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The Price Isn’t Right

In last month’s issue of TCI magazine, I shared with you the statistics from the Better Business Bureau around making things right with customers. That’s definitely a part of the issue with the consumer in improving our position as a professional industry.

Another part of that equation is positioning our industry correctly in the minds of consumers. Yes, that means setting and following best business practices. Yes, that means having credibility. Yes, that means doing great tree work.

However, it also means positioning in terms of price. We can position our work as a service industry that isn’t worth much and in turn get the price for our work that we have led the consumer to believe is appropriate. In other words, act like your service isn’t worth much, and the consumer isn’t going to pay you very much.

On the other hand, you can position yourself as a professional — someone who has to know a bit of physics for rigging; tree biology for diagnosis; and finance and accounting to keep providing a valuable service to the community.

So how do you go about that? When a manufacturer enters the market in competition with other products, the company has a choice. Are we going to position the product as a high-end product, a middle-of-the-road product, or a low-end product? It’s all about packaging and branding. Take hotels for instance. What is the message that Econo Lodge sends versus the Ritz? Just look at the name and the branding. Then, take a look at what follows … they both may be clean (emphasis on may), but beyond that you’re going to have a different clientele, the insulation between the walls is going to be different, access to food service is different, and locations are different. At the Econo Lodge you won’t find spa services, golf courses, or tennis courts; and no one will carry your bags.

I see tree care companies who have the oddest names … things like Cut Rate and Cheap in their titles … and it takes me about two seconds to guess what market they’re playing to. I wonder why it is that they perceive that the skills they have are something that should be given away, because no one is going to pay what the work is worth with that name.

In order for you to position your work properly, you’ve got to have the Ritz brand — or at least Hampton Inn. First, put in place the things that allow you to position yourselves as professionals — clean equipment in good condition with your logos on your vehicles. Add clean, well-dressed crews to go onto your customers’ properties. Spice with educated people. Top with great marketing messages and information to sell the value you offer your customer.

THEN, you’re ready to position yourself to SELL your work appropriately. And yes, now I mean PRICE. From everything I have seen and heard, our industry has NEVER sold its work for what it is worth. In the economic times we are in, you could say, “but we dare not raise our rates.” How can you NOT? With insurance premiums going through the roof, are you going to eat those costs? I can assure you that doctors, lawyers, and other services are not allowing their profit margins to erode away. You ask what you can do about the guys with the pickup trucks and chain saws who already undercut your prices. Well, by positioning your brand closer to them, you’re not going to increase your profit margins. You’re going to have to do MORE work just to stay even. Yes, it’s about price … and the price is not right yet.

One caveat to this — it may be about price, but it’s NOT about you discussing and setting your prices with competitors. DON’T engage in anti-trust activities while you’re trying to set better prices. WE ARE NOT AN INDUSTRY UNDER THE RADAR, AND YES, YOU TOO CAN GET CAUGHT AND GO TO JAIL.

Set YOUR prices right ON YOUR OWN. Don’t worry about the other guy. GET THE PRICE RIGHT. YOU’RE WORTH IT.

Cynthia Mills, CAE
Publisher

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Diagnosing Sunburn, Sunscald & Thermal Injury in Woody Plants

By Laurence R. Costello & Pamela M. Geisel

Arborists commonly encounter trees that have scorched branches, necrotic leaves, or blistered and cracked bark. In fact, it would be unusual if you haven’t seen these symptoms – they occur on many species and in many locations. After encountering the symptoms, however, the difficult part begins: determining the cause. Numerous abiotic or biotic agents could be responsible: foliar pathogens, canker fungi, vascular disease, water deficit, salinity, specific ion toxicity, or herbicide phytotoxicity. There are many possibilities and multiple factors could be involved. A diagnosis is needed.

Diagnosis is the process of identifying the cause of a problem. Symptoms, site conditions, and plant history are used to construct a diagnosis. In some cases, this is a quick and simple process. In other cases, it is slow and complex. Either way, it is critical to be accurate. Accurate diagnosis leads to the identification of contributing factors and an appropriate treatment or remedy. Misdiagnosis can lead to inappropriate treatments that are not likely to be effective and may be costly and/or harmful. For example, blistering and cracking bark is a symptom that may be caused by a biotic agent such as a canker-causing fungus (e.g., Botryosphaeria spp. or Nectria spp.), or by an abiotic factor such as sunburn or sunscald. Distinguishing between the two potential causes is critically important. If the cause was sunburn, but misdiagnosed as being a canker pathogen, then a treatment (such as a fungicide application) may be prescribed that is ineffective, potentially harmful, and likely to be costly.

This article describes three abiotic disorders: sunburn, sunscald, and thermal injury. Typical symptoms (such as those noted above) are described for each, and information is provided on occurrence, diagnosis, and “look-alike” disorders (i.e., disorders having similar symptoms but caused by other agents). With this information you should be able to accurately diagnose all three disorders.
Fig. 2: Sunburn causes reddish-brown necrotic areas on leaves of sensitive species. Injury to these Rhododendron leaves resulted from afternoon sun exposure during days when air temperatures rose above 90°F (32°C).

Fig. 3: New growth is particularly sensitive to sunburn in certain species. The young shoots on the southwest side of this coast redwood were severely sunburned during a heat wave in late June.

Although they are not encountered as frequently as water stress or aeration deficit, these disorders are not uncommon and should not be overlooked. High temperature is the primary cause of damage: tissues are heated beyond a critical limit and injury occurs.

Sunburn

Sunburn is injury to aboveground plant parts (leaves, bark, flowers and fruit) caused by excessive exposure to solar radiation. Injury results when tissues become dehydrated after being heated beyond a critical limit. Injury from heat sources, such as steam, fire or machinery, is considered to be thermal injury.

Symptoms: Sunburn may cause leaf discoloration and necrosis. The epidermis may appear glazed, turning a silvery or reddish-brown color. In advanced cases, distinctive necrotic areas develop on the leaf blade (fig. 2). Sometimes marginal necrosis will develop, usually starting at the leaf tip where transpiration is highest, and progressing along the entire margin. Symptom onset is usually rapid.

Sunburned bark initially appears discolored (often reddish-brown) and then becomes dry. Cracking and peeling is typical, and damage is usually most severe on the south or southwest sides of branches and trunks (figs. 4 a,b).

Sunburn on flowers and fruit appears as water-soaked areas on the most exposed surfaces. Eventually, damaged flower tissue becomes brown and shrivels, while fruit tissue often appears rotten.

Occurrence: Although most common in summer, sunburn can occur at any time of the year, even in winter. It typically occurs on plant parts receiving the greatest exposure to the sun, usually the south and southwest sides.

Injury is most severe during periods of
high temperature. Plants that tolerate full sun conditions may be damaged when temperatures reach a critical level. Tree trunks in closely spaced container nursery rows are frequently shaded, and when trees are removed, sun-exposed bark is prone to sunburn. Trees that have been excessively pruned or experienced root injury are also prone to injury.

During cool, spring conditions, some species may develop thin leaves that are sensitive to sunburn. When a period of high temperature follows, leaves and shoots directly exposed to the sun may become sunburned (fig. 3). Species reported to be injured in this manner include coast redwood, Douglas fir, white fir, maple and horse chestnut.

Deciduous trees may sustain sunburn injury during the winter months. When branches previously protected by leaves are exposed to direct sun, bark tissues may be sunburned. Similarly, when branches or trees shading other branches or trees are removed, sunburn may result. This can be particularly severe on young trees, thin-barked species and water-stressed trees.

**Diagnosis:** Identify the species and determine whether it is reported to be sensitive to sunburn injury. Investigate recent weather patterns and determine whether critical high temperatures preceded the onset of injury symptoms. Assess whether a period of cool temperature was followed by a period of much higher temperature.

Which tissues are injured? Are the most exposed parts of the plant injured? Are shaded parts of the plant injured?

Evaluate soil moisture status. Is the soil dry? Does the plant look water stressed? Did a windy period occur prior to injury? Was the plant recently pruned? Was an adjacent tree or shading structure removed? For deciduous species, did injury...
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occur after leaf drop?

**Look-alike disorders:** Disorders that resemble sunburn injury include water stress, salt stress, specific ion toxicity, gas injury, and herbicide injury. Sunburn injury to bark is very similar to that caused by sunscald.

### Sunscald

Sunscald is damage to bark caused by rapid temperature fluctuations during the winter. Bark exposed to freezing temperatures at night is injured when warmed by the sun (above a critical level) during the day. Although the mechanism of injury is unclear, it is thought that sensitive cambial cells are killed because they are unable to adjust to rapid temperature changes. Subsequently, bark separates from the underlying wood. It is also reported that injury may occur when freezing temperatures (either at night or as a result of cloud cover) follow bark warming during the day.

**Symptoms:** Initially, sunscald damage may appear as reddish-brown discoloration of the bark. Subsequently, the bark shrinks, appears sunken, splits, and then peels back in chunky patches, exposing sapwood underneath (figs. 1 a,b). Cankers may develop. In severe cases, the entire trunk may be girdled, or individual branches may die.

**Occurrence:** Sunscald injury usually is found on the south, southwest or west side of trunks and branches, and is most common on water-stressed trees. Often, sunscald-damaged tissues are further injured by wood-boring insects and wood decay or canker fungi. Since sunscald requires freezing temperatures, injury is most common in northern latitudes and, conversely, is not likely to be found in warm- or mild-winter areas.

Young trees with thin bark are particularly prone to sunscald (fig. 5). Newly

---

**Fig. 5:** Newly planted trees are particularly susceptible to sunscald injury.

**Fig. 6:** Fire under this pine (*Pinus sp.*) caused one side of the canopy to turn uniformly brown.

**Fig. 7:** Blackening or char on the trunk is a strong indicator of fire injury. Removal of a small section of the outer bark may be needed to assess the extent of damage.

**Fig. 8:** Thermal injury can be caused by heat releases from equipment. Heat released from paving equipment injured trees along this street. Note that only the part of the canopy closest to the heat was injured.
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planted or recently transplanted trees are notably susceptible. Container-grown trees sunscald more often than field-grown or native trees.

**Diagnosis:** Laboratory or other analytical methods cannot confirm the diagnosis of sunscald injury. Diagnosis requires knowledge of contributing factors: recent weather conditions, moisture status of soil and plant, recent pruning, planting dates, stock type, and potential for root injury. Evaluate the location of injury on the plant and the potential for direct exposure of bark to the sun. Determine whether other species in the area are similarly affected.

**Look-alike disorders:** Sunscald is very similar to sunburn injury to bark. If freezing temperatures are not associated with injury, it is not likely to be sunscald. Mechanical damage on the lower trunk, frost cracks, borers, canker-forming pathogens (*Eutypa, Nectria*, and fireblight), water injury from irrigation sprinklers, and rubbing injury from stakes may cause sunscald-like injury.

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**Thermal injury**

Thermal injury occurs when temperatures in the canopy or root zone rise above a critical level due to fire, steam, or heat released by equipment, vents, or other sources.

Most plant cells are killed at temperatures from 122 degrees to 140 degrees (50 to 60°C), depending on species, age of plant tissue, duration of high temperature exposure, degree of hydration, and occurrence of other weakening factors such as wood boring beetles and decay fungi. Damage is usually acute, severe and typically not difficult to diagnose.

Since fire is the most common cause of thermal injury, it is addressed separately from steam and heat injury.

---

**1. Fire**

**Symptoms:** Fire can injure plants directly by combustion or indirectly by heat release. Symptoms include scorched, crisp, brown foliage, and charred or blackened stems and branches (fig. 6).

Trunk damage may not be seen immediately, but heat-damaged bark will separate from underlying tissue. As the trunk expands and callus develops, bark will begin to slough off, exposing wood beneath.

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tensity, duration of exposure, plant moisture content, and how well the species tolerates fire. Plant water content often determines the depth of injury in wood. If trees or shrubs are water-stressed, the degree of injury is greater. Heat-damaged wood is prone to decay and infestation by wood-boring insects.

In grass fires, trees usually exhibit scorched foliage near the ground and in the lower canopy. In crown fires, symptoms are observed throughout the canopy.

**Occurrence:** All plants are subject to fire injury, although species with high concentration of volatile hydrocarbons in leaves tend to ignite more readily if the fire is hot enough or exposure long enough. Young trees with little biomass or thin protective bark are most severely injured.

Landscapes located in or near wildlands or in hot, dry chaparral zones are at high risk to wildfire exposure. Flamable mulches such as straw, peat moss and other dry, compact materials can ignite and damage plants. A progression of low to tall plants creates a fire ladder that promotes crown fires. Low-branched trees and trees with dead branches increase the potential of fire injury.

**Diagnosis:** Examine the pattern of damage. Is it localized or distributed throughout the canopy? Is more than one species affected?

Did the symptoms occur recently? Did they appear following a fire event? Is there char on the trunk or branches?

Look for possible sources of fire or signs of fire.

In cases of heat damage to bark, injury may not be apparent until several months after the fire episode, and the extent of injury may not be known until the following season.

The level and size of trunk char can be used to evaluate cambium damage:

- Light char—"spotty" char or scorch with scattered pitting of bark.
- Medium char—continuous charring with "minor reduction" in bark thickness.
- Heavy char—continuous charring with pronounced reduction in bark thickness with underlying wood sometimes exposed.

Light or medium char usually indicates that the intensity of fire was not sufficient to seriously injure cambium tissue. Heavy char requires further evaluation by removing a small area of intact bark. (fig. 7). If the underlying cambium is yellowish rather than white or pink, it is likely that the tissue is dead or seriously injured. In some cases, a fermentation aroma may be detected. If bark has separated from the wood, then the cambium is probably dead. Species response to fire is often determined by bark thickness and by trunk diameter.

**Look-alike disorders:** Typically, injury from fire is distinctive and not easily confused with other disorders. However, look-alike disorders include herbicide injury (contact or systemic), acute water stress, cold temperature injury (freeze damage), and severe fireblight infections.
2. Steam and heat
Steam released from pipes, in vents, or boilers, or other sources can damage nearby plants (fig. 8). Although these types of injury are not uncommon in landscapes, they do occur and should not be overlooked when diagnosing disorders.

**Occurrence and symptoms:** Aboveground heat releases in localized areas cause scorching of leaves and die-back of stems closest to the thermal source. Releases of greater magnitude can injure the entire canopy. Usually, the onset of symptoms is rapid. Unlike fire injury, stems are not charred.

Steam or heat releases in the root zone may damage the root system. Injury to a substantial portion of the root system causes extensive dehydration of leaves and stems (cover photo). In cases where fewer roots are damaged, aboveground symptoms may range from canopy dieback to little or no observable injury. Such cases may prove difficult to diagnose.

It is common in container stock for soil temperature to rise above 100 degrees (37°C) in the summer, and root injury can occur at temperatures above 105 degrees (40°C). Damage is usually greatest on the sun-exposed side of the container. Root loss causes water deficit symptoms in the canopy.

Heat released from microbial decomposition of organic matter can produce root-killing temperatures. This level of heat is common in compost piles.

**Diagnosis:** Look for heat sources. Are there nearby vents, furnaces or other heat sources? Are there underground steam pipes? Was equipment used in the vicinity that released significant amounts of heat, such as paving equipment? Does the root zone contain high quantities of organic matter, such as that found in compost piles or highly amended soils?

For container stock, is root distribution uniform or one-sided? Is the container directly exposed to sun?

Did symptoms appear over a relatively short time (days or a week)? Are symptoms localized in confined areas or spread throughout the canopy?

**Look-alike disorders:** Injury from belowground heat sources may appear similar to disorders that cause extensive root loss, such as acute water stress, mechanical damage to roots, root pathogen injury, gas injury, or chemical or herbicide injury.

Aboveground injury is usually distinctive because it is often limited to a portion of the canopy and is associated with a nearby heat source. Possible look-alike disorders include herbicide injury, foliar pathogens and chemical injury.

Laurence R. Costello is a Cooperative Extension Environmental Horticulture Advisor with the University of California, San Francisco-San Mateo Counties. Pamela M. Geisel is a Cooperative Extension Environmental Horticulture Advisor with the University of California, Fresno County.

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Jamieson Named CEO

The Care of Trees recently announced that Scott A. Jamieson, president of the nationwide tree care company for the last five years, has been promoted to Chief Executive Officer (CEO)/president. The Care of Trees is the second-largest tree-care company in the U.S. among those that focus on private and commercial clients. The privately-owned company is a $45 million business with 500 employees.

Jamieson started at The Care of Trees in 1989 as an arborist and steadily worked his way up to be district manager, regional vice president, chief operating officer and finally was named president of the company in 1998. His professional affiliations include the American Institute of Architects, the board of directors of the Tree Care Industry Association, the Illinois Landscape Contractors Association and the Illinois Arborist Association.

John Hendricksen, formerly the CEO, continues with the company as the chairman of the board of directors. In this new role, he will support initiatives on leadership development, ethics and safe work practices. Hendricksen has led The Care of Trees for the last 20 years.

Becker Underwood Expands Missouri Inoculant Facility

Becker Underwood, a global leader in inoculants, and specialty products for turf and ornamental management, announced plans to significantly increase its St. Joseph, Mo. Inoculant fermentation and research facility. Says Becker Underwood President Dr. Peter Innes, "Integrating and expanding our St. Joseph operations into a single, state-of-the-art fermentation plant greatly increases our ability to provide customers with leading products and technologies." Innes reports. "Our USA and Canadian inoculant manufacturing plants together give us the flexibility to supply our customers quickly and in whatever formulation they require."

Becker Underwood inoculant brands include: Nemasys, Nematac and Nemaslug for the turf, agriculture and nursery markets. Founded in 1982 in Ames, Iowa, Becker Underwood manufactures and markets a variety of bio-agronomic and specialty colorant products for turf management, agriculture, seed treatment, wood mulch, aquaculture, vegetation management forestry and many other industries.

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Managing and Scheduling Crews

By Tony Bass

Back in 1987, when I started Bass Custom Landscapes, I did not think the company would grow to the size it has become. I did have a dream that I would work for myself.

Over time, we started adding more equipment and more people. With growth comes the need to add more tools and equipment, which changes the business in so many ways. My father and I worked very hard to solve the organizational problems of operating multiple crews. Organization in the green industry involves equipment management. We solved some problems in ways that were so unique we were awarded a U.S. patent for the technologies we built on our trucks to organize tools, equipment and crews. We started another company, Super Lawn Trucks, that builds trucks for landscape contractors in 30 states across the country.

I once saw Bill Gates on television, and he was asked for the one piece of advice that he would give to someone entering the business world. His answer was to pay attention to how you manage your time. The second most important thing is to pick the people who will help you get the job done.

A small business, such as the average tree care company, has approximately seven employees with revenues of about $350,000. If those seven employees waste an average of six minutes a day and you pay them an average wage of $15 per hour, you have paid about $4,725 in wages per year for nothing. As your company grows and you add more employees, those numbers keep getting bigger. Of course, it’s more than possible that people in your company waste more time than six minutes per day. They could waste six minutes per hour.

Wasted time means lower profits. According to the Associated Landscape Contractors of America (ALCA), the average ALCA member has net profit margin of 4.6 percent – a dismal return for the amount of work we put into this industry.

When you head out into the field to sell pruning work, you sell labor by the hour. If your goal is a 10 percent profit margin, then your profit on an hour of labor comes from just 10 percent of the hour – six minutes! A 20 percent profit margin has to be earned in 12 minutes. Managing your time as little as six minutes an hour can absolutely transform your organization because labor is the single largest cost in our businesses.

How do we manage time and resources? Here is some information you need to know. At a wage of $10 per hour, eight hours a day, 250 days a year, the annual pay is $20,000. At $50 per hour, eight hours a day, 250 days a year, the annual pay is $100,000. Some small company owners might make $50 per hour, but not many. I can guarantee you the people who earn $100,000 a year do things a little bit differently than the people who do not.

To make $100,000 per year, respect time, use it wisely, and control it. Focus on this concept: $50 per hour for 2,000 hours a year equals $100,000. Anything that gets in the way of that goal – anything that doesn’t earn you $50 an hour – needs to be evaluated to see if you can stop doing it. Here is a list of activities that typical company owners participate in each day. None of these activities pay $50 per hour.

- Going to the post office
- Going to the bank
- Sorting the mail
- Running to the repair shop
- Lunch
- Pruning trees or dragging brush yourself
- Washing trucks

Here is a list of activities that typical company owners participate in each day that do pay $50 per hour.

- Writing proposals
- Monitoring quality control
- Making a sales call
- Following up on customer service
- Billing and collections
- Planning your day/week/month (entire year?) ahead of time.

Everywhere I go, I ask company owners what factors prevent them from making $50 per hour. The No. 1 answer is employees, followed by vendors, equipment and customers. Some people even blame the IRS. Most of the time, however, problems in business, and specifically in organizing crews, are people related.

There are three critical areas you need to focus on every day.

1. Customer management, including meeting their expectations and communicating with them.
2. Employee management, including training and providing critical job information.
3. Equipment management, including inventory control, repairs and service.
Setting expectations with customers

Do you use the ANSI A300 Standards in your company? Do you give written specifications to customers on what employees and can't do with respect to pruning? Providing clear specifications will separate you from the competition, prevent miscommunication problems, and keep clients happy.

Customer communications can be as simple as having an accurate invoice with as many details as possible. We use specialized software to track specific customer preferences, as well as for billing, scheduling crews and scheduling customers. We print out our route sheets every day, and we can add little notes and special instructions on each sheet about individual clients. Things such as, "Gate key is in the flowerpot" or "Only use the back gate" could be on the sheet. Each client's special request is noted and printed out on the work order. Our invoices also have the date the service was provided and a description of the service, which is especially important for property managers who have to track multiple sites.

Use your invoices to survey customers. I found that only about 30 percent of tree care companies include a return envelope with their bills. I encourage you to not only include an envelope but print a short survey on the back:
- I am pleased with my service
- I am not pleased with my service - call me
- Please contact me about some special concerns or projects

This is a wonderful way to open up communications with your client, handle complaints proactively, and increase sales.

Another great way to communicate with customers is a newsletter. It doesn't have to be extensive: our newsletter, which is just one-page, front and back, includes upcoming service schedules, new equipment, office hours, new employees and staff training. Highlighting your staff training increases the respect clients have for your employees and the expertise they bring to the property. A newsletter can become a great marketing tool and a way to manage your customers' expectations. If you send it out with your bills, there are no extra mailing costs.

Your clients want communication with you, not just a bill. The most inexpensive thing that you can do to promote quality control and manage customer expectations is to call your customers. I know owners and upper-level managers get very busy. If you have a written script, however, you can have an employee call clients to follow up with them. Every spring when things really start hopping, we make a commitment to call every customer as a courtesy to make sure everything is going fine. We make sure to ask, "Is there anything else we can help you with?"

This one question, this one call, can do more to increase sales than any other marketing vehicle.

We also make sure to tell customers that we made a quality control visit; otherwise, they wouldn't know that a manager had been out to the property. As part of our billing process, quality control visits are recorded just like pruning or fertilizing - only with a charge of zero.

Some people insist their biggest asset is employees, but I believe customers are the biggest asset. If we did not have customers, our employees would not have a job. Managing your customers is the most important thing you can do.

Setting expectations with employees

The secret to managing employees can be broken down into three simple ideas:
1. If it isn't written down, it doesn't count. When your crews head out into the field, instructions have to be in writing. With our scheduling and routing procedures, all crews have in writing where they are going, the order in which the jobs will be done, work to be done, and the dates.

As you grow your businesses from three to 20 crews, getting proper, consistent, accurate information into employees' hands becomes challenging. We have a daily briefing with written work orders. We also sit down each month as a company and cover information the employees need to
know. I feel that people learn more when they can see and hear the information. A memo alone won’t do it.

2. Training is a reoccurring and necessary event. Every new hire should undergo the same basic training and orientation. Here is what we do at Bass Custom Landscapes. New hires begin with reading our company manuals, which spells out clearly our company rules, policies and procedures.

Videos that teach basic technical skills are viewed by everyone – even those with experience. It doesn’t take that long, and it lets the new guys with experience know that you expect everyone to do things the right way. If you have a large Hispanic workforce, as I do in my company, it is important to provide that information in Spanish as well.

At one time, the only thing my employees were listening to while driving from job to job was Rap music. Now, they listen to tapes on proper policies and procedures. Find out what tree care related educational sessions are available on tape and put them in your trucks. Our trucks are now a university on wheels.

Hands-on field training should not be the first thing you do with new employees. They need an orientation on the company and should read and watch videos before you send them out into the field.

Finally, employees should have annual opportunities for education and training, such as attending TCI EXPO. People need to know when they come to your company that there are opportunities to learn and to be exposed to ideas that will help them advance their careers.

3. Compilation of services. Do you have a systematized way of explaining what your company does for your clients? If you don’t have it written down in a pamphlet, then you are missing a great way to help train your employees. If employees know what the contract says and what clients expect, they can do a better job living up to those expectations.

You can organize your growing company better if you manage your clients’ expectations, train your people, and set up systems for keeping your people full of information. If you do these things, then the easiest part of your business becomes equipment management.

Managing your equipment

Managing your equipment can absolutely, positively drive a person crazy. I have heard of people who have quit the industry because of equipment management woes.

In 1992, I had a crew leader named Johnny. I was sitting in my office (focusing on high payoff activities) when Johnny called in on the radio. He was at a client’s house and the client wanted him to do some pruning. I told him to go ahead. He told me that he didn’t have any pruning tools with him and did I want him to come back to the shop to get them.

I made a decision that changed my life. I had just learned a little bit about the concept of six minutes standing between...
me and financial prosperity.

I told Johnny to come back and get the pruners, because I didn’t want to lose the customer’s business. Eventually, Johnny and his two-man team pulled in. They all got out of the truck to go find the pruners. Somehow, one of them managed to reach out and pick them up and walk back to the truck.

I was already agitated that Johnny hadn’t taken pruners when he set out for the day, and annoyed that he hadn’t kept his crew working while he came back himself. But what happened next really set me off: He came into the office to tell me that he had found the pruners and had put them on the truck. He also informed me that they would now go back and do the pruning job. I realized then that if I continued to allow those types of things to happen in my business, I would never be able to earn the kind of money that I wanted.

I knew I had to make a change to increase efficiency, improve marketing and strive for zero downtime, so I started researching my business and the industry. I started to examine everything my company did, how we did it, and whether it was time well spent. I went out and watched the crews work, timing them and keeping notes of the processes and procedures they used to get the work done. I learned some incredible things in that six-month period that led to changes.

I found that our equipment caused a lot of the inefficiencies in my company. We had too many different brands, which meant that every time there was a problem we had to chase down different suppliers and vendors. We standardized tools within our company. Using the same brand helped dramatically with repairs and maintenance.

I also studied the rather simple act of refueling equipment. I found that our crews of three would go to the gas station for ten minutes, three times a week, 40 weeks a year. Multiply ten minutes times three employees times three times a week times 40 times a year. That equals 3,600 minutes per year spent fueling the truck. That is 60 man-hours per year. At an average of $15 per hour, that’s $900 in labor costs to fuel one truck. I took it even further. Those 60 hours of fueling time could be 60 hours of production time, which would have earned me $30 per hour, or $1,800 in missed revenue.

After studying everything we did and how we did it, I identified 484.5 man-hours of time per crew that I felt was inefficient or ineffective, which at $15 per hour works out to $7,267.50 per crew, per year in wasted labor. I further calculated that redirecting that many hours into production would add another $14,000 in revenue. I was able to double my profit margin by simply organizing my tools better and training my people better. It is possible that you are wasting more than six minutes per hour. You owe it to yourself, your company and your family to look at the processes and procedures you use to organize your equipment and your people. I increased my profit $20,000 per crew.

You can earn $100,000 per year if you respect your time, use your time, and control your time. Focus on high payoff activities, and remember that $50 per hour for 2000 hours per year will earn you $100,000. Look at your equipment when you think about organizing and scheduling crews. I guarantee there are inefficiencies you can correct.
On February 11, 2003, an Alliance was created between The Tree Care Industry Association and the Occupational Safety and Health Administration (see May 2003 TCI). The Alliance was created to help solidify a relationship between both organizations which will result in enhanced dialogue, information exchange, and the development of training materials, in order to assist Tree Care Industry Association members in providing a safe working environment for all employees. To further these objectives, several initiatives have begun.

Open dialogue

From its initial stages, one of the greatest benefits of this Alliance has been the open and honest discussions which have taken place between TCIA and OSHA regarding the general hazards in the tree care industry. This dialogue has formed the basis of a relationship between the two organizations which will allow for the development of training and educational materials, as well as the joint participation in disseminating such materials. In addition, this dialogue has already proven to form the basis of a long lasting relationship. For example, even at these early stages of development in the Alliance, OSHA representatives from throughout the United States have already begun contacting TCIA seeking information and knowledge of the tree care industry, in order to better understand the tree care industry, and in order to aid in ongoing investigations.

Proposed changes to 29 CFR 1910.269

OSHA was able to provide TCIA with the proposed changes to 1910.269, which is the standard that governs the portion of TCIA membership involved in utility line clearance tree trimming, as well as the portion of TCIA membership that works within the minimum encroachment distances of energized power lines during the performance of the maintenance of trees. This information allowed TCIA to display to its membership the sincere nature of this Alliance. In addition, it allowed TCIA leadership to have ample time to discuss the content of the changes and to inform membership of the proposed changes in an effort to allow for meaningful comment when the proposed changes become part of the register.

Invitation to SBREFA process

In addition to the aforementioned discussions regarding the proposed changes to 1910.269, OSHA also extended an invitation to TCIA to have two of its member companies represented during the "Small Business Regulatory Enforcement Fairness Act" process regarding the proposed changes. This allowed the companies to participate on a panel and provide input as to how the proposed changes in law may affect the small businesses engaged in tree work throughout the country. Participation in this process not only allowed TCIA membership to have a voice in this process, but it also served to strengthen the relationship between OSHA and TCIA through the Alliance.

Review of safety statistics

To help gage the efforts of the Alliance, TCIA has established a survey to help identify safety trends, and areas of concern within the industry. The data will help establish a benchmark for safety statistics within the tree care industry. It will also serve as guidance to determine priorities in the joint training and educational materials created by the Alliance.

Joint review of ANSI Z133

In June of 2003, representatives of OSHA and TCIA reviewed the content of the ANSI Z133 Safety Standard, which is the industry consensus safety standard for the tree care industry. The purpose of this dialogue was to identify areas of the Z133 document that either appeared to be inconsistent with existing legal standards, or appeared to need clarification for better understanding. Since this document is recognized as the basis for safety guidance by both the members of the tree care industry, and by members of OSHA, this was a logical starting point to help establish future joint training materials.

OSHA Compliance Assistance Conference

In May of 2003, TCIA representatives were invited to participate in the 2nd Annual OSHA Compliance Assistance Conference. This was an excellent opportunity for compliance officials from all over the United States to meet and discuss issues with TCIA. This forum allowed TCIA to introduce itself to a multitude of OSHA representatives, and to detail its level of commitment to the safety of the workers in the tree care industry.
OSHA participation in TCIA meetings

TCIA has invited OSHA to participate in its national conferences throughout the United States. Discussions are underway to solidify OSHA participation in future conferences in Sacramento, California, and Detroit, Michigan, over the next few years. The timing of these conferences will coincide nicely with the joint presentations which will be developed between OSHA and TCIA.

Worker safety program development

At the heart of this Alliance is the desire to create training programs directed at enhancing worker safety in the tree care industry. The initial program which is currently under development is a Tree Care Safety and Health Topic page on the OSHA Web site. This topic page will assist users in determining the following: the correct OSHA standard that applies to tree care professionals, the hazards to tree care employees, and what training and personal protective equipment are required to mitigate such hazards. Once the actual training programs and other educational materials have been developed or approved by the Alliance, these materials will also be available through this Web page. Thus, allowing both members of the tree care industry and OSHA access to the most current information and materials available.

Sharing of information

One of the greatest benefits of this Alliance may yet to be uncovered. TCIA recognizes OSHA’s contributions to the safety of the American workforce. Many of the safety issues and concerns within the tree care industry are shared, or have been experienced, by other industries. As this Alliance moves forward, TCIA is confident that OSHA will provide insight and assistance in understanding the methods and techniques that have proven to be effective in improving safety in various other industries.

David Marren is director of regulatory affairs for the F. A. Bartlett Tree Expert Company and chairman of TCIA governmental affairs committee.
Imagine arriving in Hawaii and realizing that a majority of coconut palms on the islands have become extinct. That would be akin to discovering that flowers associated with Hawaii - hibiscus and orchids - have disappeared from the landscape of this remote tropical paradise.

An insidious, devastating "cancer" is decimating coconut palms in Hawaii at an alarming rate - 15 percent have been destroyed by a deadly pathogen known as Phytophthora katsurae, which causes coconut heart rot.

What are the symptoms of Phytophthora?

Abnormal loss of small to nearly mature nuts has been a common early symptom of the disease. Infected fruits have dark, mottled spots and rots. Irregular expansion of brown infected areas frequently creates circular green patches or islands of green tissue surrounded by diseased areas. Water soaking is also common on large immature fruits and appears as dark green, oily tissue bordering diseased areas.

Young diseased fruits less than 3 inches long are generally brown without mottling. Internally, the infected husk of older fruits is reddish to red-brown. The infected meat, or endosperm, is white, cream colored, or slightly brown. The pathogen may penetrate mature nuts by growing through the germination pore at the stem end of the nut.

The first symptoms of young or mature palms are wilting, discoloration and death of the youngest leaves. Unfurled spear leaves may also die early in the course of the disease. Dead fronds are bent abnormally, but remain attached to the trunk for a few weeks, drooping onto or between the older green leaves.

In the ensuing months, more leaves die and fall, leaving a few lower fronds. Roots and lower trunk tissue remain healthy and functional for many months and continue to supply the lower leaves with nutrients and moisture.

Eventually all of the fronds drop, producing leafless trunks. Less frequently, older leaves die first, resulting in palms with...
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only a few young, upright fronds. Because young leaves are vertically oriented, infected plants appear rigid. By the time leaf death is observed, internal rot is already at an advanced stage. These diseased palms have large rotted areas that involve most of the terminal bud.

Killing of the single growing tip ultimately causes the death of the palm. Diseased nuts and heart rots, followed by plant death, have been associated with a Phytophthora species. The pathogen of coconut produces abundant and distinctive sexual spores in host tissue. Each spore is produced in a mother cell that has distinctive blister-like swellings and a long base.

How to combat the pathogen

Once palms are infected, death from the disease appears to be inevitable, and several hundred have been lost throughout Hawaii since 1970. Because the host range of Phytophthora appears to be confined to coconut, eradication and exclusion are feasible control options. All infected palms and nuts should be destroyed by incineration or deep burial.

Prompt removal of diseased palms will reduce the probability of soil contamination with the pathogen. The sexual spores of most Phytophthora species are able to survive in soil without the host plant. Removal of diseased material will also prevent spread of the pathogen to healthy ones.

Many diseased palms have been observed in wet windward areas of Kauai, the Big Island and Oahu and Maui. Growers should avoid collecting coconut-planting material from these areas. Since mature palms may be infected, yet remain without symptoms for many months, careful selection of clean nuts and healthy seedlings and plant stock is necessary.

Stock plants or young seedlings should be grown in relatively dry areas to minimize establishment of the pathogen on new plants. Because the epidemiology of the disease in Hawaii is not known, the exact means by which the pathogen spreads is not specifically known.

Based on studies of other Phytophthora diseases however, wind-driven rain, insect feeding and movement or activities of other small animals are probably important factors in the spread of the disease. Moisture strongly favors the growth, spore production, spread of the pathogen, and disease development by Phytophthora.

Sexual spores of the pathogen occur in large numbers within diseased husks and trunks. These thick-walled resistant structures allow the pathogen to survive for long periods in a dormant state. The pathogen is seed-borne, as sexual spores are common in the husk of the diseased fruits.

The removal of nut clusters and heavy leaf pruning of large palms have probably aided disease spread. Microscopic spores from diseased tissue will contaminate cutting tools and infect healthy ones during subsequent pruning operations. Furthermore, wounding the stem base by cutting off green fronds exposes highly susceptible plant tissue to pathogen infections.

When feasible, trimming should be done during dry weather. Tools should be cleaned, then immersed in a disinfectant after trimming operations on each are completed, especially at sites known to have the disease.

Fungicides such as Subdue 2E (metalaxyl), Dithane M-45 (mancozeb), Aliette (fosetyl-Al), and Truban (ethazole) are known to be effective protectants against other Phytophthora diseases, but they are ineffective for curing palms with advanced rots of the heart or terminal bud.

Limited control of the disease in the early stages may be attained by removing diseased fruits on palms that don’t have young dead leaves, then protecting the wound surface with a pruning sealant, thus preventing disease progression into the trunk. A good plan is to plant coconut palms more often. The life span of a coconut palm may be only 15 to 25 years with this disease in Hawaii, thus younger ones should be planted periodically.

From genesis to epidemic proportions

Coconut palms had been relatively disease free in Hawaii, prior to the discovery of Phytophthora katsurae in 1971 by Dr. Minoru Aragaki from a specimen collected at Wailua, Kauai, according to the University of Hawaii College of Tropical
Agriculture and Human Resources (CTAHR) in Honolulu. Infected plants died within one year. Aragaki and Dr. Janice Uchida worked on the disease over the years.

During the 1980s, *Phytophthora* was found on Oahu, Maui and the Big Island. Inter-island movement of nuts, seedlings, and large palms, as well as trimming operations, probably contributed to the disease escalating to epidemic proportions.

Fearful that a centuries-old icon in Hawaii could become extinct in the not too distant future, experts here have launched a concerted effort to combat coconut heart rot. Philippe Visintainer, owner/operator of Hawaii Coconut Protectors on Maui, is leading the battle against *Phytophthora* with unabashed zeal.

"The University of Hawaii started research on Kauai in the late '80s," Visintainer reports. "Hurricane Iniki hit Kauai in 1992 and destroyed the research plot. Nothing was done to control the disease in the environment until I took over the project in the late '90s. I was managing a tropical plantation on Maui. I planted lots of coconut palms on properties and noticed that some were dying. I was concerned about it, so I talked to the University of Hawaii, the Department of Agriculture and other pathogen specialists." Visintainer invited experts from around the world to Maui to assist in establishing research plots. They experimented with different formulas to combat the pathogen.

Visintainer has been on the board of directors of the Maui Farm Bureau for about six years. As part of the board of directors, he advocated a bill in the Hawaii State Legislature in 2000, to extend research on coconut heart rot. The bill was passed and $10,000 was appropriated for the project. Visintainer realized that research on *Phytophthora* would be stymied if he didn't wage an all-out war against the pathogen.

**Making a commitment**

"I stopped working at the plantation and started a company called Hawaii Coconut Protectors," Visintainer says. "We've been airing a video on public television on all the islands, outlining the spread of coconut heart rot and what we are doing to combat it. Our approach is to educate the public about the pathogen. We meet with people in the tree and landscape industry in conjunction with the University of Hawaii. We conduct research. We offered an injection program statewide that protects coconut palms from the pathogen. Other than that, we're promoting eradication. In the next few years, we want to implement an eradication program through a federal government grant. We haven't applied for a grant yet, because it's not a good time to be asking for money."

The injection formula has been successful, according to Visintainer. He has been working with hotels, resorts, condos and private owners in Hawaii. Visintainer is also trying to get Maui County to take action against the pathogen. His company developed a formula based on phosphoric acid.

Visintainer refers to it as the nutrient augmentation approach. The injection promotes the general health of a coconut palm and fertilizes it. At the same time, it creates an environment in the heart of the palm that repels the pathogen.

"We inject at about chest high, and the formula is systemic, so the palm will carry the formula to the top of the leaves and back down into the heart of the palm in about two to four weeks, depending on the plant," Visintainer explains. "We've achieved a 95 percent success rate with healthy palms. We're not certain how the pathogen spreads, whether it's by way of rodents, trimming, or insects. It appears that wind-driven rain is a major factor. We theorize that it moves around with the wind and rain, and gets into the crown, and works its way into the heart of the palm."

Visintainer usually saves five to 15 percent of infected palms. Usually, by the time people realize they have a problem and he examines the specimen, there's nothing Visintainer can do.

Visintainer speculates that the pathogen arrived in Hawaii when travelers brought plants and materials here. At this point, the pathogen is unique only to coconut palms in Hawaii. It started on the windward side of the islands, but has spread to the leeward side. Visintainer has identified infestations at golf courses. He reasoned that maintenance crews provide volumes of water to keep courses green, so coconut palms receive volumes of water too.

"Watering encourages the spread of the pathogen, because it thrives on moisture."
Visintainer says, "In Hawaii, we have high levels of moisture and humidity.

Educating the public

People would care about the pathogen, if they were aware of it. We're talking about probably tens of thousands of plants. If you have a palm dying from the pathogen, it's only one out of perhaps a grove of 50, so it's often difficult to recognize the pathogen and its potential to infect more. By the time the palm is sick and dead, trimmers may come along and cut it down. There are still 49 coconut palms, so it doesn't appear that there's a serious problem. However, you don't wait until 30 percent of the population is infected with AIDS to recognize the problem. By then, you've lost the battle."

With coconut palms, experts have an opportunity to manage the pathogen before it's beyond control, according to Visintainer. He has received support from many people. "We charge a fee for injections, which is $20, and if there are 50 or more, we charge $15 each," Visintainer says. "There is much more awareness today than there was five to 10 years ago. There's a good possibility that we'll win the battle."

A word from the research community

Dr. Jeri Ooka, a plant pathologist with the Department of Plant and Environmental Protection Sciences, College of Tropical Agriculture and Human Resources, University of Hawaii at Kauai, began working on the disease during the 1982 through 1985 epidemic and recognized the fruit rot phase of the disease.

Ooka demonstrated pathogenicity with isolates of the pathogen. During the mid-1980s, Drs. Aragaki, Uchida, Norman Nagata and others in Uchida's group confirmed pathogenicity of Phytophthora katsurae on fruits and young plants. These experiments were the first that identified the causal agent, as pure cultures of the pathogen were placed on healthy hosts, which became diseased.

Molokai has not been surveyed well, but it appears to be free of the disease on the leeward side of the island, according to Ooka. It's certain that bud rot caused by pathogen was here in 1971. It's probable that the disease was here in 1966. Moving plants around during the last 30 years has spread the pathogen faster than it would have spread naturally. The value of the palms has made the disease more noticeable. Each is worth more than $1,000 and the palms are extremely difficult to replace.

"From 1982 through 1992 several field trials were implemented to test various fungicides for control of the disease," Ooka explains. "Early trials involved placing copper-based fungicides in the leaf whorl. Later trials were generally with different rates of the systemic fungicides metalaxyl and fosetyl-Al as sprays, drenches or injections. Potassium phosphite was the last compound to be added to trials. The last formal trial I conducted was in 1992. This trial was abruptly terminated by Hurricane Iniki. All trials were inconclusive with
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fosethyl-Al and potassium phosphate showing the best promise and metalaxyl the least.”

The formula to inject coconut palms was derived from South African, American, European and Australian publications reporting use of metalaxyl, fosetyl-Al, injectable fosetyl-Al and potassium phosphate for control of diseases caused by *Phytophthora*, according to Ooka. The disease is known to arborists and landscapers familiar with coconut palms.

Trimmers almost always know of the disease, but not necessarily its details. Homeowners, condominium association boards of directors, hotel grounds keepers, and golf course greens keepers become aware of the disease as it affects their plants. Ooka notes that bud rot will never eliminate all coconuts in Hawaii.

Ooka explains that Hawaii is a dynamic biological system with many factors affecting the balance between pathogen and host, which results in the presence or absence of disease. There are biological, economic, cultural, and aesthetic reasons to preserve coconut palms.

*Cocos nucifera* is the only remaining species in its genus. It’s a traditional economic plant for the low land tropics, which provides many of the raw materials for survival in oceanic or tropical subsistence systems. For industrial economies, coconut oil was at one time an important raw material for manufacturing products. It has gained cultural importance in societies that depend on it.

“It’s an important ornamental, which identifies Hawaii and other such places as a tropical paradise to tourists,” Ooka says.

“The pathogen will never be completely eradicated. In that sense, we can’t win a war against it. As the host changes, so do pathogens. Sometimes the environment is allied with the host, other times with the pathogen. Our objective is to keep disease severity and occurrence at an economically tolerable level.”

Application of the principals of public health goes a long way toward doing this, according to Ooka. There are things people can do to prevent the pathogen from spreading, such as starting plants from clean seed, collected from healthy stock grown in a dry environment.

Ooka recommends germinating the seed in a good container mix, amended with disease suppressive compost. Once they’re planted in the field, plants shouldn’t be fertilized or watered excessively. Palms from wet, cool areas that have a higher likelihood of being infected shouldn’t be used for transplanting.

“Don’t plant in inappropriate sites,” Ooka cautions, “such as in an environment suitable for disease and unsuitable for coconuts. This would include most sites more than 1,000 feet high, or with more than 100 inches of rain yearly, on the windward side of the island. If you plant in such areas, it will survive no more than 20 years. In endemic bud rot areas, palms will probably succumb to the disease in 10 to 15 years. In dry areas suitable for coconuts, nitrogen fertilizer and watering should be monitored to avoid creating too many tissues susceptible to the pathogen.”

If Visintainer, other experts, and the community in Hawaii can successfully wage a war against *Phytophthora* – and win – then their commitment to protect coconut palms on the islands will be worthwhile. The arduous process of educating the public about the disease, as well as raising the level of awareness and concern, is a good start. Meanwhile, another dies with each passing day – leaving one less symbol of Hawaii for future generations.

George Furukawa is a freelance writer based in Hawaii. His articles have appeared in numerous publications, including U.S. News, Nursery Retailer, Horticulture, Grower Talks, Wildlife Conservation and Nature Conservancy.
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<th>Part No.</th>
<th>Knife Description &amp; Size</th>
<th>SALE Price</th>
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<tr>
<td>BC1000</td>
<td>KCH20109</td>
<td>Double Edge 9&quot; x 4-1/2&quot; x 5/8&quot;</td>
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<td>BC1220-BC1250</td>
<td>KCH20002</td>
<td>Single Edge 8&quot; x 3-1/2&quot; x 3/8&quot;</td>
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<td>BC1400</td>
<td>KCH20110</td>
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<td>100, 200, 290</td>
<td>KCH10001</td>
<td>Double Edge 7-1/4&quot; x 4&quot; x 3/8&quot;</td>
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<td>10, 13, 17, 2050</td>
<td>KCH40001</td>
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<td>Model 90XP, 280XP</td>
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<td>Double Edge 5-3/32&quot; x 4&quot; x 1/2&quot;</td>
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<td>Model 100XP-250XP</td>
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<td>Model 250XP, 254XP after '01</td>
<td>KCH10101</td>
<td>Double Edge 7-1/4&quot; x 4-1/2&quot; x 1/2&quot;</td>
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<td>Model 1890 Intimidator</td>
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<td>Double Edge 10&quot; x 5-1/2&quot; x 5/8&quot;</td>
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<td>Model 1290 Drum</td>
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<td>Single Edge 12&quot; x 3&quot; x 3/8&quot;</td>
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<td>Model 1690 Drum</td>
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### Asplundh

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<td>12&quot; Drum</td>
<td>KCH30001</td>
<td>Single Edge 12&quot; x 3&quot; x 3/8&quot;</td>
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<tr>
<td>16&quot; Drum</td>
<td>KCH30002</td>
<td>Single Edge 16&quot; x 3&quot; x 3/8&quot;</td>
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### Mitts & Merrill

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<td>Drum Style</td>
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<td>Double Edge 4-1/4&quot; x 2-3/8&quot; x 1/2&quot;</td>
<td>$11.50</td>
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IRS amended 26 CFR, Part 1 under section 280F of the Internal Revenue Code of 1986. Section 280F(a) limits annual depreciation deductions for passenger automobiles in order to discourage overspending on passenger automobiles purchased for use in business. For the 2003 taxable year, these limitations delay a portion of the otherwise allowable depreciation deductions for passenger automobiles with a purchase price above $15,300 (for passenger automobiles qualifying for additional first-year depreciation under section 168(k)(1), added by the Job Creation and Worker Assistance Act of 2002 (JCWAA), or under section 168(k)(4), added by Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA), the delay affects depreciation deductions for vehicles that cost more than $17,500 or $17,850, respectively).

While a basic automobile may be fully depreciated over five years under IRS rules, small business advocates argue that taxpayers with a valid business need for a van or light truck cannot fully depreciate these vehicles within the standard five-year recovery period. Treasury and the IRS recognize that trucks and vans generally cost more than passenger automobiles and that even the most basic van or light truck may be subject to the section 280F(a) depreciation limits. Moreover, much of the disparity between the cost of vans and light trucks and the cost of other passenger automobiles is attributable to the higher rate of inflation for vans and light trucks since 1988. Accordingly, the revenue procedure setting forth the inflation-adjusted dollar limits for vehicles placed in service in 2003 will provide higher dollar limits for vans and light trucks to reflect this higher rate of inflation.

In addition, as noted above, JCWAA and JGTRRA have provided temporary relief by substantially increasing the first-year depreciation limits for all new passenger automobiles, including vans and light trucks. Thus, a taxpayer electing the 50-percent additional first-year depreciation permitted by JGTRRA can recover the full cost of a new automobile costing nearly $23,000 over the five-year recovery period. The revenue procedure described above would provide an even higher limit for new vans and light trucks.
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Stillwater, OK
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Another Crisis in the Forest

By Ruth S. Foster

We've lost the chestnut, we're losing the elms, American beech, white ash and California oaks. Now our graceful hemlocks are under severe attack.

Cherished for their beauty and landscape value, historically 20 percent of the upland forests, hemlocks may disappear too.

The culprit is the hemlock wooly adelgid, a tiny Japanese insect whose nymph stage is visible only with a magnifying lens. It sucks at the base of the needles and probably injects a saliva toxin as well. Starting in Virginia a quarter century ago, it has colonized most of the East, wreaking death and destruction despite noble efforts to contain it.

Untreated individual trees, once seriously infested, have a life span of three to five years, depending on growing conditions. Stress factors such as drought, shallow or compacted soil, shearing and other insects all shorten the survival time. Untreated, it's a one-way street.

It's usually a 10-year process from the first finding to accelerating loss of most of the hemlocks. According to the U.S. Forest Service, more than 95 percent of the hemlocks in Shenandoah National Park have succumbed.

Is there any good news?

Fortunately there is some. The current thinking of experts is that adelgids can be controlled on individual trees as long as they are drenched with oil whenever live nymphs or egg laying adults reappear (which they do regularly).

Also a soil injection of imidacloprid can be applied. Imidacloprid administered in this way takes three months to be absorbed, maybe longer, and persists for six months, depending on the sap flow and time of year. For quicker uptake, trunk injections may reach the needles in about four weeks.

Unfortunately, each new hatch can re-infect. Spraying has to be at least once yearly, usually twice. Complete coverage – to the point of drip off both top and bottom of the branches – is absolutely essential. Soil applications or injections are also used either separately or in conjunction with oil.
Which treatment to use, where and why

Treatment options depend on several factors:
1. Can the trees be completely drenched with oil spray? If so, use oil, which works best on individual plants and can be repeated as needed.
2. Are the trees too tall for the spray rig, or too close together to be completely covered? Consider imidacloprid.
3. Are there customers who don’t want spraying or neighbors who would complain about drift? Consider imidacloprid.
4. Have the trees declined too much with poor sap flow? Imidacloprid may not be absorbed adequately.
5. Will your customers be willing to continue paying for treatments that may not save their trees in the end? Consider oil and imidacloprid and monitoring. Be honest about your fallibility. And perhaps plant replacement trees.

Different folks are doing different things

One company gets the adelgids under control with two oil sprays - a 1 percent summer oil spray in June, plus either a fall treatment or a 2 percent dormant oil spray between March and May, depending on the situation. This treatment is followed by a soil injection the next year, ideally in fall, with a second treatment the following year to keep it under control. On alternate years, this firm uses an oil spray for mites and prevention of re-infestation.

Another company stresses IPM monitoring, rather than just continuing to apply sprays, soil drenches or microinjections routinely. While scouting for landscape problems, they treat adelgids they find with oil. Obviously, tree size is the limiting factor. This company gave up high-pressure spraying because of liability and drift on adjoining properties. Those that can’t be sprayed are given low-pressure soil injections under the drip line, concentrating around the trunk. Monitoring and spot treatment is done on clients’ properties every two months for a set fee.

Arboreta management is more complex and involves difficult tradeoffs. The 300 hemlocks at the Mount Auburn Cemetery in Cambridge, Mass., were first attacked 10 years ago. The arborist tried control with oil spraying and imidacloprid, but it continued to spread. Now, they have decided to treat only high-value specimens or mass groupings using 3 percent dormant oil. Trees that show 50 percent defoliation or can’t be conveniently sprayed are being let go. Badly diseased trees are removed as needed.

Harvard University’s Arnold Arboretum has a mammoth task with 22 acres containing 2,000 hemlocks, some up to 170 years old. The adelgid has been there for five years now. The new Arboretum management plan will treat high-value trees (about 200) with dormant oil, particularly those on the roadways where spray trucks can get good coverage. They find oil easier to use than imidacloprid. It’s also less expensive.

As a public garden, their forest management has to be proactive. Since public safety comes first and the hemlock is weak wooded, the Arboretum removes the sickest trees quickly and replants those areas.

On the Virginia Tech campus, they don’t spray at all. They use Merit pumped into the ground around the tree collar with a Kioritz soil injector. Two treatments (spring of the first year, then spring of the second) get it under control. In their expe-

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rience, its effect has lasted four to five years without re-treatment. They do see spider mites, but prefer some speckling to dying trees.

**Biological controls**

Various insects seem to work in the lab, but then haven't performed in the woodlands. Currently, certain beetles are being released at the leading edge of infestations, and one is always hopeful. Last year, entrepreneurs were selling predatory beetles at $2 a piece, but you may not want to buy them just yet. Some years ago, 10,000 were released in one tree, and they vanished.

**Replacement trees**

Unfortunately there is nothing like a hemlock, a graceful evergreen that can grow in the shade, be an understory tree and even be sheared. Some alternate choices are fir, juniper, arborvitae and chamaecyparis, but none will completely fill the bill.

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**Current Treatment Schedules**

Consult your state local Extension Service for exact timing in your state.

**Oil sprays twice a year**

Oil kills all life stages if coverage is complete.
1. Summer oil: 1 percent in late spring to catch second hatch, which is usually the largest. Caution: Do not apply when it's very hot.
2. Dorman oil: 2 percent in early spring to kill adult females and new nymphs. Caution: Do not apply when temperatures are below freezing. Or, if needed, a summer oil, 1 percent, usually in early fall, can be substituted for the dormant oil spray.

**Soil drench or injection once a year**

Use a fall application. This should be absorbed by adelgids feeding in winter and the first spring hatch. Or, do a spring application very early in the season to be absorbed in time for the second hatch.

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**What does this mean for your business?**

It's an opportunity to try to save valuable landscape trees. Unfortunately, everyone eventually gets tired of paying for repetitive spraying, so get a head start and plant replacement trees early on as insurance. In five years you can point out how far-sighted you were.

When will you decide to give up and cut down badly infested trees? This is always a difficult decision – and an emotional one for customers.

*Ruth Foster, a garden columnist for 26 years with the Boston Globe, is a Massachusetts certified arborist.*

Thanks to the following experts who contributed to this article …

Peter Del Tredici, Director of the Living Collections, Arnold Arboretum in Boston.
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Sinclair Weeks, Consulting Arborist, Hartney Greymont, Needham, Massachusetts.
Kevin Baily, Tree and Shrub Manager, Prescription Turf Services, Middletown, Massachusetts.
Robert Childs, Extension Service Entomologist, University of Massachusetts, Amherst.
Scott Salom, Associate Professor, Forest Entomology, Virginia Tech.
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New trucks designed to do more work at a lower cost are standout items for 2004. For this model year, General Motors and Ford are leaders in the introduction of what is new and better.

GM has added to its specialized models. Not to be outdone, Ford claims it has reinvented “the most successful vehicle in the history of automobiles.” It is referring, of course, to its F-150 pickup truck for 2004.

Among details on the massive changes in Ford's F-150 pickups, the producer said the interiors are larger and tougher. There is a new 300-horsepower V-8, plus a choice of three cab types with seats for up to six. Ford made extensive efforts to improve safety of the F-150s for the new model year.

For the new GM trucks, midrange Kodiak and Top Kick models in the Chevrolet and GMC lines should shine in tree care work. They can be built with crew-cab seating for carrying six, for jobs where extra workers are needed.

Within drive-train choices, the crew-cab units can be fitted with a General Motors V-8 gasoline or diesel engine and Allison automatic transmission. There are a wide range of horsepower, torque and wheelbase ratings. Four wide doors, full-length steps and well-placed assist handles deliver safe and easy entry and exit.

The expanded use of diesel engines will become apparent on working midrange trucks over the next few years. Existing offerings are improving as a result of engineering solutions for federal exhaust emission rules over the past few years. The next version of truck diesel exhaust rules isn't supposed to go into effect until 2007.

Volvo and Mack are reported to be promoting “Selective Catalytic Reduction Technology” to clear the 2007 hurdle. Truck users and engine makers are currently urging that any 2007 rule be spelled out in time for engine testing in order to check on compliance before the effective date.

The 2007 ruling will potentially require a switch to low-sulphur fuel. At a recent national meeting of truck people, some diesel producers said they planned to take a low-cost approach to meeting the 2007 standard.

Ford is now offering an updated version of the PowerStroke diesel. A variable turbocharger design is a part of an overall package that delivers improved low-end acceleration. The producer said the ambient noise level had been reduced, too.

Other new specialized truck models include Peterbilt and Kenworth crew cabs with seating space for five and an extended day cab from Kenworth with an extra five inches of space in the cab.

Toyota will be adding a larger crew cab to its full-sized Tundra pickup for 2004. And Nissan will be entering the full-sized pickup market with the new Titan model.

The 2004 Dodge Ram 1500 has a 5.7-liter HEMI Magnum V8 with 100 more horsepower and better fuel efficiency than its predecessor. The cab 1500 features behind-the-seat storage on the regular cab and a fold flat steel floor in the Quad Cab.

New Ram 1500s received the highest rating for front crash performance from the Insurance Institute for Highway Safety.
"Climbing trees is second nature. So is carrying Stihl."

As a 3rd generation arborist, Mark knows what it takes to bring down a tree. As a world champion tree climber, he also knows what it takes to get up one. That's why he prefers the STIHL MS 200T. It's lightweight, powerful and designed for use up in trees. As Mark says, "Taking down a tree over power lines and homes isn't easy, so you better believe I want the best saw of its kind up there with me."
How Accidents Happen and Why: Arboricultural Safety in the U.S.

By Dr. John Ball and Shane Vosberg

Please note that the following information on safety is incomplete. Data is still being developed. What follows is a partial report on safety in our industry.

Arboriculture is changing. Years ago, if you had a belt and knew how to tie knots, you figured you were all set. You thought you knew all you needed to know, what else is there to learn? Besides, you were not planning to be doing this for long. Many tree workers did not think of arboriculture as a career. Tree work was what you did until you got a "real job."

That mentality has, thankfully, changed. Nowadays we look at our field as a profession — one that requires special training and knowledge. Not everyone can do it and those who do can make it a career. It is no longer considered just a job to do until you can find something better.

One aspect of being a professional is the commitment to lifelong learning. You cannot settle back and say, "This is the way we did this last year and the year before that and the year before that." Imagine if we did the same tree care practices we routinely did 30 years ago. Painting every pruning wound, pouring concrete into cavities, and flush cutting are all practices that were commonly accepted and performed years ago but are almost completely discarded now. Our changes in climbing techniques mirror our changes in tree care practices. We do not climb the way we did 20 or 30 years ago.

Yesterday’s safety standards and safety education might not be good enough for today’s arborist. If we do not constantly evaluate and re-evaluate how we work in the field, we will not only lose the professional respect we have earned, we will continue to lose the lives of valued workers.
Addressing safety-related problems in our industry

This is a high-risk profession. The all-industry mortality rate – that is, the fatality rate of all occupations in the U.S. combined – varies between 4 and 5 per 100,000 workers. Very few industries have a fatality rate above 30 per 100,000. Unfortunately, tree work is among them, though not many people realize this.

If you ask most people what they consider to be a high-risk profession, one that comes to mind is police officer. Statistically, it may be safer to be a police officer than a tree worker. Police work has inherent dangers, and it certainly has its share of high-risk situations. Nevertheless, the fatality rate among police officers and detectives is about 13.5 per 100,000. The annual fatality rate for tree workers generally does not dip below 30 per 100,000 and may be higher in some years. Most tree workers do not think about that when they go to work in the morning, but this can be an incredibly high-risk profession.

Consider these statistics. What is the chance of you stumbling out of bed and killing yourself? One in 437,212. Most of you have no fear of getting up in the morning and getting out of bed. After you get up and have a cup of coffee, you have to drive to work. What are the odds of getting killed driving to work on an annual basis? One in 87,079, still pretty good odds. Most of you don’t fear driving to work in the morning. On your way to work, you decide to stop and buy a Powerball ticket. What are your chances of winning Powerball? One in 27,489.577. Now you pull into work and you’re an arborist. What are your odds of becoming seriously injured or killed while working as an arborist in the United States? We are not sure yet, but the data is indicating it may be less than 1 in 1,000, perhaps much less.

Obviously, most people in this profession are never injured other than the nicks and scratches, but you would be pretty hard pressed to go through a group this size and not find that most of you know someone personally who was seriously injured or killed. That is why safety is such an critical issue in our field.
Results of TREE Fund survey

In the interest of industry safety, we developed a survey last year funded by the TREE Fund. Our goal was to gather hard numbers on the types of arboricultural-related accidents that occur in order to gain a realistic view of the risks and what can be done to reduce the risks. What follows here is some data from the survey, along with numbers that were obtained from the United State Bureau of Labor Statistics.

From 1991 to 2000, at least 587 tree workers were killed on the job. We say at least, because the data includes only workers employed by tree companies, not those workers employed in allied professions such as landscaping that were killed conducting tree work. How were those tree workers killed?

Types of fatalities

Fatalities are tracked in a number of general categories, transportation, assaults, contact with an object, falls, exposure to a harmful environment and fires. Only a few of these categories account for the majority of tree worker fatalities. The biggest hazard, representing about 40 percent of all fatalities, is contact with an object—that object being the tree or a part of it. The No. 2 hazard, at about 35 percent, is a fall. The third is electricity, accounting for 15 percent of fatalities. While these are the “big three,” there are others. Transportation-related fatalities play a significant role in the number of deaths in the industry. Out of the 587 deaths between 1991 and 2000, 47 were transportation related. While defensive driving is usually not considered a tree worker safety topic, it needs to be. Fortunately no tree worker has suffered a fatal assault during the past ten years nor been killed by fire.

Contact fatalities

The majority of contact fatalities are what we refer to as “struck-bys,” a branch striking a worker. And if the branch does not get you, then the falling tree does. We have case after case of branch does not get you, then the falling tree strikes a worker. And if the branch does not strike the worker, then the falling tree does. The greatest danger out there is getting struck by a branch or a falling tree. In most cases, the falling tree that gets you is a hazard tree. It is therefore important to do a thorough evaluation of a tree before you start working it.

There is one particular incident I know of that highlights the importance of evaluating a tree before taking it down. This particular tree worker climbed up to about 45 feet, and at that point thought there was something wrong with the tree. He proceeded to cut down the tree from where he was because he didn’t want to go any higher to piece it out. You know what happens when you snap out the top of a tree; it swings. The trunk swung back and snapped 5 feet below him. He rode an almost-10-foot piece of wood to the ground. It landed on top of him and he died. What I hate to see in accident investigation reports is that the other workers reported that the climber felt a little nervous about going up, but went anyway.

Falls

There were at least 211 tree workers...
Your fate in a fall

<table>
<thead>
<tr>
<th>Height (feet)</th>
<th>Speed reached (approximate)</th>
<th>Typical injuries sustained</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>17 mph</td>
<td>Cuts and abrasions, dislocated elbows, cracked vertebra, death rarely occurs.</td>
</tr>
<tr>
<td>30</td>
<td>30 mph</td>
<td>Concussions, multiple fractures, pelvic injury, death may occur.</td>
</tr>
<tr>
<td>40</td>
<td>35 mph</td>
<td>The death zone, the height above most falls are fatal.</td>
</tr>
<tr>
<td>50</td>
<td>39 mph</td>
<td>Severed spinal cord, broken backs, head injury, death usually occurs.</td>
</tr>
<tr>
<td>70</td>
<td>46 mph</td>
<td>Head injuries, ruptured aorta, ruptured lung, death usually occurs.</td>
</tr>
</tbody>
</table>

(The human body reaches terminal velocity – about 120 to 130 mph – at approximately 480 feet.)

killed by falls from 1991 to 2000. The primary reasons for falls are worker error – a climber unclipping for just a second to reposition or an aerial lift operator who is not clipped in overreaching out of the bucket.

How can we be safer and prevent falls? We have many new techniques that allow us to do our job safer, faster and more efficiently. A couple decades ago we didn’t have this vast array of tools and techniques. We do now, and we need to use them. On that same note, do not try a new technique for the first time at 80 feet. New techniques should be practiced on the ground and with other people. Make sure you know how to use the gear when you go up the tree.

Exposure fatalities

The majority of electrocution accidents occur to climbers, with groundworkers coming in second. A climber might swing into the power line, whereas a groundworker leans against a truck that becomes energized. Not too surprisingly, most electrical accidents occur along distribution lines. These are the lines that run long most streets and through many street trees. Indirect contact is when you do not contact the power line, but your saw or the branch you are holding does. This is the most common accident. Direct contact does happen, often because no one knew the power line was there.

A common contact point is your upper back and shoulders. When this happens, the arborist violated an important rule in working around power lines – he turned his back to the line. This type of accident probably happened because the arborist did not know the line was there. Many workers believe that the utility line clearance tree trimmers are the only tree workers at risk of electrocution. This is not true. The worker out trimming a residential tree that was not expecting a power line nearby is most at risk. Too few people bother to check for lines. Most workers have gotten into the habit of doing a pre-climb inspection to identify defects, and they should check for power lines as well. I know it may seem obvious, but forgetting the obvious in this business can kill you.
Transportation-related fatalities

One often forgotten risk in tree work is driving from job to job. Traffic accidents are a risk in any profession that spends as much time on the road as tree workers. You might figure that since our trucks tend to be bigger than the typical car, we will win any conflict. Do not count on it. Commercial trucking is also a high-risk profession and they drive even bigger rigs. We could all benefit from defensive-driving training, a type of training often forgotten when we think of tree worker training. The other transportation risk we are exposed to is working near heavy traffic. Setting out cones can be a risky task, since some drivers seem to aim at them. Other drivers ignore them. We have had workers die because a driver ran into the aerial lift while the arborist was in the bucket doing some trimming.

Other factors in fatalities and accidents

Equipment failure: Some of us are using equipment that is much too old. Many of us try to keep equipment forever. We have fatalities from workers depending upon climbing equipment that is more than ten years old (and 40 years old in at least one instance). If the equipment does not fail because it is too old, it fails because it was hand-made.

One of the most bizarre equipment failure accidents I know about involved a worker who fell 60 feet. He didn’t know how to splice. He made a lanyard out of a piece of rope and two snaps that were attached with tape. Inspect your equipment and retire it if it is old. Your life depends on your equipment.

Age: The younger you are, the greater the chance of being injured. The older you are, the greater the chance of being killed. The younger workers are just that, young and inexperienced. Accidents are going to happen during that learning curve of becoming a competent worker. We all understand that, so workers new to the field are usually not put into very risky situations – to protect them and their fellow workers. They probably will sustain the usual cuts and bruises, and more serious accidents always loom as a possibility. Fatal accidents, however, are a risk to the seasoned worker.

If you have been in this job for a while you might get a little too confident. You have not had a serious accident so you do not think about it much. You have done this stuff for 20 years and you think that you are safe. Any day could be the day your luck runs out. If your odds of being killed in any given year are 1 in 3,000, add that up for every year you work. Every year you roll the dice. The more you roll the dice, the higher the odds are that something will come up. Every year you need to be a little more careful, not less.

Charge according to risk

We are the only profession charging by the hour and not by the risk we take. The 40-foot mark is our death zone. A number of companies are starting to charge a premium for work above this height because of the greater risk. Too often, we charge by the hour – regardless of the risk. We need to factor the risk into our bidding as well.

Worker safety is priority

No. 1

Our most important job any day is to be able to work tomorrow. Don’t ever forget that. Worker safety is the No. 1 concern in our industry. I am pleased to see the TREE Fund developing and working in tree dynamics and worker safety.

One thing to remember is that we have provided money to take a look at ways to improve the health of trees for many years. We need to spend more money on how to improve the health of our workers.

Dr. John Ball is professor of forestry at South Dakota State University, Brookings, South Dakota. He also serves as the campus arborist. Shane Vosberg is a graduate student in industrial safety with a research focus on the tree care industry.
The Tree Research & Education Endowment Fund proudly announces that the Bob Felix chipper raffle will take place on Friday, November 14, 2003, at the Baltimore Convention Center, during TCI Expo 2003. This raffle is made possible through the generosity of the Wood/Chuck Chipper Corporation, and Engine Power Source with the donation of the chipper to benefit the Robert Felix Scholarship Fund of the Tree Research & Education Endowment (TREE) Fund. To avoid some of the confusion from previous raffles, ticket sales will stop promptly at 1:00 P.M., two full hours before the 3:00 P.M. drawing. If the winner takes the option of the $20,000 cash, the chipper will be auctioned off at 3:30 P.M., Friday, November 14, 2003. (A sealed bid process will be available for those not able to attend the auction). Also, the only incentives will be those listed on the raffle form.

This year, Wood/Chuck, in conjunction with Engine Power Source, will be donating a Wood/Chuck HYROLLER 1250 powered by the new KUBOTA V3300T. This awesome chipper is a 12-inch capacity, high-performance disc chipper originally introduced in the Northwest and specializing in wide brush and conifer materials. To facilitate this task, the HYROLLER 1250 has an advanced hydraulic feed system and large infeed chute. The KUBOTA V3300T is an all new 83-hp diesel engine utilizing Multi-Valve E-TVCS technology that meets or exceeds all U.S. EPA, European EC, and Japanese MOC regulations.

Wood/Chuck is proud to support the Robert Felix Scholarship Fund of the TREE Fund, which is dedicated to advancing arboriculture through scholarship and education. Each year, three $4,000 scholarships are awarded to students pursuing a career in arboriculture. The TREE Fund is also pursuing avenues to make young people aware of career opportunities in arboriculture. The late Robert Felix, former executive director of the National Arborist Association (now the Tree Care Industry Association), dedicated his life to the advancement of commercial arboriculture.

The TREE Fund, Wood/Chuck Chipper Corporation, and Engine Power Source would like to thank everyone who has supported the chipper raffle in the past, and we would like to extend personal thank-yous in advance to whose who buy the tickets this year. Thanks also to ISA and TCIA, along with their members and staff, who support the Robert Felix Scholarship program and care about the future of arboriculture. Special thanks to Pat Felix, who allows us to raise funds in her husband’s name.

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Ad deadline is the 20th of the month, two months prior to publication. Ads are $55 for TCIA members, $65 for non-members. Pricing based on 250 characters per pricing unit. Ads running for six consecutive months receive $5/month discount. Place your ad on www.treecareindustry.org for just $10 more. E-mail stone@treecareindustry.org or call us at 1-800-733-2622.
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The TCIA Board of Directors met on June 18, 2003 in Manchester, N.H. to set the association’s strategic agenda. Following through on the association’s strategic plan, a number of important decisions were made to elevate business practices in the industry and promote TCIA as the voice of tree care for consumers, green industry, and elected or appointed officials. All board members were present for the meeting.

**Raising Standards for the Profession**

The board approved a draft Accreditation Statement and composition of a new Accreditation Council. The board recognized the following critical needs for the industry:
1. Establish Best Business Practices (BBP’s) for the tree care industry.
2. Improve the health and safety of tree care industry workers.
3. Provide protection for consumers.
4. Provide consumer, insurer and government agency recognition vehicle for tree care companies that adhere to Best Business Practices.

The TCIA board decided voluntary industry accreditation is the best method for addressing these needs. As a result, the TCIA board sanctioned the creation of a voluntary industry accreditation program called **TCIA Accreditation**. The program will be created and administered by an independent council to be named the **TCIA Accreditation Council**. The TCIA Accreditation Council will write a standard containing requirements and recommendations for accreditation.

The TCIA Accreditation Council must be independent and have a balanced membership of large and small tree care companies as well as representation and/or review access for entities affected by commercial tree care practices such as consumers, government, and academia. To accomplish this, membership on the council shall be representative of all and will have an appointed chair. The first meeting of the council will take place on July 11. Bob Rouse, who was promoted from staff arborist to director of accreditation, will serve as the staff liaison.

**Membership suspensions**

The termination of membership is already addressed in TCIA’s bylaws (Article V, Section 8). The board voted to approve a suspension procedure similar to that of termination to address several recent cases of concern.

Suspension is a lesser form of discipline. The company’s rights as a member would be terminated temporarily pending the completion of a probationary period, or some other event. The member’s right to vote, hold office, and every other right of membership, at the discretion of the board of directors, would be terminated during the period of suspension. For example, a member could be suspended pending the resolution of legal charges. If the member were to be convicted of the charges, the board could convert the

**Accreditation Council takes its first steps**

The first meeting of the new TCIA Accreditation Council took place on July 11. The group was unified and task orientated.

As a result of the meeting, staff director Robert Rouse is now ready to go forward with a clear picture of the program.

Participants agreed that TCIA is the foremost organization within this arboricultural community to develop the program.

Attending the organizational meeting were: (L-R) Anne Baldwin, Baldwin Tree Care; Joe Engberg, the Care of Trees; Andy Ross, R-TEC Tree Care; Fred Johnson, Davey Tree Experts; Robert Rouse, TCIA; Eugene Kritter, SCORE volunteer, retired director of quality – Raytheon Corp.; and John Ball, South Dakota State University; Not pictured: Mike Galvin, Urban and Comm. Forestry Supervisor, Maryland DNR (participated by teleconference).

TCIA Members may access the complete edition of the **Reporter Online** at [www.treecareindustry.org](http://www.treecareindustry.org)
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Promoting ethics
The board voted to establish an Ethics Committee comprised of board members and members-at-large to act on an “as needed” basis. Scott Jamieson, Tom Tolkacz, and Tom Golon were appointed to the Ethics Committee. Scott Packard, president of Wright Tree Service in Des Moines, Iowa accepted an appointment as the member-at-large. This committee could be called upon in legal membership matters. Their charge is to review issues brought before them to make recommendations to the board regarding appropriate action.

Networking with members in similar dues levels
The board voted to accept a recommendation from the finance committee to publish the dues categories of the membership on the TCIA Web site and in the printed annual Membership Directory, beginning this year. This information will provide members with additional valued benefits.

Each company’s basic information will also include the range of annual gross commercial tree care revenues. The added information will provide members with an opportunity to better network with tree care companies of like size and learn about their business practices or approach owners of businesses doing a higher range of business and learn how they grew.

By having this information readily available, TCIA will also be able to manage the Business Manager Advisor Program more effectively. Staff will now be in a position to match members with the best Business Manager Advisor, based on expertise and business size. Additional programs are being developed and will be implemented to promote and support such valuable member networking opportunities.

The voice of tree care in Washington
The board approved the establishment of a political action committee (PAC) to serve as the political voice of TCIA. The ultimate purpose of a PAC is to amplify our members’ voices so we can improve the legislative and regulatory climate for our members.

Approaching a Congressman (and their staffers) as a PAC gives notice instantly that TCIA may be willing to support them financially in their political races. Combined with effective spokesmen in D.C. and in their home districts, our PAC can gain access to the congressman, and can highlight the impact of their decisions on our issues. TCIA has already achieved credibility by advocating sound positions. By registering and sus-
A nonprofit corporation such as TCIA can (by concentrating its economic power) have a greater impact on the issues of concern than if members were to contribute to specific candidates only on an individual basis. A also gives TCIA the ability to respond immediately to matters of concern to its members. Below is a list of current and future issues of concern on which the association might take a position.

**Regulatory Relief / Oversight**
- Proposed bill that will allow different OSHA treatment for small businesses
- Regulating Through Guidance Documents
- Ergonomics
- ANSI Z133.1 Standard used by OSHA to interpret and apply enforcement;
- Inappropriate application of the logging standard, particularly in VA, NC, MD;
- Revision of vertical standard;
- Revision of 1910.67, particularly full-body harness and fall-arrest lanyard regulations;
- PPE standards and requirements;
- DOT issues, including a graduated CDL proposal, drug and alcohol testing, HOS, vehicle inspections.
- Proposed DOT change that may allow diabetics to obtain a medical waiver.
- Proposed changes to state workers’ comp laws creating more exposure to employers.
- Proposed changes to 1910.269

**Business and Taxation Legislation**
- National telemarketing laws
- Permanent repeal of the estate tax
- Work Opportunity Tax Credit

**Labor Issues and Legislation**
- Fair Labor Standards Act changes concerning bonuses, comp time, exempt vs. nonexempt employees
- Foreign labor under H-2B program
- Family & Medical Leave

**Environmental Legislation**
- Endangered Species Act issues
- Pesticide drift issues
- Childhood exposure to chemicals
- Food Quality Protection Act (FQPA)

**Association-Specific Legislation**
- Spousal travel deduction to conventions
- Associations offering member health benefits

**Voice of tree care for the green industry**
The board voted to request a $10,000 grant from the TREE Fund to the Evergreen Foundation Advocacy Council (EFAC), a coalition of green industry end-user associations, suppliers/distributors, media companies and others. The EFAC’s goal is to bring the diverse organizations of the green industry together in a coalition to develop a national marketing campaign to promote the economic and environmental value of healthy, well-maintained green spaces.

The EFAC plans to show consumers and other audiences the importance of ensuring the environmental and economic responsibility of Americans to preserve the beauty of America’s green spaces at home, at work and at play.

This heightened awareness is TCIA’s voice expanding to the overall green industry to promote further partnering opportunities between tree care and landscape and “front of mind” consumer decisions for tree care. Equally important is what this effort is designed to accomplish within the industry – to ensure the economic viability and vitality of the suppliers and end-user companies.

**Strategic leadership for the future**
The board selected Tom Golon for Senior Director in 2004-05, and also approved the following candidates for a three-year term (2004-07) on the board. The nominees will be presented to the membership for a vote.

**Ballots will be mailed in early August. Don’t forget to vote!**

**In other matters ...**
Jim McGuire, with Hartney Greymont, Inc., in Needham, Mass., was appointed the TCIA representative to the A300 Committee.
Bernie Spigot was appointed to replace Terrill Collier on the Nominations Committee.
Tom Tolkacz agreed to serve for another year as the TCIA board member on the Board of Directors of the TREE Fund.
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Recordkeeping update

The Occupational Safety and Health Administration (OSHA) is amending a rule that it never applied in the first place.

OSHA has decided to delete two provisions of the Occupational Injury and Illness Recording and Reporting Requirements rule published Jan. 19, 2001. These provisions required employers subject to recordkeeping requirements (10 or more full-time employees) to check the MSD column on the OSHA 300 Log if an employee experienced a work-related musculoskeletal disorder (MSD), and stated that MSDs are not considered privacy concern cases. The effective date of these provisions has been delayed since publication of the Recordkeeping rule in January 2001; consequently, the requirements deleted by this final rule have never been in effect. Employers must still report MSD injuries, just like any other injury. The amendments in this rule will become effective on Jan. 1, 2004.

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Rely on NOVA to help make transaction processing simple for your entire staff. Whether you choose to lease or purchase your processing equipment, or use NOVA's PC- or Internet-based services, NOVA has a solution that will increase your efficiency while lowering costs. Call NOVA Association Sales at 1-800-718-8583, or visit www.associations.novinfo.com. Be sure to tell them you are a member of TCIA.

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Medicinal Magnolia

Could the South's famed magnolia trees prove helpful in the war on cancer? According to The Atlanta Journal-Constitution (GA), some researchers at Emory University have discovered that Southern magnolia's seed cones have an ingredient known as honokiol that they believe has cancer-fighting properties and the ability to suppress tumor growth. In lab tests on mice, honokiol slowed the growth of new blood vessels, a cancer-fighting strategy called angiogenesis inhibitors. The research is published online in the Journal of Biological Chemistry.

They were studying a variety of natural compounds for use as potential cancer therapies, including curcumin from the turmeric plant, and derivatives from mate tea, when the magnolia's medicinal properties were revealed.

King of the Redwoods

He was the only civilian ever permitted by state park officials to designate trail routes. Howard King helped preserve the towering redwoods of California's Santa Cruz Mountains for more than four decades. The Los Angeles Times reported he died on June 29 of natural causes at his home in Boulder Creek, about 15 miles northwest of Santa Cruz. He was 97.

A retired microwave technician for Hewlett-Packard Co., King became fascinated with the ancient trees in 1958 after his doctor told him to give up golf and begin hiking to treat a strained back. King crawled through manzanita to post trails, working his chain saw and shovels to clear the way for others to enjoy the magnificent giants. He also photographed the redwoods and donated his photography to raise money for the Save the Redwoods League and the Sempervirens Fund, which he co-founded in 1968.

A 10-mile trail King plotted and helped build that leads to Mt. McAbee in Big Basin is named in his honor.

He once told a reporter “I would rather be here than anywhere else on Earth,” referring to Big Basin.

Old Glory

For 24 hours a day, three security guards in Valencia, Calif., patrol the perimeter of a chain link fence to protect a lone inhabitant awaiting relocation. According to the Daily News of Los Angeles, the guarded one is not a political prisoner nor an illegal alien. She is Old Glory, an eighty-five-foot-diameter oak tree that has stood for centuries with roots deeply embedded in the river bed here. The tree, side-boxed in April, is now held up with cables, its roots intact, awaiting relocation (which may not happen until 2004).

Last November activist John Quigley slept in Old Glory's branches for more than 70 nights to protest its removal to make way for the expansion of Pico Canyon Road. After weeks of standoff, the developer, John Laing Homes, agreed to relocate the tree instead of cutting it down, but the move has proved to be difficult and costly.

After having its side roots cut to construct a 33-foot wide bottomless wooden box, Old Glory is currently healthy. But it is one of the largest oaks ever to be relocated, and its deep root structure makes the next step more tricky.

The project's lead arborist is John Mote of Senna Tree Company. Mote worries that cutting the tree's bottom roots could be traumatic. At an estimated cost of $400,000, a figure that will grow with every day the arborists have to wait, the move is best carried out in winter, when the tree is dormant.

John Quigley, who is being sued by the developer for damages caused in trespass, hopes the delay will make the move unpractical. He has supported a plan to relocate the root, not the tree. A Trial date has been set for Dec. 10.

"Trees," the Movie

It may not be this summer's blockbuster hit movie, but "Trees," filmmaker Mike Pleckaitis' comic spoof on "Jaws" may hit a nerve for residents of the San Francisco Bay area. If you haven’t hunkered down with a hot buttery tub yet to see Pleckaitis' great white pine tree with the shark-like persona, you probably can’t imagine how a tree could be such a menace.

But residents of California’s Bay Area can. For the past few years Monterey pines have been toppling over, smashing cars and damaging homes. One even killed a San Francisco resident as recently as last month. The trees are stricken with a fungal disease known as pitch canker and officials have responded with a veritable urban logging spree in order to prevent injuries beneath the hundreds of weakened pines in the city.

What started with a silly dinner conversation between two teenage brothers in Bristol, Conn. has become eerily realistic to San Franciscans. Bay Area scientists think that a lack of genetic diversity has something to do with the decline of the Monterey pines.
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What's coming in...

- Preparing trees for dormant season
- Log loaders
- Trees and humans
- Community forestry
Going the Extra Mile for the Customer

By Monty Montgomery

In May of 2000, my son, who is in high school and in his second year of established business of landscaping and tree service, found himself in a "honey" of a spot. His first large contract for tree removals was in our local cemetery. Upon starting on the final of five maples - a 70-footer that had become hazardous - he worked his way up to the trunk clearing lower limbs. I heard him yell, "I'm coming down!"

When he got to the ground, I found out the reason. Off the main trunk, the large fork to the left had a colony of wild honeybees. We quit for the day and contacted the sextant of the cemetery. We explained we wanted to find a bee man and not destroy this valuable find. Luck was with us, as she knew one personally.

Three weeks later in June on a wet cold morning, we carefully ridged and cut a section out with the assistance of the beekeeper and a rather large audience. We lowered the section carefully into the bed of a pickup truck. The beekeeper estimated there were 50,000 to 80,000 in this healthy wild bee colony. He told us that a parasite has devastated the wild bee population in the United States, and this colony was parasite free.

Our customer was pleased, we now have a beekeeper friend to help us in the future, and my son finished the job in good order. Going the extra mile to be helpful to the customer and Mother Nature pays off.

Monty Montgomery is with Drew's Landscaping and Tree Service in Bluffton, Ohio.

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The Knifesource, LLC
Karl Kuemmerling, Inc.
Kershaw

Practical Solutions, Inc.
Preferred Processors Company, LLC
Preformed Line Products
PYGAR, Inc.
Rainbow Tree Care Scientific Advancements
Rayco Manufacturing, Inc.
Redmax-Komatsu Zenoah America, Inc.
Roots®
Rotochopper, Inc.
Royal Truck & Equipment, Inc.
Salsco, Inc.
Samson Rope Technologies
Sandvik
SavATree
Schodorf Truck Body & Equipment Co.

THE WORLD’S LARGEST TREE CARE SHOW!

Brush Technology
Buccaneer Rope Co.
Buckingham Manufacturing Co., Inc.
Cargotec, Inc.
Climb Axe, Ltd.
Commercial Cutters Direct
Corona Clipper
Creative Sales, Inc.
Cutter’s Choice
Davey Tree Expert Co.
DICA Marketing
Doggett Corporation
Don Dubbs Stump Cutter
Dynamic Manufacturing, Inc.
Easy Use Air Tools
ECHO Incorporated
Electronic Solutions of Harrison, LLC
Enginair
Engine Power Source
Environmetrics Systems, Inc.
The F.A. Bartlett Tree Expert Co.
FAE-USA, Inc.
Fanno Saw Works
Fecon, Inc.
Fehr Bros. Industries, Inc.
Labonville, Inc.
Leonardi Manufacturing
Lewis Tree Service, Inc.
Liberty Financial Group, Inc.
The Loader Div. of NMC-Wollard
Loftness Specialized Equipment
MAT-3, Inc.
McDonald Equipment Company
Mickey's Truck & Equipment Sales
Midwest Arborist Supplies
Miller Machine
Mills Truck Sales
Minnesota Wanner Company
Monterey Lawn & Garden Products
Morbark, Inc.
N. L. Financial Services
NiftyLift, Inc.
Northeastern Arborist Supply
NSW, LLC
Opdyke, Inc.
OSHA
Payeur Distributions, Inc.
Petzl America
Plant Health Care, Inc.
Plastic Composites Corporation

Sherrill Arborist Supply
Sierra Moreno Mercantile
Simonds Industries, Inc.
Southco Industries, Inc.
Southeastern Equipment Company
Spirit/Miller Driveaway
Stihl Incorporated
Stump Removal, Inc./KAN-DU
Terex Telelect, Inc.
Tilton Equipment Company
Timberwolf Manufacturing Corp.
Tree & Landscape Equipment Trader
Tree Care Industry Association
Tree Management Systems/Arbor Gold Software
Tree Tech Microinjection Systems
Trucks & Parts of Tampa
U.S. Rigging Supply/Pelican Rope Works
V & H, Inc.
Vermeer Manufacturing Company
Wall Industries
Weaver Leather, Inc.
Wood/Chuck Chipper Corporation
Woodsman, Inc.
Yale Cordage, Inc.
Zenith Cutter Co.
TWO SPECIAL WORKSHOPS
WEDNESDAY, NOVEMBER 12

REGISTRATION FEE — $95
TCI attendees are invited to participate in either full-day workshop on Wednesday, November 12, 2003. Please use the TCI EXPO registration form to indicate attendance at either of these programs.

Limited enrollment. Early registration is encouraged.

PROFESSIONAL PRACTITIONER WORKSHOP
Morning Session: Using the North American Tree Failure Database
Dr. Jim Clark & Dr. Tom Smiley
9:00 am – 12:00 noon
Room 320, Baltimore Convention Center

Arborists and foresters have a strong interest in understanding tree failures: which species, under what weather conditions, with what defects in structure. Foresters, particularly in the western part of the U.S., have been collecting this information on recreation sites for many years. In California, arborists and researchers from the University of California have assembled a database of almost 4,000 tree failures. Arborists in other parts of the U.S. and Canada have expressed interest in recording tree failure information in their geographic area.

The North American Tree Failure Database (NATFD) is a pilot project created by the USDA Forest Service to create one central library of information on tree failures. The benefit to arborists is a greater knowledge about the who, what, when, and why of tree failures. We will be able to develop better species failure profiles, understand the influence of environmental factors such as rain and snow, and improve our field assessment procedures.

A committee of arborists and foresters has developed a recording form. A Web site has been developed to enter the results of a failure. All that is needed now is for arborists to supply information on tree failures in their area. Tom Smiley and Jim Clark will train participants in the use of the recording form and the Web site.
AFTERNOON SESSION
Innovations in Arboricultural Service
Dr. Tom Smiley
1:00 pm – 4:00 pm
Room 320, Baltimore Convention Center
Dr. Smiley is one of the lead researchers at the Bartlett Tree Research Laboratory in Charlotte. From this facility comes some of the most ground-breaking research in the applied science of arboriculture. Take away new concepts and techniques to apply in your business.

BUSINESS MANAGERS’ WORKSHOP
Estimating Workshop for Tree Care/Landscaping Contractors
Jim Huston, J. R. Huston Enterprises, Inc.
9:00 am – 12:00 pm
1:00 pm – 4:00 pm
Room 318, Baltimore Convention Center
This full day workshop will assist tree care and landscape contractors and other key staff in how to:
> Prepare a General & Administrative (G & A) office overhead and field-labor hour budget
> Calculate labor burden, average wage, and equipment costs
> Price a lump sum bid
> Measure, allocate and control G & A office overhead costs
> Calculate time & materials (T & M) rates
> Understand the five most common methods of estimating used in the market today
> And more!

James Huston is the principal in J. R. Huston Enterprises, Inc. a full service and industry-specific management consulting company, created to serve the needs of landscape and irrigation contractors, vendors and related associations.

REGISTER ONLINE AT: www.treecareindustry.org
THURSDAY, NOVEMBER 13

7:00 am  REGISTRATION OPENS

8:00 to 9:15 am  OPENING SESSION

TCIA will open this year with a Brand New Theme... a new TCIA... a new TCI EXPO experience for you!! Business owners will be rewarded with an enjoyable presentation and meaningful content. We will be addressing your most critical concerns — building strong, unified TEAMS! You’ve told us your most compelling issues and we’ve listened. We will deliver the substance and you will return from TCI EXPO 2003 to develop a workforce that functions as a proficient, cohesive unit!

9:15 to 9:45 am  TCI - Today's Business and a Look Ahead

9:57 am  TRADE SHOW OPENS

Don't miss a single booth! Wear your walking shoes, because with the expanded trade show floor, there will be a lot of ground to cover. TCI EXPO is the largest tree care trade show in the world. If it will make your business more efficient, competitive, productive or profitable, you’ll find it here.

Plus, we’ve arranged for live demonstrations and plenty of hands-on opportunities with some of the leading names in the arborist industry. Check your show program for times and locations. To keep up with the industry, you won’t want to miss a single demo.

12:00 Noon  ARBORBUCKS DRAWING — Tree Demonstration Area

Be sure to fill out your entry form and you could be the winner of ARBORBUCKS currency. ARBORBUCKS can be used as cash at any of the participating vendor booths. Here’s your chance to win the goods and services you need!

2:00 pm  ARBORBUCKS DRAWING — Tree Demonstration Area

It’s not too late to enter the drawing. You could be the winner!

4:00 pm  TRADE SHOW CLOSES

4:00 to 5:00 pm  The Guiding Principles of Tree Care

Dr. Jim Clark

The presentation will be a mixture of accepted practices, emerging concepts, positive points and challenging issues. Dr. Clark promises a good mix of information, with something for everyone. Clark is a lecturer, author and consultant, as well as a partner in HortScience, a California-based horticultural consulting business.

4:00 to 5:00 pm  When to Call the Landscaper/Arborist

Panel: Scott Jamieson, Eric Schultz, Trent Sible, Tom Tolkacz

Magic happens when landscape contractors and arborists work together to bring value to a site for their clients. Nothing is more powerful to a client than experts in their respective fields working together to solve problems and anticipate needs. Scott Jamieson is president of The Care of Trees, a venerable commercial tree care firm with operations in California, Illinois, Wisconsin and the Northeastern U.S. Eric Schultz is the principal in Schultz Industries, a full-service landscape firm in Denver. Trent Sible is a Project Manager with Moore Landscapes in Chicago. Tom Tolkacz is president of Swingle Tree Company, 70-year-old full-service tree, lawn and landscape care firm in Denver.

6:00 pm  WELCOME RECEPTION — Baltimore Convention Center

for all Attendees and Exhibitors • Ballroom I

Complimentary hors d’oeuvres. Catch up with old friends, make new friends, network, ask questions and enjoy an evening of fun with fellow tree care professionals. In partnership with Vermeer Manufacturing

FRIDAY, NOVEMBER 14

7:30 am  REGISTRATION OPENS

8:00 to 9:00 am  Forces, Physics, Trees & Arborists

Erk Brudi and Ken Palmer

Ken and Erk will introduce an exciting new concept for taking arborist rigging operations down to their component parts and using computer software to help understand the physics, calculate the forces, and train tree workers to use a more scientific approach to decision-making.

Erk Brudi is Lecturer at the University for Applied Sciences in Munich, Germany. He is also a registered, court certified consultant for tree mechanics, tree evaluation and arboriculture in Munich, and a member of the Executive Committee for German Labour Standards. Ken Palmer is president and CEO of ArborMaster™ Training, Inc., three-time International Tree Climbing Champion, and a highly recognized instructor, researcher, and innovator of tree climbing, rigging and rescue systems.

8:00 to 9:00 am  Managing your Hispanic/Latino Workforce

Mauricio Velasquez

How is the influx of Hispanic/Latino immigrant workers affecting our industry? What will we have to do differently? What are the successful strategies that are producing results and what are the minefields we must avoid? Our un-addressed diversity issues are like that ugly couch in the living room - we know it's there but we don't want to talk about it. Funny, people think by not talking about these issues, they go away. How untrue. Mauricio Velasquez is President and CEO of the Diversity Training Group in Herndon, VA and its sister firm, Spanish Translations Services, LLC. As a bilingual professional who is the son of Latino immigrant parents, this conversation is natural for him.

9:00 am  TRADE SHOW OPENS

Plan on an information-packed day of demonstrations, browsing the newest equipment, technologies and services, and exchanging ideas with your peers. There's no show like TCI EXPO.

9:30 to 10:30 am  Staying on the Road:

DOT Driver/Vehicle Compliance

Stephen M. Frisch

Few things can sideline a tree care or landscaping business as readily as a DOT "Out of Service" order. Are you confident that your drivers, vehicles and administrative procedures conform with requirements? With over 25 years of compliance knowledge stemming from experience as a driver, dispatcher, instructor, safety officer and consultant with J. J. Keller & Associates, Mr. Frisch can put your firm on the road to full compliance. Join him later in the day on the trade show floor as he conducts mock vehicle walk-around inspections.

9:30 to 10:30 am  Effective Leadership Skills

Jeff Stokes

Leaders are born, not made... or are they? Even if you don't feel that you have natural leadership traits, all is not lost. You can become a great leader in your business by acquiring the right skills and habits. This session covers the key traits of great leadership, and covers how leadership differs from management. You'll practice situational leadership, and learn how to stimulate teamwork and motivation.

Jeff D. Stokes is the CEO of Pinnacle Performance Group, Inc., an organizational development solution provider who supplies companies with the tools they need to meet their unique challenges and capitalize on their promising management and leadership opportunities.
DAY3  SATURDAY, NOVEMBER 15

7:30 am  REGISTRATION OPENS

8:00 to 9:00 am  Accidents in Arboriculture: What’s Happening, and Why?  Dr. John Ball

EXPO faithfuls may recall that Dr. Ball was with us last year to share some of his preliminary findings from his research on arborist accidents. His research continues, and the results and his analysis is information that every practicing arborist should have.

8:00 to 9:00 am  Power Selling: What Makes a Top Salesperson  Hal Becker

As an internationally known expert on sales and customer service, a best-selling author, and a dynamic and entertaining speaker, Hal Becker has guided some pretty impressive clients - like Disney, IBM, AT&T, and many more - to greater selling success. Becker uses his own experience as the former Number 1 Salesperson for Xerox to teach a 10-step, common sense, back to basics approach to selling.

9:00 am  TRADE SHOW OPENS

This is your last day to see and learn everything you need to keep your business moving. Be sure to take advantage of all TCI EXPO 2003 has to offer!

9:30 to 10:30 am  Maryland Tree Expert License Law: the Ethics Regulations, and Enforcement Case Studies  Mike Galvin

Maryland is one of the few states in the nation with a tree expert licensing law. The law imposes fairly stringent ethical standards for the betterment of the profession and protection of the consumer. Come hear about how the law works, and how arborists are involved in making it even better.

9:30 to 10:30 am  Managing and Scheduling Work Crews  Tony Bass

After completing his studies in agricultural mechanization at the University of Georgia, Tony Bass started Bass Custom Landscapes which he grew to over 2.5 million dollars in annual sales while working in a county that has a total population of barely 100,000 people. In 1994 the Georgia Junior Chamber of Commerce named Tony one of five Outstanding Young Georgians for his work in building environmental awareness and preservation in Middle Georgia. His company has been featured in over 100 articles in local and national print publications in just the last six years. Since joining Vander Kooi & Associates in 1999, he worked with numerous companies as their personal consultant, and spoken to several leading industry organizations including CLIP, and the Lawn and Landscape School of Management.

In this session, which is geared primarily for owners/operators, team leaders, project managers, and schedulers, Tony focuses on key areas and methods of motivation and people management skills.

11:00 am  ARBORBUCKS DRAWING - Tree Demonstration Area

It’s not too late to enter the drawing. You could be the winner!

12:30 pm  ISA Certification Exam Check-in

1:00 pm  ARBORBUCKS DRAWING - Tree Demonstration Area

This is your last chance to win! See you in the demo area.

1:00 to 5:00 pm  ISA Certification Exam

To sit for the exam, you must call ISA to pre-register at (217)355-9411. Application and registration fee must be received at ISA 12 working days prior to exam date.

3:00 pm  TCI EXPO 2003 TRADE SHOW CLOSES!

SEE YOU NEXT YEAR IN DETROIT, MICHIGAN!  October 28-30, 2004

KEY

ARBORBUCKS  Expert Practitioner Series

ACORN – ISA Certified Arborist CEUs available  Smart Manager Series
FLYING TO THE BALTIMORE CONVENTION CENTER

US AIRWAYS
US Airways has been selected as the primary air carrier. Special discounts have been arranged on your air transportation. Plan ahead and receive an additional 5% discount by ticketing 60 days or more prior to departure. US Airways also offers exclusive negotiated rates for attendees who are unable to meet the restrictions of the promotional round trip fares. Call US Airways' Group and Meeting Reservation Office toll free at 1-877-874-7687 and refer to Gold File No. 30142788.

SOUTHWEST AIRLINES
Southwest Airlines has been selected as the alternate air carrier. Southwest Airlines is offering a 10% discount on most of its already low fares for air travel. You or your travel agent may call Southwest Airlines Group and Meetings reservations at 1-800-433-5368 and reference ID Code D0234. Reservation sales agents are available 7:00 am – 8:00 pm Monday – Friday, or 8:30 am – 5:30 pm Saturday and Sunday, Central Standard Time.

AIRPORT TRANSPORTATION
Ground transportation is available on the baggage claim level.
SuperShuttle Transportation Systems provides shuttle service to the downtown hotels. Currently, the cost of a round trip transfer is $18.00. Reservations are not required. Upon arrival at BWI Airport go to the lower level and follow signs to the SuperShuttle desk located between baggage claims 6 and 7. The SuperShuttle counter is open between the hours of 6:00 am and 2:00 am. During other times, please call 1-888-826-2700 to arrange service.

DRIVING DIRECTIONS TO THE BALTIMORE CONVENTION CENTER

FROM NEW YORK
> Take 95 south to exit #53 (395 south – downtown exit)
> Follow 395 south towards Inner Harbor
> Proceed on 395 south and make a right at the 3rd light which is Pratt Street
> The Convention Center will be on the right

FROM WASHINGTON, DC & ALEXANDRIA, VA
> Take 95 south to exit #53 (395 north – downtown exit)
> Follow 395 north towards Inner Harbor
> Proceed on 395 north and make a right at the 3rd light which is Pratt Street
> The Convention Center will be on the right

FROM YORK & HARRISBURG, PA
> 83 south to 695 west
> Proceed on 695 west and take the next 83 south exit
> Follow 83 south to Lombard Street and make a right
> Continue on Lombard Street and make a left onto Hopkins Place.
> Proceed on Hopkins Place (Hopkins Place will convert into Sharp St) and make a left onto Pratt Street
> The Convention Center will be on the right
FROM ANnapoliS AND THE EASTERN SHORE
> 97 north (to Baltimore) to 695 west (toward Towson) to 295 north (to Baltimore)
> 295 will turn into Russell Street. Follow Russell Street and make a right onto Pratt Street
> Continue on Pratt Street two (2) blocks and the Convention Center will be on the right

FROM ANnapoliS AND THE EASTERN SHORE (ALTERNATE ROUTE)
> 97 north (to Baltimore) to 695 west (toward Towson) to 95 north
> Follow 95 north to exit #53 (395 North – Downtown exit)
> The Convention Center will be on the right

FINDING A HOTEL ROOM
This year the host hotel for TCI EXPO 2003 is the Baltimore Marriott Inner Harbor located two blocks from the Baltimore Convention Center at 110 South Eutaw Street. Baltimore Marriott Inner Harbor is offering TCI EXPO 2003 attendees a rate of $169 single/double occupancy. This rate will be offered until October 11, 2003. To make your reservation, please call the Baltimore Marriott Inner Harbor direct at (410) 962-0202. Be sure to reference TCI EXPO when making your reservations. Space is limited; be sure to make your reservation early.

Alternative accommodations are available at the Holiday Inn Baltimore Inner Harbor, 301 W. Lombard Street which is one block away from the Baltimore Convention Center. The Holiday Inn Baltimore Inner Harbor will offer TCI EXPO 2003 attendees a rate of $135 single/double occupancy. Reservations must be made by October 17, 2003 in order to guarantee this preferred rate. To reserve your room, please call the hotel direct at (410) 685-3500 and be sure to reference TCI EXPO.
TCI EXPO BADGES
All TCI EXPO admission badges will be mailed to attendees who register prior to October 17, 2003. Individuals registering after October 17, 2003 must stop by the pre-registration desk located in the Pratt Street Lobby to pick up their admission badge.

SEMINARS
Check the box beside each seminar you wish to attend. Be careful not to pick two seminars scheduled for the same time. Count the total number of seminar hours indicated next to the seminar titles. Record this number in the space marked TOTAL SEMINAR HOURS.

IF YOU ARE ATTENDING 5 OR MORE SEMINARS... BUY GOLD!
To purchase the GOLD CARD, which will give you unlimited access to all educational sessions and the Trade Show, check the appropriate box on the registration form and enter the correct amount in the TOTAL COST line.

EXHIBIT HALL HOURS
THURSDAY, NOVEMBER 13, 2003
9:57AM - 4:00PM
FRIDAY, NOVEMBER 14, 2003
9:00AM - 4:00PM
SATURDAY, NOVEMBER 15, 2003
9:00AM - 3:00PM

REGISTRATION
WORLD'S LARGEST TREE CARE SHOW!

TCI EXPO ONLINE
Register online at www.treecareindustry.org for the world's largest tree care show. TCIA offers a secure transaction line and confirmation of your registration will be received within minutes.

REGISTRATION
Please photocopy and complete a separate registration for each conference attendee. Register before the Early Bird deadline of October 10 to receive discounts on Trade Show Admission and educational seminars. Registrations received after October 10, 2003 and not complying with the appropriate fees will be billed accordingly. Registration is required to obtain your admission badge. Everyone is required to wear a badge issued by the Tree Care Industry Association to enter the exhibit hall and all seminars. Be sure to pre-register and avoid long lines at the registration area.

PLEASE NOTE
Registrations will be processed but not confirmed until paid in full.

SEMINAR REGISTRATION CANCELLATIONS
All seminar registration cancellations must be received in writing at the Tree Care Industry Association office. Cancellations received on or before October 23, 2003 will receive a full refund less a $25 administrative fee. Fees cannot be refunded after October 23. However you are welcome to send a replacement. No telephone cancellations will be accepted.
1. Registration Form

Name ____________________________
Title ______________________________
Company __________________________
Address ____________________________
City ___________________ State ___________ Zip __________
Phone __________________ Fax __________
E-mail Address ______________________

2. Source Request

How did you hear about TCI EXPO?
☐ TCI EXPO Brochure
☐ TCI Magazine
☐ Arborist News
☐ Other Industry Publication
☐ TCIA Web site
☐ Co-worker/Friend
☐ Other ________________________

3. Seminar Selections

THURSDAY, NOVEMBER 13
☐ #1 - 8:00 am Opening Session ............................................................... 1 Hour
☐ #2 - 4:00 pm The Guiding Principles of Tree Care .................................. 1 Hour
☐ #3 - 4:00 pm When to Call the Arborist/Landscaper ............................... 1 Hour

FRIDAY, NOVEMBER 14
☐ #4 - 8:00 am Forces, Physics, Trees & Arborists .................................. 1 Hour
☐ #5 - 8:00 am Managing Your Hispanic/Latino Workforce ....................... 1 Hour
☐ #6 - 9:30 am DOT Driver/Vehicle Compliance ........................................ 1 Hour
☐ #7 - 9:30 am Effective Leadership Skills .................................................. 1 Hour
☐ #8 - 2:00 pm Business Accreditation ...................................................... 0 Hour
☐ #9 - 4:00 pm Pest Management Update .................................................... 0 Hour
☐ #10 - 4:00 pm Sales and Marketing Strategies ......................................... 1 Hour
☐ #11 - 5:15 pm Excellence in Arboriculture Awards Ceremony ................ 0 Hour

SATURDAY, NOVEMBER 15
☐ #12 - 8:00 am Accidents in Arboriculture: What’s Happening and Why? .... 1 Hour
☐ #13 - 8:00 am Power Selling: What Makes a Top Salesperson ................. 1 Hour
☐ #14 - 9:30 am The Maryland Tree Expert License Update ....................... 1 Hour
☐ #15 - 9:30 am Managing and Scheduling Work Crews ............................ 1 Hour

TOTAL SEMINAR HOURS

4. Registration Options

☐ Gold Card - Includes all seminar selections and admission to trade show
(Wednesday Workshops are not included in Gold Card option)

BEFORE OCT. 10, 2003 $205
AFTER OCT. 10, 2003 $250

☐ Individual Seminars multiply cost by number of seminar hours ______ X
$ 50 $ 60

☐ Trade Show Entrance Only - Free with paid seminars
$ 15 $ 25

☐ Business Managers’ Workshop (lunch not included) - Wednesday, Nov. 12, 2003
$ 95 $105

☐ Professional Practitioner Workshop (lunch not included) - Wednesday, Nov. 12, 2003
$ 95 $105

TOTAL $__________

5. Payment Method

☐ Check Enclosed ☐ MasterCard/Visa/AMEX AMOUNT $__________
CARD NO. ________________ EXP. DATE ________________
NAME ____________________________ SIGNATURE ________________
(as it appears on your card)

6. TCIA Membership

1. Is your company an TCIA Member Firm? ☐ Yes ☐ No
2. Do you wish to receive TCIA Membership Info? ☐ Yes ☐ No

REGISTER ONLINE AT: www.treecareindustry.org
SATURDAY, NOVEMBER 8, 2003
GREEN INDUSTRY EXPO
TCIA Education Sessions
Cervantes Convention Center at America’s Center
St. Louis, Missouri

MARCH 25 – 27, 2004
TCI EXPO SPRING
Sacramento Convention Center
Sacramento, California

OCTOBER 28 – 30, 2004
TCI EXPO 2004
COBO Conference/Exhibition Center
Detroit, Michigan