather than laborers. They need specific goals set for each production period (or snow event). The company standard (either the contractor’s standard or the customer’s standard) for performance must be demonstrated by the crew leader. The procedures leading to the standards must be taught while a snow event is taking place, thus putting even more pressure on the crew leader and production workers. Unfortunately, snow events in some areas of the country are few and far between, thus making retention of the production principles even harder.

Most people want more than a paycheck for a day’s work. Part of management’s responsibility in a production organization is to help each player on the team to build self-esteem.

Small Crew Theory

The most efficient crew size for performing sidewalk snow-removal activities has been discussed, argued, and subjected to trial-and-error testing. Since sidewalk snow removal emerged
as a separate (or specialty) business, the issue became more important. By adding mobile crews, we discovered the importance of correct crew sizing. In today’s competitive labor environment, the need for higher productivity and increased quality suggests a “new look” at sizing sidewalk snow-removal crews.

Let’s look back at our (non-snow related) experience with small crews. Most of us at some time in our careers have worked as a one-person crew. Remember how much you could accomplish in one long day? Remember the first really good helper, the one who read your mind and did what you wanted him to do? You increased your production when you added the helper ... but you did not double it. Sidewalk snow removal (and snowplowing too, for that matter) is a series of solo, one-person tasks. Unlike landscape installation or construction, sidewalk maintenance crews do not handle heavy or awkward materials or equipment requiring more than one person to improve efficiency. This lack of synergistic benefit on a per task basis encourages us to think of our crews as combinations of one-person crews.

Loading heavy sheets of plywood is a good example. One person can load 30 sheets per hour, but a crew of two can load 75 sheets an hour. The difference is called synergy—which means that the whole is greater than the sum of its parts. By working together, the plywood loading crew actually increased the output per person from 30 sheets per person per hour to 37.5 sheets per person per hour. What would the effect be if you added a third person? It would be detrimental to the overall production synergy.

In sidewalk snow-removal work, we do not perform activities that offer opportunities for positive synergistic effect. In fact, we have the opposite. When we increase the crew size, we lose efficiency. For example; send one person to do a job that takes 4.0 hours of elapsed time (or 4.0 man-hours). Now ... send two people with the same equipment the same distance to clear the same area, and it takes 2.4 hours of elapsed time (4.8 man-hours). The two-person crew did it much more quickly (2.4 hours instead of 4.0 hours total), but more time was spent in man-hours and therefore it became less efficient.

Now, in a lot of cases, clearing a sidewalk in a little over two hours rather than half a day is a worthwhile tradeoff for the inefficiency—especially if it is snowing like the dickens at the time that the sidewalk needs to be cleared. The important issue is to recognize that the more people we send to do the job, the faster it is completed—but it is also less efficient in total man-hours spent. Your cost is proportionate to man-hours spent, not
elapsed crew time. The small two- or three-person crew may not effectively clear snow quickly enough at all sized properties.

One drawback of small crews on large properties is they cannot complete the work fast enough. They spend too much time on-site, or do not get the job done on time. One answer to that problem is increasing the crew size. All that is needed is a crew-cab truck and a few more snow pushers. You should be able to send as many as six people to one property and "knock it out," then move on to the next site. Large crews are fun to work with. They appeal to the social side of our nature, making it easy to build enthusiasm. Large crews also make the members feel safe and secure. They feel as though there are enough of "us" to get it done.

Production managers and snow-removal customers like large crews because absenteeism does not cripple the production effort. Supervisors (especially non-producing supervisors) like a lot of people to look after. It makes them feel needed. Crewmembers like large crews. It is like being on a team. You don't feel the pressure to produce. They have more freedom to do the things they enjoy as long as they keep busy. Property owners/managers love big crews! They are taught in property management school that the more people running around their property the better! They sometimes demand contractors "get more people" on the job and "get it done!"

Crews working a specific route are often sized to fit the largest property. Crews seem to grow almost by themselves. Supervisors and production managers often add one member as "insurance" against anything going wrong. This is a sign of mismanagement, not efficiency. Everyone likes large crews—except the person responsible for profit. In some cases he (or she) does not know that large crews (with more than three people) are the problem rather than the solution. They blame people, the pricing system, or the weather for the production crisis that is reducing profits.

Large Crew Myths

Increase in man-hour efficiency is only one of the many myths about large crews. Another popular legendary myth is that large crews insure quality work. This was born in the belief that it takes more time to do quality work, and non-quality work is faster and saves time. Neither are true. Quality is the result of a process that includes trained people operating the correct equipment according to a set procedure. In large crews where accountability is minimal, quality is often sacrificed.

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<td>70 Hi-Ranger 6H65, single stick control, rear mount flatbed, cab guard on a 1990 Ford F8000, 33,000 GVW, 5/2 trans.</td>
<td>70 Hi-Ranger 6H65, single stick control, rear mount flatbed, cab guard on a 1990 Ford F8000, 33,000 GVW, 5/2 trans.</td>
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<td>100% new</td>
<td>Painted sour color.</td>
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When you are behind schedule, the first solution is to add people. Desperate property owners may even dictate specific crew sizes and threaten to withhold payment if these demands are not met. In most cases this “knock it out” behavior is an attempt to correct performance problems and force the contractor back on schedule. In this situation, don’t increase the crew size; bring in a separate crew, divide the property into appropriate zones, and then “knock it out.” Once back on schedule, the manager will become accustomed to accepting fewer people on the site during a snow event.

The myth that large crews provide better usability of supervision is a throwback to factory or assembly line thinking that really does not apply to on-site sidewalk snow removal crews. The notion that one strong supervisor can supervise five people as easily as two and still keep production responsibility does not apply during a snow event. Some supervisors try to keep the men together. Supposedly they are easier to supervise, but in reality the “herd mentality” further reduces productivity. The “large crew supervisor” must make a choice to reduce (or eliminate) his own productivity in order to keep five men up to speed, or allow their productivity to drop to maintain individual productivity.

Most large crew supervisors do a little bit of both and lose both productivity and quality. The combination that seems to work best is a full time working foreman with one or perhaps two crew members trained to require very little direct supervision. Divide large crews into smaller two- and three-man crews and teach them to function as separate work units. When large properties require more man-hours than a three-man crew can generate, divide the property into two zones and send two crews to produce the work. It will be much cheaper for the customer in the long run—and the contractor will look much better at budget review time.

Each two or three person crew should have production and quality goals for the specific snow event they are working. Even though they may be in competition on the same property, they should be evaluated on that particular snow event’s performance.

John Allin is president of the board of directors of the Snow and Ice Management Association and owner of Allin Companies in Erie, Penn. Mr. Allin wishes to gratefully acknowledge that this article would not have been possible without the guidance and assistance of the late Phil Christian.

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Accounting: Talking the Talk

By Mary McVicker

Accounting is the common language of business. More importantly, accounting terms explain the infrastructure of a business. The more you know and the better you understand the financial underpinnings of your tree care business, the better the business is going to run.

This article is not an accounting vocabulary lesson, but a financial "how to" that will help you understand the language that truly runs your business. Doors will open once you understand what accounting terms mean.

In your business you probably have mountains of accounting information, but very little knowledge about the business that is represented by that information. Information is not knowledge. Only by understanding the terms and what they mean, will you turn information into knowledge.

Managing capital

“Working capital” is a term you hear frequently in business circles. Whether you know it or not, you must be good at managing working capital or you wouldn’t survive in business. Working capital is defined as the dollar amount of a business’ current assets. Working capital is essentially your liquid assets, which includes cash, short-term investments, accounts receivable and inventory. Of course, inventory isn’t usually as liquid as cash; nonetheless, inventory is included.

Accounts receivable aren’t as liquid as cash either, especially accounts that are more than 60 days overdue. Typically, accounts receivable that are 30 to 60 days past due are anywhere from 70 percent to 90 percent collectible. After that, percentages plummet dramatically. So this wonderful definition of liquid assets includes a large percentage—perhaps as much as half—that isn’t very liquid after all.

What you want to look for when examining your company’s numbers are the unfavorable trends, because your numbers are clear when things are going well. It’s less obvious if trends are unfavorable.

What you need to monitor for financial health is your dependency on debt and your ability to pay bills. How much debt is really encumbering you business? Accountants track this through the use of a debt-equity ratio, which is debt divided by equity. Using the numbers from the sample balance sheet (Fig. 1), the debt-equity ratio can be expressed as:

\[
\frac{\$86,000 + \$114,000}{\$76,000} = 2.63
\]

You should compute your measures monthly. Less frequent comparisons will blur the changes—and again, the seasonal...
nature of tree care can really skew the comparisons.

One of the terms related to debt equity is "leverage." In the 1980s, leveraged buyouts were all the rage. Financiers would go to Wall Street, borrow money to buy a business, and hope to pay off the debt with profits from the business. Sometimes it even worked. For other businesses, however, the new owners had to sell off vital parts of the company to pay the debt. Sometimes they failed entirely. Today, leverage tends to be a negative term, although a little bit of leverage is healthy for a business.

In a sense, leverage refers to your ability to borrow. It means lenders believe you have enough cash flow to carry and support additional debt repayments. The ability to borrow is crucial for any business, especially one like tree care that involves so much expensive equipment. When you need some equipment, you can purchase it if you have leverage.

Your company’s debt-equity ratio and leverage will determine how much debt your business can support. One of the biggest problems small businesses face is under-capitalization. Essentially, what this means is the owner has financed the business with too much debt and too little equity.

When a business is under-capitalized, it can be compared to a tree with a weak root system. Capital can mean a lot of different things, but in this case it is defined as the initial investment in the business. A business with weak financial underpinnings needs an infusion of owner equity into the business. The best way to do that, unfortunately, is to expand the equity by selling a portion of the business to a partner who is willing to invest assets (either cash or non-leveraged equipment).

This improves the company’s capitalization, but chances are you will be giving away a fair amount of control, not to mention a share of future profits. Most ratios, by themselves, mean very little. But tracking ratios is useful because changes generally show up one to two months before they are felt in the business. You probably know when you pull out your checkbook to pay bills that things are getting a bit tight, but it’s useful to have it quantified so you can see when the change started. By knowing that ratios are trending downward at the earliest possible stage, you can take action to forestall a crisis.

In tree care businesses that tend to have seasonal fluctuations, tracking ratios and looking for trends is crucial. Comparing month to month ratios within the same year is not going to tell you very much. Your business will have decreased activity in certain months of the year, and all your ratios are going to start to look unfavorable as the slow season begins. It is better to track ratios by season, comparing them with the same season in previous years.

You really need to have a good profile of your business throughout the year, not just a number handed to you from your accountant at yearend. Devote a little time yourself or pay your accountant to track your ratios over the last five years. You are most interested in how bad things were in the lean months. Pick out your worst year. It doesn’t matter why it was your worst year, but that should be your benchmark for comparing future ratios.

Create a profile for that year, good
months as well as bad, using a debt-equity ratio or your current ratio, which is described below. This gives you a sense of how bad it is going to be before it starts to look like your worst year. If that is your benchmark, you survived it and you know what you had to do to survive it. You will want to be very aware when the ratios and measures for another year approach that benchmark. When your ratios start approaching your worst year benchmark, take it as an advanced warning sign. You will see it happening a month or two before the trouble really hits.

A company that can't pay its bills won't stay in business very long. First and foremost, then, is to monitor changes in cash and liquidity. Several ratios focus on the liquidity of the business. The most common is the current ratio, which is computed by dividing the total of current assets by the total of current liabilities. Current assets include cash, marketable securities and accounts receivable; current liabilities are debts due in one year or less.

Two months later, if the totals have changed and your business has $140,000 current assets and $98,000 current liabilities, the current ratio has dropped to 1.43 to 1. Your business is becoming less liquid.

This change isn't a great cause for worry by itself, particularly if this change occurs before the upturn in the business cycle and the ratio is typical of the business during this time of the year. But the change may not be entirely attributable to seasonal factors, and it may continue past the current period. If unfavorable changes in the liquidity ratios can't be explained, they need to be considered a sign of erosion in the business' position.

In either case you should be concerned about the fact that your business is becoming less liquid. A loss of liquidity often will show up in the ratio before the business actually feels the pinch.

Measuring ratios sounds like a lot of work that requires expertise. Business and accounting books have hundreds of financial ratios you can use to track your business. I don't think we need to go that far. It is useful to track about six or seven, looking at different aspects of the business. It doesn't always matter which of the six or seven that you use, but you need a variety. Each one looks at a very specific aspect of the business.

Keep it simple. If the process starts to get complicated, you're using the wrong ratios. What do you want to
know about your business? What knowledge do you need, and what kind of information is going to get you that knowledge? You want something that is going to help you track your business's dependence on debt. You want to look at your cash position and your current assets. I wouldn't be too interested in owner equity, unless it is a negative number.

I am heavily in favor of tracking accounts receivable. When receivables slow down, trouble is on the way. Businesses rarely get into trouble overnight. Once in a while something spectacularly negative happens, but most of the time trouble starts small and gets worse. Tracking ratios and measures is one way to spot those cash leaks.

**Income Statement**

If you look at the income statement (Fig. 2) you will see that the tree care business has a nice net income. Many business owners have a net income on their statements, yet the owner wonders why he doesn’t have any money. Good question! The balance sheet and income statement should be straightforward, but they are not. What they do is raise questions that help you search for answers to profitability.

Let’s look at some non-cash accounts that are on the balance sheet and income statement, starting with depreciation. The assets of a tree care business lose value over time, particularly capital assets such as machinery, equipment, vehicles, buildings etc. Depreciation shows up in two ways. The income statement is for one year. Depreciation expense on the income statement shows as an allocation of the amount the asset has depreciated over the last year. It also shows up on the balance sheet. Here the accumulation of depreciation shows the amount that has been depreciated over the life of the asset. If you have had a bucket truck for five years, it has been depreciated in value over that time. Your accumulated depreciation for that asset is going to be the total of all those depreciation expenses that apply to it. The

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**Fig. 2**

**INCOME STATEMENT**

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idea is to show that the asset is not at full value.

Unfortunately, depreciation is based on accounting conventions and any resemblance to the real life of the asset is usually coincidental. You don’t walk out and look at your chipper and think that it has been a real rough year on that particular piece of equipment so you should depreciate a lot this year.

There are four fairly common ways of figuring depreciation. You can depreciate the equipment over four years, or you can estimate what the life of the equipment will be (within certain ranges). Check with your accountant to see which schedule makes the most sense for you. Each way has consequences in terms of taxes. If you have big depreciation expense, your net income is down and there is less tax to pay. On the other hand, your income statement won’t look so good if you are looking for financing. A sophisticated lender or leasing agent who understands the tree care business should be knowledgeable enough to look past the numbers on your income statement. This is where a cash-flow analysis is very handy because it will tell your lender whether or not you can pay the loan back.

Be careful of ...

♦ Whichever way you decide to depreciate your assets, you will have a number on your balance sheet called accumulated depreciation. Do not be tempted to consider this as some sort of fund you have set up to replace the asset when it wears out. That has taken in a lot of business owners. Accumulated depreciation has no relationship to money; it is simply an accounting convention.

♦ Another item on an income statement that confuses people is accounting for loans. When you borrow money, your income statement is not going to show an influx of cash into your business. It does register on your balance sheet by increasing your cash and liability figures.

With respect to repayment, the only thing that shows on your income statement as an expense is the interest. The principle repayment does not appear anywhere on your income statement. That is one of the reasons you can look profitable on an income statement and not have a lot of money.

♦ If you sell an asset, it obviously disappears from the balance sheet. Your income statement will reflect the sale of the asset. At the end of the year if you have sold off more equipment than you have purchased, you could look at your income statement and think you had a pretty good year. You could sell off all of your equipment, and your income statement would look great—but your business would be done. Any gain or loss from the sale of an asset should be shown separately in the income statement. It may be set off in a footnote with an explanation, but it has to be made clear that this income was not in the ordinary course of the business.

♦ “Retained earnings” is an unfortunate term that is loaded with problems. It does not really have anything to do with cash on hand. A retained earnings figure is historical and cumulative, and could have accumulated over 40 years. Retained earnings make the tie between the income statement and the balance sheet, making it all balance. Retained earnings increase with profit and decreases with loss. Dividends paid out also decrease the number. It is a balancing figure, not a savings account. You should track it, because it is a reflection of the health of the business, but it has nothing to do with cash.
Conclusion

You need to figure out what you want to know about your business. Where are your problem areas? If you see a problem in debt, start measuring your company’s dependence on debt. Look for the changes, positive as well as negative. You may want to use a couple of ratios, to look at it from a variety of angles.

Not all measures of the health of a tree care business are financial. If you are having trouble with dissatisfied customers or a lack of repeat business, track customer service so that you can clarify what is happening. It’s more fun to look at where you are successful, but you need to look at what will be the most useful. These measures and systems are going to give you an early alert as to what you need to know about your business. Get yourself in a position where you can head off the trouble early so the corrective action will be less drastic.

Talk with your accountant about which measures and ratios might work best for you. Have your accountant set things up, and you should be able to plug in the numbers monthly that track your firm’s financial status. If your accountant can’t work with you to show you how to track a few key ratios, find a new accountant. Accountants are like any other professionals—a few are extremely good. Too many get caught up in the numbers and lose sight of what they are supposed to be doing, which is helping you run your business. Problems arise when accountants fail to see beyond the numbers and fail to make the distinction between information and knowledge. You need knowledge. You need the information that is going to give you insight into your business. That is what your accountant should be focusing on. Talking the talk needs to go both ways.

Mary McVicker has written and consulted with small businesses for over 15 years. She has a degree in finance, a law degree, and was a tax attorney with a major accounting firm before leaving to teach and write. This article was excerpted and adapted from a presentation at TCI EXPO ’99.
Don Blair, owner of Sierra Moreno Mercantile Company, discusses changes, opportunities and role models that have influenced his 25 years in the business.

First of all, I'd like to congratulate you on the 25th Anniversary of Sierra Moreno Mercantile Company. Arboriculture has grown a great deal during the last few decades. Describe what it was like when you first started.

DB: I guess we’ll first have to establish when I started before I can answer what it was like. My father, Millard F. Blair, began his career as an arborist in 1911, and established MF Blair Tree Experts in 1922. I was born in 1953 and grew up with the business. I remember being with my dad when he bought his first chain saw in 1958. Although I grew up in the field and started working summers in 1967, I’ve always counted 1971 as the year I formally entered the profession as an adult.

Thirty years ago, we were still climbing on manila, pushing Fanno No. 8 hand saws and loading brush more often than chipping it. We painted our cuts. The owners of several firms in our area had experience that dated back to the ’20s and ’30s. Most companies used older equipment and very few private firms had aerial lifts. At least in the San Francisco Bay area, most private jobs were small. I didn’t sell a $5,000.00 private job until 1979.

Your company is now celebrating its 25th year in business. What things do you find personally rewarding and satisfying as an entrepreneur? What have been the rewards, risks and trade-offs?

DB: Before I founded Sierra Moreno, the main source of supply was a lineman’s supply company in San Francisco. In 1975, I had an idea that arborist equipment could be improved. I also felt that arborists deserved a specialty house that served only them. It has been rewarding and personally satisfying to have time prove me right. It’s also been a little frustrating to see so many imitators jump on the bandwagon with products that aren’t always in the best interests of the consumer.

Over the past 25 years, Sierra Moreno has introduced more new products than any other arborist supplier. Among our greatest successes have been:

1. Wide-back modular saddle systems
2. Separate leg-strap and floating Dee-ring saddle designs
3. Arborist rigging blocks
4. Ed Hobbs’ Lowering Device and Ken Johnson’s Rope Brake and improvements to the Lowering Device
5. Chain saw lanyards
6. Modifications to the Rock Exotica (now Petzl) cammed ascenders that led to the Microjuster, Macrojuster and Foot-locker
7. Arborist ropes, rigging slings and fliplines cooperatively developed with Yale Cordage
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- Conducting the International Tree Climbing Championship
- Funding more than $100,000 in arboriculture research each year

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In addition, we were among the first firms to make popular such current standard equipment as fiberglass pruning poles, tri-edge handsaws and Preformed TREE GRIPS. The rewards have been seeing so many of our ideas so readily embraced and accepted by the industry. The risks have been constant imitation, and the trade-off has been enough people continue to buy our products to keep us growing.

Blair in 1977, wearing a Bry-Dan saddle with a Fanno # 8 saw, the most popular arborist saw on the West Coast for decades.

What are the significant changes you've seen in this industry during the past 25 years?

DB: The opportunities in arboriculture have greatly expanded. There is a whole sector devoted to consulting that was in its infancy 25 years ago. The corporate and commercial side of tree care has grown tremendously as office parks have been developed and landscaped. There are many more large companies now. The ISA and NAA have experienced amazing growth since 1975. I’m sure that certification has made a significant contribution to the growth and professionalism of the industry. For all of the positive aspects though, we are an industry in the midst of the worst labor crisis since World War II. I don’t see any easy solution to this problem either; not when hamburger flippers can start out earning more than skilled climbers in some markets.

How have people in the industry changed?

DB: My friends are older. There are still Oak men and Euc men. Basic human nature doesn’t change, but it seems as though people have changed with society. There are more Hispanic arborists and tree workers. There are more women in arboriculture. I think these changes are for the best. On the other hand, I don’t think people are used to “making do” with next to nothing or working as hard as we did years ago. I can’t imagine people trading in their stump grinders and log splitters for the mattocks and mauls that my father issued to us for stump removal and wood splitting.

How did you evaluate the opportunity for your business in terms of the critical elements of success? The competition? The market? Did you have specific criteria you wanted to meet?

DB: You give me too much credit for keen business acumen with a question like that. I was 22 years old when I founded Sierra Moreno Mercantile. The Vietnam War was still a raw wound to the nation. The economy had been slow to recover from a long recession. I’d gone to the Western Chapter ISA meeting in Palm Springs, Calif., in May 1975. Among the tools being offered by the vendors was a Marvin pruner head on a fiberglass pole. I was very impressed. The vendor quoted me a retail price for one and offered a dealer price for 10 or more. I only needed one, but I recognized a good product that wasn’t in common use in our area. I bought 10.

They were delivered a few weeks later, just in time for our monthly meeting of the California Arborist Association (CAA). I tied one onto the side of my father’s car and we went to the meeting. My friends in the CAA encouraged me to start a tree equipment company. There were very few people selling tree equipment in those days. In addition to selling the pruner, one member said he needed 600 feet of climbing line; another needed lags and Dick Marling wanted a copy of my father’s book. I asked everyone to hold on for awhile while I did some research to see if I could get the equipment and what it would take to start a whole new company. By June 30, I’d developed a source of supply and registered the name Sierra Moreno Mercantile Company.

What made you select that name in particular?

DB: The Sierra Moreno was a bump of a hill along the Corte Madera Creek.
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in a tract of coastal redwood that I helped log in the early 1970s. The hippie woodcutters I worked with called themselves the Sierra Moreno Logging Company. I liked the name. I wanted a name that sounded like it had been around since the Gold Rush, because I wasn’t sure how a 22-year old climber was going to fare in the retail world.

As it turned out, I needn’t have worried. People like Robert Fanno, Knox Hardin Jr. (Wood/Chuck) and John Nelson (Bartlett Manufacturing) embraced me and did everything they could to encourage me in growing my business. In the beginning, it was amusing to see how much chaos the name created. I got mail addressed to Mr. Moreno M. Sierra. I was offered special bid treatment for being a Hispanic-owned business; my answering service once told Sam Noonan that he had reached the Sierra Moreno Mexican Tile Company!

How has the importance of professionalism, comfort and safety made a difference in the manufacturing of today’s products?

DB: Twenty-five years ago, arborist equipment was basic and mostly borrowed from other occupations. Our modular saddle systems with integrated back support are a perfect example of blending professionalism, safety and comfort into one product designed exclusively for an arborist. Today’s arborist consumer is more sophisticated and demanding of safe and comfortable equipment than the arborists of the past, but we have to remember the chicken and the egg (e.g. I think the saddles of today would have sold just as well 50 years ago if they had been available.)

You devoted a whole chapter in your book, Arborist Equipment, to the idea of mindset. How did this concept surface and why is it so important?

DB: Mindset is an attitude, mental
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A proper mindset about life in general and arboriculture specifically is one’s life can be fraught with peril, disappointment and failure. With the correct mindset, a job becomes a career, a crushing disappointment becomes a minor challenge, and life is never boring or routine. Think of someone you know who always seems to have a thundercloud over his or her head. Think of someone who always ends up standing in the wrong line, can’t make ends meet and is in conflict with the world at large over practically everything. Now, think of someone you know who is cheerful and successful. They are both living in the same world. I believe that one’s mindset has a lot to do with whether you spend life as the hammer or the nail. Working in trees is not a natural environment for a man or woman. If you don’t develop the correct mindset towards safety, no amount of regulation is going to help you.

What was your most triumphant moment? Your worst moment? What did you learn from both success and failure?

DB: I think my most triumphant moment was the publication of my first catalog in 1986. I’d struggled with getting something published for 10 years, and it was a masterpiece when we finally released it. The stories and technical knowledge in the catalog led to demand for my book, Arborist Equipment. The most important moment was probably the time I went to see L. Dean Stringer at Utilities Safety Supply in the summer of 1976. In addition to working with Utilities Safety Supply (specifically Deloris Parker) to develop the best-made saddles in arboriculture, Dean’s confidence in me at such an early stage in the growth of my company gave me enough confidence in my judgment that I continued to seek collaboration with specialty manufacturers to improve climbing gear and rigging equipment. My worst moment was probably the time I saw that a competitor had copied one of my most popular saddles.

What were the most demanding conflicts or trade-offs you have faced?

DB: The first conflict was in giving up my love of actual fieldwork for the demands of running two separate companies in an effective manner. The next conflict was juggling the time demands of the tree company with the equipment business. I struggled with that for 12 years until I shut down the tree company to concentrate on training, consultation and equipment development. I moved to Maryland in 1990 and although the quality of life is better for my family, I miss the redwoods, oaks and eucalyptus trees more than I thought possible. If I’ve had a problem with my career, it’s been a matter of focus. I’m fascinated and challenged by so many aspects of arboriculture that I hate to favor one over another; but getting spread too thin can hurt one’s effectiveness.

As you look back, what do you feel are the most critical concepts, skills, attitudes and know-how you needed to get where you are today? What will be needed for the next five years?

DB: To quote General Nathan Bedford Forrest: “Git thar fustest with the mostest.” Our initial success was being the first with a new line of practical climbing gear and arborist supplies that were safer, more efficient and cost-effective. What has kept us successful has been on-going improvement and development. But I’m also proud of the many items we introduced 20 to 25 years ago are just as practical and popular now as they were when they first came out. Those products have become classics in their own time.

I spent my first years developing skills as an arborist and a climber in the traditional style with original tools. From that base of knowledge, I was fortunate to be able to see how tools could be designed or improved to do a better job. Finding custom manufacturers willing to bring an idea to a completed product ensured success.

What advice would you give to an aspiring arborist? Could you suggest the most important lessons you have learned?

DB:
1. Never stop learning.
2. Share your knowledge.
3. Do more than expected.
4. Get involved with the NAA, ISA and regional arborist associations. Volunteer to help out whenever possible. The friends you make as a result of such involvement will become best friends for life.

In terms of the future, do you plan to harvest? To maintain? To expand?

DB: I’ve thought of retiring, but I’ve still got a few tricks up my sleeve. I think we’ll hang around and see what we can do to position the company for the next 25 years.

Although most of these questions have focused on Sierra Moreno Mercantile, you’ve always considered yourself first, foremost and currently an arborist. What would you consider to have been the highlights of that aspect of your career?

DB: Mastering the skills of the arborist. Finding out that I not only loved to do the work but also had an affinity for it was a revelation and a joy. Just because my Dad was a great arborist didn’t mean that I was going to be one automatically. There is a sixth sense toward this work that no amount of reading, training or desire can develop if it isn’t within you.

Innovating new techniques, I didn’t want to keep doing things as though it were still 1922. On my own and in collaboration with other rigging geniuses like Ed Hobbs, Sam Noonan and Ken Johnson, I’m extremely proud of the fact that rigging for removal changed forever on our watch with the introduction of the Hobbs Lowering Device, rigging blocks, false crotches and the Speedline. I am also gratified that so many other arborists have continued to experiment, explore and innovate, so that rigging, as well as other production techniques, will continue to evolve long after my generation is gone.

Colleen Heraty is a freelance writer in Carbondale, IL. She may be contacted at: colleenheraty@yahoo.com.
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If your business is like most tree care companies, workers’ comp costs are becoming your biggest headache. The average cost of a workers’ comp claim has more than tripled over the past 10 years, increasing at a rate 50 percent faster than the boom in overall health care costs. In many states, the problem has reached crisis proportions with businesses laying off workers or considering closing shop altogether. The medical bills are only the first step in the long financial march.

"Hidden costs usually come to five times the amount paid in bills," says Douglas F. Miller, president of Employers’ Risk & Insurance Management, Birmingham, Ala. Not least, says Miller, you lose the expertise of an experienced employee when an accident occurs. You must assign a less-skilled individual to perform the work, and that may involve overtime.

There is the administrative cost of filing paperwork and keeping up with the claim. Then there is the time required for following up with the employee and checking to see how he is doing. How can you cut your workers’ comp costs? Twelve consultants from around the country offer the following techniques:

**Work With Your Employees**

1. **Institute a safety program.**

   "Safety programs and loss prevention are the most important techniques for controlling costs," says Daniel C. Free,
president of Insurance Audit & Inspection in Indianapolis, Ind.

There’s no better way to lower workers’ comp claims than to prevent things from happening. Establish a safety committee to identify and correct hazards and activities that can lead to injury. Investigate your operations in a methodical way. What hazards could cause accidents? Include personnel from all levels.

“Bring the workers in to identify hazards,” suggests Donald Marano, president of Industrial Health, Inc., in Salt Lake City, Utah. “Because they are on the line every day, they know about more problems than management.”

Then, structure a hazard self-inspection, done both periodically and on a surprise basis. Detect and abate those hazards before they cause loss. Frey suggests getting computer printouts from your carrier that show a history of claims. Identify accidents as to type: slip and fall, back injuries from lifting, vehicle collisions, wrist injuries from repetitive motions, etc.

“See what’s causing your losses and then make the workplace safer,” he stresses. It’s not enough to post signs about safety. Their effect wears off rapidly. In contrast, studies show that workplace accidents are reduced by any activity that reminds workers of the need for safety. These activities can be as simple as a ten-minute morning tailgate lecture on the likely hazards of the day’s jobs to elaborate incentive programs promoting safety.

2. Use incentives.

Incentives reward employees when workplace accidents are few. They can be as simple as having a company-sponsored party every time the business goes a certain number of days without an accident. Other employers design point systems that award bonuses for a string of safe days.

“The best pre-accident behavior you can elicit is the reduction of hazards,” notes Albert A. Mangone, director of customer training and loss prevention for the service retail industry at Liberty Mutual Insurance Group in Boston, which is licensed to write workers’ comp policies in 48 states. “If you can put your

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employees in competition with each other for the reduction of hazards, it will be a tremendous way to reduce loss.”

This might involve a suggestion program that is added on to a basic safety program in which an employee committee identifies and eliminates hazards.

“The whole idea is to get the safety awareness level up,” explains Seth Marshall, president of Safety Pays, a Santa Monica, Calif.-based company that licenses use of an incentive program. “A company’s workers’ comp dilemma begins and ends with its employees. So, the solution must come from the inside. Marshall’s program employs a bingo card technique for encouraging employees to work safely. Incentives work because they reduce injuries by raising the safety awareness of workers. They focus the attention on the problem. But they must be changed from time to time.

“Don’t be repetitive,” warns Michael Nicholas, president of California Loss Control in San Dimas, Calif. “Change the program around. Maybe, instead of cash awards, you give away soccer tickets. But find out what the employees want by asking them.”

3. Explain the problem to employees.

Tell your employees how workers’ comp premiums are impacting the financial strength of your business. Get them on your side. They need to realize that what hurts the employer hurts the worker and can even endanger continued employment. Knowledgeable employees are apt to support safety programs.

“Make the relationship as cordial as possible, so that when the employees are hurt, they feel they are supported by their employer,” says Ruth Gastel, director of issues analysis at the New York-based Insurance Information Institute. Employees who feel good about their employer are more apt to go along with recommendations regarding early return to work. Also, employees should be informed about the no-fault nature of the state workers’ comp laws. “Workers who know their rights are less likely to hire attorneys to represent them, which drives up costs for employers,” adds Gastel.

4. Respond quickly to accidents.

Facilitate the injured worker getting the proper medical attention—quickly.

“Employees who see that management is concerned about their safety feel better about their company,” says Free. “People want to feel as though they are part of the company, not that the employer is just using them to make money and doesn’t care if they get hurt.”

Call the worker at home to express your concern about his well being. “Get a dialogue going,” urges Free. “Ask the employee what the business can do to keep the accident from happening again.” Make sure the employee understands you do not resent the accident. Such feelings on the part of the employee can lengthen recovery times and drive up workers’ comp costs.

5. Plan transitional work positions.

Here’s an effective technique used by too few employers. Prior to accidents happening, plan for transitional work positions. These are jobs that injured workers can do so that they are not sitting around at home recuperating. An injured climber might not be able to get back in the tree for a while, but that doesn’t mean he can’t find other work.

“The number one way to save workers’ comp money is to reduce time loss,” says Norman Peterson, president of his own consulting firm in Ashland, Ore. “From 60 to 65 percent of all injury costs
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“Before you can put together a program to cut workers’ comp costs, you have to understand the modification experience rating calculation used to calculate your premium,” says Bonnie Brook, president of Stephenson and Brook, a loss control firm in Marblehead, Mass. “Then, you can install a system to manage all of the components.”

6. Pay premiums only on straight time. A common clerical error is to include

represent indemnity to employees for lost work time, not medical bills. Everyone concentrates on the medical, but few concentrate on the indemnity. Preplanning early return to work will save from 20 to 30 times what other strategies will save,” says Peterson. “Why? Because it deals with the key problem: eliminating time loss.”

Getting the employee off the workers’ comp roll by using transitional work positions will save up to half of that 60 percent of injury costs represented by time loss—cutting back on your premium increases. It reduces the involvement of other players in the workers’ comp system, too, such as attorneys and clinics. And studies show that people who work recover faster than those who don’t. Once you have outlined a number of transitional jobs, communicate what you have done to the employees.

“Employees should know before they get injured that they will have a job and what they will be doing,” recommends Robert J. Will, a workers’ comp consultant in Long Lake, Minn. “Write down descriptions of the transitional jobs and give a copy to each employee. Also, bring the subject up during initial interviews with job applicants. Employees need to know that if they get hurt at your company, they will be back working at some level—not off at the golf course.”

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• Excessive Transportation Costs

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overtime in the financial data reported to the insurance carrier. In most states, you are only required to pay premiums on straight time.

“If employers don’t separate out overtime, they end up paying higher premiums,” advises Edward M. Welch, who teaches labor and industrial relations at Michigan State University. To solve the problem, make sure your accountants are familiar with your state workers’ comp law. They should provide you with a printout that breaks down the labor expense categories. Check the numbers against the reporting form that goes to your carrier.

7. Reclassify your employees.
In most states, premiums depend on the classification of your employees. Clerical staff is in a relatively cheap classification. Someone who drags brush or only prunes from the ground may be classified at a less expensive level than a climber. If your employees are classified incorrectly, you are likely paying too much in premiums. What is the solution?

“Insist that your insurance agent give you a full copy of the class code book that has the entire description for each code class, the class code numbers and the corresponding rate for each class,” says Robert J. Will. “See if you can find codes that relate more closely to what your employees do.”

8. Pay small claims yourself.
If legal in your state, you should consider paying small claims yourself. Typically, an employer will pay the first $250 or $500 toward the medical for each accident. The idea here is to save on your premium in the same way that a deductible reduces your fire insurance premium.

“There is money to be saved by taking a deductible,” says Will. “Also, if the employer tells workers that the business is paying a deductible, the worker is less likely to file a bogus claim because they know their employer will have to pay for it, not some billion dollar insurance company.” But this can be a tricky area, legally.

“You need to make sure your payments are officially sanctioned by state law,” cautions Tom Iverson, branch manager for the Portland, Ore., office of Employers Benefit Insurance (EBI Cos.), which writes workers’ comp insurance in over a dozen states. In many states, if you pay a deductible, you will no longer be able to contest the accident as being work related, even if you discover evidence to the contrary. The result can be a big spike in your premiums for an accident that occurred outside the workplace. In most states, the insurance company pays the deductible amount to the medical facility and you reimburse the insurance company. Don’t try to keep your premiums from going up by failing to file papers that report the accident to your carrier. That’s the most dangerous thing you can do.
"If you fail to report an accident to your insurance carrier, you may be subject to severe fines and penalties," warns Iverson. Moreover, what looks like a small medical problem at first may change for the worse. Every carrier in the country has files that started out as a small medical bill and ended up as total disability. If a small medical problem mushrooms into a big one, your attempt to hide the accident in the beginning will be discovered and the insurance carrier may well contest paying the bill.


You should review all of the paperwork relating to your insurance to locate errors that can be inflating your premiums. While it may be mind-numbing to go through, there is a high risk of clerical errors. Audited payroll information can get transposed incorrectly. A line might read $1 million instead of $100,000. Here is some paperwork you should review:

♦ Once a year, have your broker provide you with your experience modification worksheet. This shows the calculations that resulted in your premiums due to experience. Are the figures accurate?

♦ Quarterly, have your broker assist you in getting a loss run from your carrier. This is a printout of all claims against your business for the past three years with pertinent information such as date of injury, type of claim, and reserves. Check the accuracy of all information. See if loss-reserve amounts are correct. See if certain claims that should have been closed are still open.

♦ Six months into your renewal date, check with your broker and carrier to make sure the reserves on outstanding cases are appropriate to the activity. Employers should not abdicate the responsibility for case management to insurance companies, because insurance companies do not have the financial incentive, in the way the premiums are calculated, to manage the cases quickly and assertively. They become very reactive, concentrating on administering the cases very well. But they do not take a proactive stand in terms of strategizing individual cases. In utilization reviews, an outside medical expert reviews all of your medical bills for errors and appropriateness of expenses. Amounts are also compared to the published fee schedules in the 17 states, which stipulate medical reimbursement amounts for workers' comp bills. Review the ways that cases are handled from beginning to end. Were cases referred to appropriate medical facilities early enough? Were payments made on a timely basis to avoid fines?

10. Shop for the best carrier.

"We've had competitive pricing in Michigan for 10 years now, but we still find that some companies don't shop around," says Welch of the University of...
Michigan. "The premium spread can vary as much as 25 percent to 50 percent."

Those numbers speak for themselves. But remember to shop for factors other than premium. The cheapest is not always the best. Consider the quality of the work that the carrier does. A carrier may offer cheaper premiums because there are fewer claims examiners on staff.

How many files are there for each claims examiner? If there are too many, he is likely to miss something. Suppose such a firm takes three months to follow up on a medical report not received. During that time, the worker may get $2,000 a month in time loss, so you end up spending $6,000 more.

How proactive is the insurance carrier’s loss control division, which provides assistance to clients who want to reduce workplace accidents? Some carriers provide plenty of advice; others simply go through the motions of what is mandated by state regulations.

11. Self-insure or form an association with other employers.

"It’s legal for employers to self-insure in 47 states," says Eric Gamble, a research analyst at the United States Chamber of Commerce. "You have to give proof to the state that you have the funds to do it successfully. And in 28 states it is legal for smaller companies to pool their resources into associations to self-insure as a group."

How do you know when you are big enough to self-insure? There are many variables, and you need to consult a specialist in the area. But if a business is paying over $500,000 in annual premiums, it is almost always in its interest to self-insure. Depending on the state and many other variables, self-insurance may also be a viable alternative if the business is paying as little as $100,000. If premiums are less than that, self-insurance is seldom viable. As for association type group insurance, this often begins to be viable when an individual business is paying $7,500 in annual premiums. Again, this can vary by state.

12. Join drug-testing programs.

"In Florida and some other states, you get a 20 percent reduction in your premium if you join a drug testing program," says Gamble. "I think this will spread to additional states because a fair proportion of accidents are caused by drug-related activities."

Work this out with your insurance carrier. Find out if your state allows premium reductions for safety programs. While few states do right now, it seems to be growing in popularity. Most of the consultants emphasized a key point: the most effective way to reduce workers' comp costs is to encourage your employees to make safety a top-of-mind concern. Let them know that you are concerned about their safety and about containing workers' comp costs. You have to care for your employees. If you take care of your people, they will take care of you.

Workers' Comp Resources


INCENTIVE PROGRAMS. Information about starting and running an incentive program is available from Seth Marshall, president, Safety Pays, PO Box 1885, Santa Monica, CA 90406. 310/917-9178.

CONSULTANTS. For a list of independent consultants around the country, ask for the free membership directory of the Society of Risk Management Consultants, 300 Park Ave., New York, NY 10022. 212/572-6246.
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Tar Spot in Maples

By David M. Munson

A relatively common fungal disease has again begun to rear its ugly head across North America. The disease, commonly known as tar spot, affects a broad range of trees in the maple family—causing large, raised blotches or spots. Not surprisingly, the general appearance of these spots is best described as tar-like.

While tar spot is most easily recognized in the fall, host trees contract the disease in the spring. Spores from infected leaf litter are released from fungal stroma (the black, tar-like structures) and carried by the breeze to damp and healthy young leaves, where the spores germinate and enter through the leaf stomata. As with many other fungal leaf diseases, tar spot becomes most widespread during years with cool, damp spring seasons.

Tar spot is caused by two distinct fungal organisms: Rhytisma acerinum and Rhytisma punctatum. R. acerinum is the more common of the two, causing raised, irregular spots that range in size from that of a split pea to as large as a nickel. R. punctatum, sometimes called speckled tar spot, produces smaller, more numerous spots on the affected leaf. A number of other, less common fungi exist in the Rhytisma genus, causing similar symptoms in a variety of other tree species—from hollies to willows.

Throughout most of the growing season, the tar spot infection remains rather nondescript, appearing as light green or yellowish spots on the leaf surface. As autumn approaches, the glossy black stroma that give tar spot its name begin to form. This is usually the stage at which the disease is brought to the attention of the arborist. Since the formation of the stroma is essentially the last phase of the fungal life cycle, treatment at this stage is out of the question.

The best way to control tar spot is to prevent it. A solid sanitation program and effective planning go a long way in preventing the disease. Remove and destroy fallen leaves and debris around maples—making sure to be especially thorough during years when tar spot has occurred. While the disease strikes most maple species, silver, red and Norway maples are particularly susceptible, so be diligent around these species. Plan maple plantings to avoid areas where the foliage would remain damp for long periods, and arrange the trees in such a way that air circulation through the leaves is maximized.

While there are a number of pesticides labeled for the control of tar spot, chemical control is rarely advisable, and proper sanitation is generally more effective in the long term.

While the disease rarely does lasting damage to its host, customers who report tar spot in their maples are understandably concerned—the big, ugly black blotches can seriously reduce the aesthetic value of the trees they affect. Early leaf drop may occur also, giving the appearance of thinning, and the fungus often causes the retention of chlorophyll in the leaves of the host, reducing the dramatic fall colors maples are known for. The best approach for the tree care professional is to explain the nature of the disease to the customer, providing assurance that tar spot is generally not a serious health concern and can usually be controlled with a regular sanitation program.

David Munson is a certified arborist and a reporter for K2bh.com Internet news.
Before TCI EXPO 2000 begins to fade in our memory...

From the entire NAA staff...
to all those who contributed toward its huge success!

THANK YOU
The Price for Old Yellow

How much is a tree worth? Well, the folks in south Florida obviously think their orange trees are worth something. But a giant tulip poplar on the outskirts of Roswell, Ga., may force the re-engineering of a 62-acre office and industrial park.

Colonial Properties Trust, which is angling to build a $100 million office park, says it is willing to work with the city and spend between $600,000 and $2.6 million to find a way to save the tree, known to locals as "Old Yellow General."

The property trust obviously thinks its going to great lengths, because it issued a press release touting its efforts to save the General. Of course, as much as the company loves trees—and good publicity—it isn't about to sink $2 million or so into the tulip poplar for nothing. It wants any money it spends saving the specimen to be credited toward future impact fees for the project.

The tree is estimated to be between 160 and 200 years old and stands more than 120 feet tall with a 16-foot trunk circumference. The real estate company has offered to revamp its plans for a parking lot and either work a safe distance from the tree or build a parking deck in another area and leave Old Yellow General in his original state—except for a nature trail that would let the public see one of its famous local residents.

If the city won't pony up its share, the trust plans to replace the poplar with 100 street trees.

A Tree Murder Mystery

Something is killing trees in the upscale town of Avila Beach, Calif. But it isn't drought, disease or insects that's to blame for this epidemic.

Police in the town believe that one or more culprits lie behind the death, or impending death, of as many as 21 coastal live oaks. In fact, when arborists were called in to find out why the trees were dying, they found the trees had been drilled just above the ground and injected with herbicide.

Local officials told APB News that a wide range of potential suspects exists. The trees block the view of the Pacific Ocean from one hillside development. Property owners who could get themselves a clear shot of the ocean stand to gain as much as a half-million dollars if their obstructed view could be turned into a vista that one resident says is "worthy of the French Riviera."

But what's holding investigators back is the fact that it can take trees a long time to die ... especially by poisoning ... especially when the tree is a 200-year-old live oak that is otherwise healthy. Hoping to save at least some of the trees, arborists are watering them heavily and watching them closely.

In the meantime, investigators consider the poisonings "a crime in progress."

Make Way for Donkeys

The Democratic convention in Los Angeles prompted a spate of tree work in the blocks around the Staples Center and not just because the city wanted to look its best.

It turns out that anti-riot experts suggested that several trees be cut down so that they wouldn't become weapons against police in the event that one of the many demonstrations planned to coincide with the convention got out of hand.

According to the Los Angeles Times, police were also worried that people with mischief on their minds could use the trees as hiding places.

A Cautionary Tale

In a case that drew the careful attention of attorneys and green industry professionals alike, the city of Reynoldsburg, Ohio recently ruled that a woman was free to let her backyard grow wild.

Neighbors felt the woman's yard had become a hazard because it was overgrown with trees and weeds. Some had even ventured onto the property—or sent hired crews there—to prune back the mess.

The woman, Ketha Robbins, said that the patch of woods afforded her privacy, until neighbors began hacking away. Two-thirds of the acre-sized lot had been cleared by neighbors before officials stepped in. Before the case was over, the county's board of health, the Ohio Department of Natural Resources and several private landscapers hired as consultants had all weighed in on the matter.

While some area residents told the Columbus Dispatch that they were worried about being sued for cutting trees without permission, Robbins let it be known that she wants to let seedlings that have sprung up grow into full-size trees.
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TREES CARE INDUSTRY - NOVEMBER 2000
More Than Deadwood Inside Trees

What started out to be a normal tree felling—no stump grinding—was anything but. We were asked to remove a dead tree in Jenkintown, Penn., an old community with big, beautiful houses. The 65-foot oak, which had been dead for about three years, was about five feet away from a stone carriage house that had to be at least 150 years old.

Everything was going as planned. We removed all the limbs from the crown and attached the pull rope. I was at the end of the pull rope and my husband notched the tree. (Yes, my husband—good help was hard to find, so I hired him. Well really, he hired me.) Anyway, the pull line was in the tree and I was on the end ready to pull the dead log down. My husband, James, started to do the back cut when he hit something. I was still holding the pull line for dear life. Quickly, he sharpened the saw then proceeded to cut another notch, higher up this time. He started the second back cut when he hit something again. I was still on the pull rope. James quickly sharpened the chain again, put another notch in the tree and tried to make the back cut. Bam! For the third time he hit something in the tree. This 45-foot tall dead oak had three notches and three back-cuts. I'm strong, but there's a limit to how much one can burn their muscles, and mine were on fire.

At that moment, a cable guy pulled up. He had received a call that the cable was out at this address, which was impossible since the customer was outside with us the whole time. It was as if God had sent this nice cable guy to help us. He grabbed the line with me, while James put yet another notch in the tree. On the back cut, I held my breath and prayed, "Please dear God, let it cut through." The cable guy and I pulled over the mighty oak, which came down ever so gracefully.

There was still seven feet of the trunk left with three notches and three back-cuts in it. We told the customer that this was the best we could do. He completely understood and paid us, plus he bought us a new chain for the saw.

What was in that tree? We discovered an old hitching post that the tree had engulfed years ago. It was an unexpected surprise—a little piece of Americana hidden inside a mighty oak—a record of when our transportation had to be hitched to a post.

When we go out to work now, we look at old trees with new interest, wondering what treasures, or riches they might hold. It would be nice to find another piece of history—perhaps some coins!

Tina McConnell is an owner of McConnell Tree in Langhorne, Penn.

Do you have a story

From the Field?

TCI will pay $100 for published articles. Submissions become the property of TCI and are subject to editing for grammar, style and length. Entries must include the name of a company and a contact person.
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