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How Are We to Define Ourselves?

I’ve been in a number of locations during the month of June – in our nation’s capital, in England, Belgium, Massachusetts twice, Norway, and Montreal. I’ve been to conferences and working sessions, and I’ve made presentations. I’ve been with executives, accountants, hard-working people, lobbyists, members, and staffers. I’ve spent time with Canadians, Americans, Irish, French, English, Norwegian, Italian, Swiss, and Dutch people.

The thread through all of these conversations – people brought together for tremendously different reasons – was this: Where are the common values that humanity can come together around, and how can we return to an ethic that informs our lives in everything we engage in?

I wanted to cry when I talked with one person who had run a business with ethics at the core and questioned whether or not that had been the right way to go about things. The reason? Because others had “succeeded” even more doing it the wrong way. What on earth has happened to us when we think that true success is not tainted when it is ill-gotten? I don’t know about you, but I’m ready to put all of the Enron, WorldCom and Arthur Andersen executives not in jail so much as in the poor house. We should be treating people who are willing to abscond with decent people’s lives like we do drug lords. Take all their assets away, redistribute them to those who were wronged, and make a statement about doing business the right way.

We cry out and holler about government regulation impending upon our lives, as if we have nothing to do with it. Self-regulation has been one of the strongest forms of living out our freedom in America. When professions and industries do a good job of that, government doesn’t intervene, because there is no reason for it to. When we don’t take care of our own houses and keep them clean, guess who swoops in? The government. The accounting profession is getting ready to see regulation like they’ve never experienced before – and why...? Because they weren’t holding themselves accountable. Whose fault is it? Their own.

So I ask you – how is the tree care industry going to define itself in the future? Are we going to take care of our business; be ethical in our business dealings; practice safety every day and keep people alive; abide by our voluntary industry standards and practice quality tree care, while keeping people safe; or are we, too, going to face government swooping in one day in an even bigger way?

It’s our choice: To do what is right, ethical, and upstanding – or to face someone else defining us. And we have to do that one tree care company at a time. It has to be individual choices adding up to an industry that has made the choice that we are going to keep our house clean and put ourselves in the position to exercise our greatest asset in this country – freedom.

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A young, powerful lumberjack challenged an old-timer to a contest. "Let's see who can fell the most trees in a day," he said. The young man worked harder than ever. Sweat flowed freely from his brow. His muscles strained with the swing of the ax. The older lumberjack, though, rested on a stump every time he grew winded.

At day's end, the young man was perplexed to see he had lost the contest. "Old man," he said, "how is it that I worked non-stop all day long, and you cut more trees than me? I'm stronger. I'm faster. You rested as much as you worked, and still, you beat me."

"Little fellow," said the gray-haired timber cutter, "it's because every time I sat down, I sharpened my ax."

Or, picture this: On a routine tree removal job, the saw starts fine and runs strong, but when the chain hits wood, there's more smoke than sawdust. The chain simply isn't cutting into the wood like it should. It's an annoying situation, of course, but it's more than that: a loss of time and, therefore, money; undue strain on the saw; a less-than-professional image in the eyes of passers-by.

This scene can be attributed to many factors — and a prideful sawyer may do a considerable amount of attributing — but in most cases, it can all be traced back to human error. Some...
where in the course of that chain saw’s most recent 24-hour span, someone didn’t practice proper maintenance.

A poorly performing saw won’t get the same respect as a more mechanically superior counterpart, and neglect of the tool can snowball. Mark Michaels, Husqvarna’s business unit manager for chain saws, describes how saws that aren’t working like they should have a greater chance of being dropped from trees. It’s not that climbers intentionally throw these tools out of trees, he notes, but human nature dictates that we’re less likely to go out of our way to save a chain saw that’s not giving 100 percent.

“There’s probably nothing more frustrating than a saw that won’t start or won’t run on a hot day when you need it,” he adds.

To keep a chain saw in good condition – and thereby guarantee that it will be more of an asset than a liability – operator training is key. Loren Westenberger, president of Westenberger Tree Service in Clearwater, Fla., describes several steps his company takes in its chain saw maintenance regime:

- Use bottles of compressed air to clean air filters during lunch;
- Send chains off to have them “critically fro-
at a specified time, for required maintenance. Likewise, to remedy a dull saw, some arborists may just switch chains and let someone in the shop handle the sharpening.

Advantages of such an approach include a lessened likelihood of lost parts or the accumulation of debris within a piece of equipment. Notable disadvantages are that a company must have a greater number of saws and a dedicated mechanical staff.

SavATree’s director of training and safety, Dane Buell, agrees with Michaels’ approach to field maintenance. “We prefer to keep our people focused on what they do well—which is to perform tree care services—and allow the mechanics to be the experts on jobs like tuning the carburetors and things like that.”

However, even for those who shun field maintenance, in-the-field judgment abilities must be present. Operators must be familiar enough with the ideal chain saw performance that they know when something is amiss.

“People can be trained pretty easily to get the feel of a saw,” offers Michaels. “If you start with a sharp chain and you get the feel of the optimum rpm and where the saw cuts the best, it gives you a good baseline. They certainly will know when they aren’t there.”

Training with a significant hands-on component allows those who use the chain saws regularly to develop a sense of the machine’s optimal performance.

Sharpening one’s employees

Regardless of whether a company performs its basic maintenance in the field or in the shop, a wise practice is to ensure that someone is accountable for each and every chain saw in the supply cache. “That way,” explains Westenherger, “we can tell who in the company is doing the proper maintenance and how long they’re getting life out of their saw.”

The person to whom a saw is assigned doesn’t necessarily need to be the one who uses it exclusively, but that assignee will be the one who personally sees to it that the saw is kept in tip-top shape—reporting the machine’s shortcomings to the mechanic, sharpening the chain or cleaning filters when necessary, etc.

The individual in charge of a chain saw’s health must be equipped to distinguish good sharpening and maintenance practices from poor ones. These employees will also hold the responsibility of fueling and making sure that the gas/oil mixtures are at the proper ratio. In short, these people are where the most intensive training will normally be focused.
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Troubleshooting
Chain Wear

Following are some of the most common problems:

1. Condition: Damaged top and/or side on cutter. Chain won't cut straight.
   Cause: Cutter has hit material other than wood.
   Remedy: File cutter to remove the damage. File other cutters to same size.

2. Condition: Cutter angle blunt on top edge or sloping back on side edge. Chain must be forced to cut.
   Cause: File too large or held too high.
   Remedy: File to correct angle with proper file.

3. Condition: Hook in side cutting edge or top cutting edge feathered. Cutters dulling quickly.
   Cause: File held too low or diameter of file too small.
   Remedy: File to correct angle with proper file.

4. Condition: Peening or premature flattening on bottom of cutters and tie straps.
   Cause: Loose chain tension. Dull cutters. Lack of lubrication. Chain has been forced to cut.
   Remedy: Chain must be replaced if badly worn. Check chain tension and cutter sharpness more frequently.

   Cause: Improperly filed depth gauge.
   Remedy: Round off front edge of depth gauge to original shape and check height.

6. Condition: Damage or broken drive link tangs.
   Cause: Chain runs too loose or has "jumped off" bar.
   Remedy: File off burrs. Tighten chain tension. Replace broken parts if damaged too much to file.

7. Condition: Front or back of drive link peened (battered around the edge).
   Cause: Worn sprocket.
   Remedy: Replace sprocket. If heavily damaged, replace chain.

8. Condition: Burring and peening in notch of tie strap.
   Cause: Worn chain sprocket.
   Remedy: Replace sprocket and chain.

In years past, training — if it existed at all — may have been a five-minute explanation of basic chain saw upkeep. But as saws have changed, so has the need for training and employees' interest in professional development. One should never underestimate crew members' interest level when it comes to improving efficiency.

Buell explains how SavATree's training philosophy has evolved over time, taking on such cultural changes as employees' need for growth as opposed to just conducting training that you're trying to shove down someone's throat," he says. "They become pretty enrolled because they have the opportunity to grow financially and professionally by participating."

While many companies host classroom sessions for their employees, most view in-the-field, hands-on instruction as the most fruitful when it comes to proper equipment usage. In essence, the approach to chain saw maintenance training will be a factor of company size, season and available resources. At Westenberger's company, for instance, crews come into the shop twice per year for climbing and safety training, plus an additional two times annually for dealersponsored chain saw safety and maintenance instruction.

On the other hand, Keith Sheriff of Wright Tree Service in Des Moines, Iowa, has people in the field who do nothing but train employees in chain saw safety, tree climbing and so forth. Both classroom and field have their merits, as long as employees walk away knowing (1) when it's time to sharpen/maintain a saw; (2) where/to whom the chain saw should be taken to see that these actions are carried out.

Scheduled training is a good idea, but many companies find it more efficient to conduct training on an as-needed basis: "Sometimes, depending on the weather, we're able to sit the crews down and go through it all at once," Sheriff says.
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"Other times, we just have to take the new employee who doesn't have that experience and show him as he goes."

Also important is designating someone with a great deal of experience and professionalism to determine which employees are ready to use and maintain the company's saws. After SavATree's training is complete, for instance, crew members are placed on a probation period. During this time, an employee can only operate a chain saw under the careful watch of a supervisor.

Common sharpening mistakes

In most cases, sharpening a chain is by far the most frequent maintenance activity a tree care professional will perform, and training someone to execute this is relatively easy, says Michaels, due to a number of simple devices on the market that take all the guesswork out of sharpening. These guides give the sharpener the right angle and the right depth, in essence serving as an inanimate trainer. Nevertheless, mistakes can be made.

Buell explains how one of the most common failings in the field sharpening of chains involves the rakers. "People are pretty good at filing the cutting tooth," he relates, "but they're not real sharp on making sure they have the right raker height. Typically, you'll pick up a saw and the cutter will be very sharp, but the rakers are set way too high and the saw won't cut."

Any of a number of guides on the market will "train" the sharpener in regards to the right angle and consistency of sharpening a chain.

Training crews in wise field maintenance practices not only benefits the company, but also helps employees accomplish more with less physical effort. "You have to let the saw chain do more work and the operator do less work," says Michaels, who adds, "Today's saws really should cut with not that much pressure applied. You shouldn't have to lean on saws. In fact, today's saws, in general, are built more for speed and don't have the kind of bottom-end torque that we used to have."

The fact of the matter is that ten companies are likely to approach chain saw field maintenance in ten different ways. The ultimate goal, though, is the same: for crews to become armed with enough experience to distinguish a well-maintained saw from one that's lacking. If this knowledge is absent, operators are essentially chopping with a dull ax.

Phillip Meeks is a freelance writer whose articles have appeared in more than 30 green industry publications.
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Ergonomics Update:  
Chao Defends DOL Approach

Labor Secretary Elaine Chao defended the administration’s voluntary approach on ergonomics. Testifying June 6 on the Bush administration’s proposed fiscal 2003 budget before the Senate Appropriations Committee’s Subcommittee on Labor, Health and Human Services, and Education, Chao said the department has existing authority to cite employers for exposing workers to ergonomics hazards — even without a federal standard. A standard proposed by the Clinton administration was killed by Congress in 2001.

Chao offered several examples of enforcement cases where OSHA issued citations under the general duty clause of the OSH Act. The clause authorizes the agency to cite employers for failing to provide a workplace free from hazards — even where the agency has not promulgated a specific regulation.

Sen. Arlen Specter (R-Pa.), the subcommittee’s ranking Republican, questioned the effectiveness of that approach under what he called a very general standard.

Chao cited OSHA’s effectiveness with Beverly Enterprises, a nursing home company that was forced to take specific actions, including worker training and providing lifting devices, to settle an OSHA enforcement case. The settlement, announced in January, requires the nation’s largest nursing home chain to train workers and requires the use of lifting devices at 270 facilities across the nation.

The Beverley action serves to validate one of the biggest concerns that many industries such as tree care have, which is that OSHA doesn’t need a standard to cite employers for alleged ergonomics offenses. A pessimist would declare that OSHA has again circumvented due process in rule-making by enforcing its “voluntary guidelines” as law.

What will ultimately determine whether OSHA’s ergo plan is workable is the even-handedness with which OSHA carries out its “four-pronged” approach. Announced in April, it includes the development of both industry-specific and task-specific guidelines, “strong and effective enforcement,” extensive outreach and assistance, and research.

Recently introduced legislation (S. 2184) would force DOL to craft an ergonomics standard in two years. A committee vote on that measure is expected soon. Chao said a federal regulation would be problematic because it would impose a “one-size fits all” solution on employers and would not “allow for creativity.” The department’s approach focuses on preventing injuries before they occur, while the rescinded ergonomics rule promulgated by the Clinton administration could have been enforced only after a worker was injured, she said.

Congress isn’t convinced. The Senate legislation is expected to sail through markup in the Senate Health, Education, Labor and Pensions Committee, setting up prospects for a tough floor battle.

The bill’s markup will usher in a new round in the battle over an ergonomics regulation just one year after Congress voted to kill the Clinton administration’s requirements. Industry groups and labor unions are gearing up for a battle that is likely to go on over the course of the year.

The bill, introduced in April by Sen. John Breaux (D-La.), has the support of committee Democrats as well as Sen. James Jeffords (I-Vt.), whose departure from the GOP last year threw the Senate into Democratic control. The prospects for getting the bill out of the Senate are difficult to assess, with most observers suggesting a vote would be extremely close in a chamber with 50 Democrats and 49 Republicans. The bill has 33 co-sponsors and 31 are Democrats.

Industry groups and Republican opponents of the bill are gearing up for the battle and are already threatening to delay a full Senate vote. They also are warning Democrats against inserting the Breaux bill language in the fiscal year 2003 appropriations bill covering the Labor Department. Sen. Michael Enzi (R-Wyo.) has pledged that he will filibuster the funding measure if such a rider is included. In a June 6 letter to GOP leaders, Enzi said Congress had already killed an ergonomics regulation, in part because it was based on “incomplete science” and would place an undue burden on small businesses.

The National Association of Manufacturers has urged members to support the administration’s largely voluntary guideline effort. Labor unions and other supporters note that musculoskeletal disorders are the most prevalent workplace illness in the nation, according to the Bureau of Labor Statistics, and say a voluntary approach will do little to protect workers from being injured.

Peter Gerstenberger is vice president of business management, safety & education with the National Arborist Association.
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Great selling techniques will boost your tree care company’s profit in good times and bad. And there’s certainly no time like the present: In this unsettled economy, most business people are getting a rude reminder that making a sale means more than just writing up an order form... or hitting a key on a computer.

“Good selling practices died out in the last few years as we were seduced by a robust economy,” says Ron Zemke, president of the Minneapolis-based Performance Research Associates and author of the best-selling Delivering Knock Your Socks Off Service. “A lot of salespeople turned into simple order takers. Now it’s time to start selling again.”

Easier said than done? Here’s help. In this article, management consultants from around the country recall the critical sales skills that got lost in the shuffle of the roaring ’90s. Let’s see what they say about boosting revenues in tough times.

1. Help the customer

“There are many good salespeople,” says Linda Richardson, president of Richardson, a sales consultancy based in Philadelphia. “But the few really great ones start each day in the right frame of mind. That means reminding yourself of your role as helping customers.” Recalling your mission, says Richardson, creates enthusiasm and stimulates you to take those extra steps that motivate “buy” decisions.

Indeed, salespeople with a “vision of excellence” concentrate more on the customer than on ringing up a sale, says Richardson. “Make the customer want to do business with you by showing real interest in them and providing exceptional service.”

Becoming “customer centric” makes your job more exciting and enjoyable. When you see yourself as a resource to help customers, you become much more effective and derive more enjoyment from your work. Conversely, trying to pitch a product or service to someone who has no perceived need or want is futile and an invitation for rejection.

Cold calls

While most salespeople dislike cold calling, the practice can result in a number of valuable new customers. But you must approach the task in the right frame of mind to avoid becoming discouraged when searching for that one elusive diamond in the rough.

“Plan ahead,” says Ron Zemke, president of the Minneapolis-based Performance Research Associates and author of Delivering Knock Your Socks Off Service. “Set a time to make your cold calls, just as you would set a time to practice the piano.”

Zemke advises turning the cold call task into a numbers game. “Say something like, ‘I will spend X hours cold calling and make X number of calls. I know I will be successful when I have called X people.’”

You also need to review your history of past calls, says Zemke. If it takes 10 telephone calls to get one appointment, and it takes five appointments to make $5,000, then each cold telephone call is worth $100. “If you keep your formula in mind you can make a game out of cold calling,” says Zemke. “And you will see that cold calling is not in vain, so you will maintain your enthusiasm.”
2. Be a great listener

Great salespeople are great listeners. Why? Asking questions, then listening to the answers, is the best way to discover customer requirements. People buy only when they have needs or wants. The challenge for a salesperson is to discover what those are.

“It’s easy to make the sale if you let people buy what they want to buy,” says John Tschohl, president of Service Quality Institute, Minneapolis. Unfortunately, too few salespeople have gotten the message. “Most salespeople ask questions because they were told to ask them, but they don’t listen to the answers,” says Tschohl. In contrast, “a good salesperson will find out a prospect’s needs and dominant ‘buy’ motive.”

It all boils down to what sales experts call “consultative selling.” That means conferring with the customer before presenting a pitch. Smart salespeople don’t try to rush. “Most salespeople ‘open,’ then ask one or two questions to understand customer needs, then present their product and then try to ‘close,’” says Richardson. Great salespeople, in contrast, spend more time conversing with the customer.

“Develop skills to create more interaction,” suggests Richardson. “Don’t be so anxious to talk about your product that you present your pitch before you ask enough questions.” Discover what the client plans to do in the future, then position your product or service as a solution to a perceived problem.

3. Network to find new customers

“Cold call” lists, while sometimes effective, should be a last resort. Create a more promising list through effective networking. This means attending events held by your chamber of commerce and industry associations. “Get involved with organizations that you have some interest and have interesting people in,” says consultant Zemke. “When you have met someone somewhere, you have a way to start into a discussion with them.”

Follow up on contacts with phone calls and helpful information. “Suppose you run across a newspaper clipping that may be of interest to someone you have met,” posits Zemke. “Staple your business card to the clip and mail it to the individual with a short note.” Make yourself useful to someone, says Zemke, and that person will return the favor.

Keep this up and you will be rewarded. “You need to do a lot of this to receive a payoff,” says Zemke. “But it’s a lot more productive than cold calling.”

4. Make your customers your friends

People will not buy from you until they are convinced you are their friend, and therefore acting in their best interests. Prospects are more willing to open up and communicate their needs to a friend. So the next step beyond networking is developing long-term friendships.
“Remember that there is always someone else from whom a prospect can buy,” says Ian Jacobsen, president of Jacobsen Consulting Group, Sunnyvale, Calif. “So the question always becomes, ‘Why should a customer buy from you?’ Unless there is a marked difference in price or service, the sale will hinge on a relationship. So your challenge is to create one. This is the foundation for creating sales down the road.” Shmooze with your customers. Call them up and alert them when you have something you think they will like.

Look upon the actual sale as an event in an ongoing relationship.

5. Make more calls

Sales is often called “a numbers game.” Salespeople need to place a certain number of phone calls or visit prospects a certain number of times to enjoy “x” number of sales. Those salespeople who don’t track the results of such calls end up making too few.

“Persistence pays off in selling,” says Bob Janet, a Charlotte, N.C.-based consultant. “A recent study from Wells Fargo showed that 60 percent of salespeople never make a second call to a customer, and of the number who do, 15 percent never make a third call. But 65 percent of Wells Fargo customers don’t make a ‘buy’ decision before six or more contacts are made.”

The person who is persistent, then, will make more sales. “Part of the problem is that prospects tend to forget a lot of what you tell them,” says Janet. “You need to be persistent in communicating.”

Set up your call list on a rotating basis, making sure each entry gets called in turn. But how frequently can you call? “The No. 1 rule is that you can contact a customer as often as you like, as long as you deliver something of value,” says Janet. “Provide something that improves their businesses or their lives.”

Janet suggests answering these questions: Whom will you contact? What will you send them? How will you send it? And

Pump Yourself Up

Sometimes it’s easy to get discouraged. When customers resist buying, salespeople start to doubt their own abilities and question their commitment to their chosen field. At such times, a little self-talk can get us back on track.

“My favorite combination of affirmations, which I’ve used for years, is ‘I like myself and I love my work!’” says Brian Tracy, an international speaker on sales techniques and president of Brian Tracy International, Langley, British Columbia, Canada.

Repeat this affirmation a number of times, says Tracy, along with related statements such as “I’m a sales genius!” and “I’m the best in this industry!” to get in a positive frame of mind for driving more sales. “These words are especially powerful for starting out your day, or mentally preparing yourself for a sales call.”

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when will the contact be made? “Do your selling aggressively and persistently,” says Janet. Track your activities and then adjust your plan by the results you achieve.

Use a spreadsheet or database program to track your sales calls by sales made and dollars received.

6. Practice your sales approach

Successful salespeople develop winning presentations by continual practice. Consultants advise against trying to “wing” a good call. “Tiger Woods doesn’t go to the bar and drink with his buddies when he’s not playing golf,” says Tschohl. “Instead, he’s out on the course practicing the basics. The same applies to the successful salesperson. Constantly practice the basics in approaching the prospect.”

Learn from others. When developing your own sales approach, study what other tree care company salespeople do. Copy the tactics that work. Avoid the ones that fail. “I have yet to come across a salesperson who has not had bad experiences when approached by other salespeople,” says Jacobsen. “Consider your own experiences when in the role of a prospect. Ask yourself what sales techniques turned you off, or impressed you. Then consider whether you are using those same techniques in your own selling.”

7. Review each pitch

So you sent your best pitch over the plate. Was it a strike or a ball?

The answer depends only partly on whether you actually made a sale. If the customer needs something fast, even the worst pitch can result in a transaction. Conversely, the best sales presentation in the world won’t make a sale if the customer is dead set against it.

Nonetheless, to improve as a salesperson you need to constantly assess how well you did and how you can improve your performance. Dwell on the positive, suggests Dr. Jon M. Hawes, Fisher Institute for Professional Selling, University of Akron. “After a sales call, always ask yourself ‘what went right?’” he suggests. “Focus on what worked, and reinforce it.”

Of course, you will also want to understand your bloopers. But Dr. Hawes suggests avoiding negative questions such as “What went wrong?” Instead of highlighting and getting upset about your mistakes, ask questions such as:

- What could I have done better?
- What were some other approaches I might have taken?
- What opportunities may I have missed?
- What information did I obtain to help on the next call?

Finally, says Dr. Hawes, team up with another salesperson to assess one another’s performance.

Now, more than ever, you need to refresh your techniques for interacting with customers. In tough times, it takes more and better sales calls to keep the revenue stream flowing free and clear. In this article, sales experts have provided seven ways to boost your sales in tough times. Take their advice to heart and watch your own bottom line start to rise.
Kujawski Retires from UMass Extension

Ronald Kujawski, nursery specialist for UMass Extension's Landscape, Nursery and Urban Forestry Program, will retire June 15, 2002, after 25 years with the Extension system. As a UMass Extension employee, Ron was instrumental in developing the first Master Gardener program in Massachusetts and was one of the original co-authors, along with former Extension Specialist Dick Boyce, of the annual UMass Garden Calendar in 1979, which is still published today.

Stihl Recalls Chain Saw Model 019T

In cooperation with the US Consumer Product Safety Commission, Stihl Inc. is recalling the Stihl chain saw model 019T. The chain saws were manufactured and distributed in the United States by Stihl Inc. of Virginia Beach, Va. If you own a Stihl 019T chain saw that was purchased between December 2000 and May 5, 2001, and falls within the serial number range of 249129398 and 249956311, please discontinue using the unit immediately. A screw needs to be added to the support boss of the brakeband area to reduce the potential for cracking of the boss and the potential failure of the chainbrake. For more information, call Stihl at 1-800-467-8445.

Buckallew Takes Post At Becker Underwood

Becker Underwood, Inc. has named Brian Buckallew product manager for its distribution sales business unit. In his new position, Buckallew is responsible for the development, marketing and sales of the company's bioagronomic, pest management and specialty products in the turf, ornamental, horticulture, aquatic, and forestry markets.

Before joining Becker Underwood, Buckallew held numerous positions within Pioneer Hi-Bred, Intl., serving most recently as a value chain manager in its value enhanced grain business.

He brings a broad base of experience to Becker Underwood including operations, sales and marketing.

Founded in 1982 in Ames, Iowa, Becker Underwood, Inc. manufactures and markets a variety of specialty colorants and bio-agronomic products for turf management, agriculture, seed treatment, wood recycling, aquaculture, vegetation management, forestry, structural pest control and many other industries.

Cartwright Named to Davey Board of Directors

Carol A. Cartwright, Ph.D., president of Kent State University, was elected to the board of directors of The Davey Tree Expert Company at the company's annual shareholders meeting. Davey is employee-owned with nearly 6,000 employees.

Cartwright holds a bachelor's degree from the University of Wisconsin and both a master's degree and a doctorate from the University of Pittsburgh.

Before coming to Kent State, Cartwright was vice chancellor for academic affairs at the University of California at Davis and dean for undergraduate programs and vice provost at the Pennsylvania State University.

Denice Britton Honored by ISA

Denice Britton, Britton Tree Services, Inc., in St. Helena, Calif., has received Honorary Life Membership to the International Society of Arboriculture — a well deserved honor.

Callbacks

The caption for the cover photograph in the June issue was incorrect. It should have read "Mycelial fans of armillaria."

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Bilt-Rite Model BR32-H conveyor, designed for stockpiling or loading semi-trailers, adds versatility to firewood operations with its added height of 15 feet, 6 inches. The hydraulically driven top drive unit comes standard with a cleated belt for operation in any weather. The 55 hp Honda motor allows the BG32-H conveyor to be moved around the woodlot on its own. The conveyor can also be run off a processor by using quick-connecting coupling. For more information, contact Bilt-Rite at 1-800-757-2520.

Golden Retriever
The Golden Retriever is a simple line-winding device that can be employed on any length of line within seconds of picking it up. Even midway down the line, the Retriever can finish the job without the need to find the line's end. To use the Golden Retriever, attach it to a common paint bucket (or draw-string bag using the optional adapter) and position your line in the spinner. Designed with a 4-to-1 gear ratio, the Golden Retriever moves 18 inches of line with a flip of the wrist. Although the Retriever can accept lines up to 4 mm diameter, it only works midline on sizes up to 2 mm. For more information, contact Sherrill Arborist Supply at 1-800-525-8873 or contact participating Vermeer Dealers.

Efco 947 Chain Saw
Efco has introduced the 947, a versatile, all-purpose lightweight saw suitable for a variety of woodcutting applications. The 947 is engineered for commercial duty, with a chrome cylinder, dual-ring piston, dual web, ball-bearing-mounted crank shaft and forged single-piece connecting rod. Features include a compression release and air purge primer for easy starting, an adjustable oil pump and a side-access chain tensioner. The 947's engine is designed to deliver high torque throughout the rpm range. It develops 3.1 hp/2.3 kW, with a maximum no-load rpm of 13,000. For more information, call 1-800-447-1152 or visit www.tiltonequipment.com.

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Ford Engine Performance Module
Ford Power Products, a subsidiary of Ford Motor Co., has introduced the Ford Engine Performance Module (EPM) for industrial engines. The EPM is available on Ford's 2.5 liter and 4.2 liter engines and will be available on future products as well. The EPM, housed in a thin, water-tight case, is designed to enhance engine performance and durability. It can be mounted in most configurations. Features include isochronous speed control with precise timing of the electronic throttle and enhanced diagnostic capabilities. For more information, contact Ford Power Products, 15700 Lundy Parkway Drive, Ste. 200, Dearborn, MI, 48126; 1-800-833-4773 or visit www.fordpowerproducts.com.

Chipper Tool
S-Squared has introduced a new product for use with brush chipper equipment. The Chipper Tool, for use with brush/wood chippers, is designed to increase safety and promote crew productivity while remaining economically and environmentally friendly. The head of the tool is molded entirely from plant material and the handle is made of heavy gauge cardboard tubing. The Chipper Tool allows the operator to safely feed the load into the blade/roller area while remaining a safe distance away from the opening. The tool has a 48.73-inch snag-free handle and a contoured head. For more information, contact S-Squared at (561) 395-3162, e-mail: s-squared@msn.com or visit www.s-squaredinc.com.

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Moving and Loading Logs
Considerations of winches and liftgates
By Thomas G. Dolan

Winches
Chuck Thompson, vice president of sales and marketing at Superwinch, Inc., in Putnam, Conn., recommends choosing winches that can be used for a wide variety of different tasks. He suggests flexible winch platforms that can be put into the hitch in the rear under the truck. Winches can also be put on the front of the truck, Thompson adds, but this is more expensive. “You have to change the geometry of the front so it can bear the added weight,” Thompson says. And a winch on the front means the log is still a ways from the bed of the truck. Instead, he offers a better option – at least for arborists in areas that have heavy winters: an attachment for a snow plow in the front with the winch system in the rear.

Although the winch system might be thought of as the intermediate step between felling a tree and getting it onto the truck, Thompson notes that there are times when it can be used in conjunction with these other two steps. “Some arborists will use winches when cutting down a tree to create tension so that the tree will fall in the desired direction.”

A winch can be used effectively in conjunction with a small crane on the back of the truck, notes Thompson. “Both the crane and the winch can be run off the same vehicle battery.” In addition, Thompson says, this crane/winch combination can cut down on manual trimming on the ground by being able to lift heavier material and dropping it into the chipper.

Winches come in a wide variety of sizes and capacities, so when shopping for a system, he sure to think of all the uses you might put it to. If you are going to use it with a truck-mounted crane, you may want...
The X-Tra-Lift from Stellar Industries is a loading system with a 1,300 pound lifting capacity that fits inside the already existing pick-up box. It loads and unloads your stump cutter parallel to the ground.

it to lift equipment on and off your truck, not to mention irrigation pipes, railroad ties, or balled-and-burlapped trees.

Superwinch sells hydraulic winches with up to 50,000 pound capacities for large trucks, but electric ones working off the battery go from 1,000 to 15,000 pounds. " Arborists generally work in the 1,000-to-15,000-pound area," Thompson explains. The winches can be used on tractors, trucks or all-terrain vehicles (ATVs). But depending where you use them, you should be aware of codes and lawn considerations. When working on trees at a golf course, for example, Thompson says, "You'll want a lighter vehicle and a lighter winch system."

Ramsey Winch Co. of Tulsa, Okla., has been around for 54 years. Its product line ranges from 2,500 pounds to a monster 500,000-pound capacity for industrial use. Product manager Ron Vanderslice cautions, however, that his company's winches "are not used for lifting, only moving objects, or for self-recovery, as when a vehicle gets stuck and you want to get it free."

Some of the larger systems, in the 9,500 to 20,000-pound range, are for super-duty work trucks for loading and unloading heavy equipment and logs. There are lighter systems that may be more appropriate for the arborist as opposed to logger, and the company sells different winches to meet different applications.

Ramsey offers two different gear systems. The first is the planetary, which, Vanderslice says, is reliable, durable and fast. The second is a worm gear, which is slower but has more brute strength.

"When choosing a winch system, keep in mind the amount of time you'll be using it," suggests Vanderslice. "An electric or battery-operated one is good for short pulls. For higher-duty cycles and everyday use, the hydraulic option is better." A second consideration, Vanderslice says, is the size of the winch. There are a number of different models and pounds to choose from, so work out the variety of different applications you will need in order to choose the appropriate size.

Liftgates

Although liftgates are used in many industrial applications, they are not commonly part of the average tree care company's standard list of equipment. Normally, tree companies will have skidsteers, grapples, front loaders or tractors to move large pieces of wood. Of course, liftgates are cheaper and can be fitted to the back of a pickup or light flatbed.

There are six to eight major liftgate manufacturers that work within the U.S., and their liftgates run the gamut, from a 500-pound capacity up to 6,000 pounds. Most are used with large delivery or industrial moving vans with the truck-under liftgates, but they may have a specialty application in arboriculture.

Arborists are going to be interested in the smaller models. Tommy Gate Co. in Woodbine, Iowa, started making farm implements in 1965 and then developed its pickup lift, with a capacity starting at 500 pounds. About 10 years ago it branched into box van or medium-duty trucks. "We can offer from 1,600 and 2,000-pound capacity liftgates for medium-duty stake and flatbed-type bodies," says marketing coordinator Brian Smith. "But beyond that you're looking at heavy duty trucking."

Smith calls Tommy Gate's Original Series a cable parallel arm design. The lift is supported on both sides by arms that allow for a 40-inch maximum gate travel from the back of the truck. There is also an optional 11-inch extension with 4-inch taper folds that enable the gate to remain flush with the top of the truck bed. This lift, which remains flat at all times, moves out about 2 feet once it lowers to the ground.

A variation of this device that came out this past year is called a dual-hydraulic cylinder. It has a cylinder on each side. "In theory it works the same as the cable," says Smith, "but it's a little steadier and offers higher capacities - from 1,300 to 1,500.

At Classic Central Boiler, the Classic 200 (2,000 pounds), is the perfect choice for your medium-duty flatbed-type bodies. It features a rugged, reliable design that includes a large vertical section designed to enhance heat transfer for maximum efficiency and low wood consumption. The "Ripple Top" and HeatLock system optimizes combustion and heat transfer for maximum efficiency and low wood consumption.

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pounds, depending on the model.” The cable style is a little more prevalent, Smith adds, and his company is one of the only ones to offer the dual cylinder option on pickup liftgates.

The variation for medium-size trucks is called a chain-driven rail system, which has two rails on the sides and is chain driven by a hydraulic pump attached to the motor inside the lift. This basically moves the platform from the loading surface to the ground by way of chains. Unlike the smaller versions, the rail gate just moves straight up and down, but has the option of going 37 inches deep on the steel or 70 inches deep with the aluminum platform. “A lot of users find the extra loading depth helpful,” Smith says, “especially with heavier material.”

Thieman Tailgates, Inc., in Celina, Ohio, has tailgates with a capacity up to 4,000 pounds. The version appropriate for arborists, called TopLifter, starts at 1,000 pounds and goes to 1,600.

Spokesman Bartt Suchland says that his products use cylinders, which expand when lifting, so there’s no danger of breaking. Suchland adds that “at the point where the liftgate pivots, you usually have to grease, but we use a bushing which means that it’s grease-free and needs no maintenance.”

The Thieman models also come with regular steel and aluminum platform options, the latter looking better and not bringing rust into consideration. Thieman also has expanded metal or bar grade metal that the driver can see through, which helps in backing up. The Thieman tailgates are unique, Smith adds, in that their standard model comes with a bumper so that you can pull a trailer on the same truck that has the tailgate.

A different variation is offered by Stellar Industries, Inc., in Garner, Iowa. Instead of using a truck-mounted crane or liftgate to get the logs from the ground to the truck, Stellar uses a hooklift. Basically, the hook lifts the container from the back of the truck and lowers it to the ground. After the container is filled with logs, debris, or anything else, it’s then lifted back onto the chassis.

Stellar sales manager Glenn Rasmus points out that instead of having different trucks or different dedicated chassis for hauling different loads — whether logs, trees, or to be plants or other equipment — the hooklift can accommodate these very different types of loads with the same truck and same chassis. “One truck can support numerous bodies, which cuts costs and maintenance,” Rasmus says.

Another point Rasmus makes is that sometimes the logs may be taken from one site and delivered to another. But this does not have to happen within basically the same trip. Logs can be removed from the site, and the container then unloaded temporarily back at the office. The truck then can be used for more immediate tasks before the logs have to reach their final destination.

The hooklifts are available for pickups up to quad axle trucks, for lifts ranging from 3,000 to 65,000 pounds.

The 3,000- to 5,000-pound capacity unit comes with a standard pickup box, and is equipped with a 12-volt self-contained hydraulic power source that allows for quick and easy installation on most 3/4-ton pickup trucks. The models can handle logs 8 feet to 10 feet long.

The 8,800-pound capacity model features a full-length dump frame to support the body during the dump mode. This feature prevents excessive strain and wear on the hook bar. One truck operator can, without leaving the cab of the truck, load and unload or change truck beds in less than a minute.

Most tree care companies simply chip trees after removal. Those that engage in frequent land-clearing generally have dedicated equipment, including a flatbed, grapple and loader, to handle a large volume of logs. Smaller companies that don’t handle a lot of logs may want to investigate these relatively inexpensive options. The right kind of wood can fetch a nice price at the sawmill.
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Arborists' Trucks for 2003

Many improvements on the way

By Ken Kelley

There are numerous improvements in trucks and related equipment for arborists to help with tree care work in the truck model year ahead. A survey of what has happened turned up news of generalized advances in these areas:

1. Chassis are more economical to operate.
2. Maneuverability has been improved.
3. Chipper bodies are built to do more effective work.
4. Mid-sized diesels do more work on a limited thirst for fuel.
5. Automatic transmissions also go easy on costly fuel. Advanced electronics and “easy shifter” gear boxes help bring in this gain.
6. New engine controls send more data to the dashboard or store it for use in the service shop.
7. Automatic features, such as “self-adjusting brakes.”
8. Improvements are being made to the systems that help drivers get in and out of trucks, the site of the most driver injuries on the job.
9. More truck “add-on” items are now available, from ladders and floodlights to power take-offs that go on engines.
10. There is room for a crew in today’s new crop of crew cabs.
11. Globalization has boomed in the truck field. The best of what was developed overseas is now sold here and vice versa.
12. Ample windshields to improve visibility have become a more common safety aid.
13. More effective antilock brakes and controls make sure a truck stays in its lane.

Individual views vary on what’s important in new truck features. When asked about the top current development in the chipper-body field, Richard Gooforth of Southco Industries, Shelby, N.C., replied: “Bigger is better,” and went on to commend a huge body developed recently. When the discussion moved to specific improvements, Gooforth praised current advances in security features and safety lighting systems.

When the what’s-new question was asked of Mike Cassidy in forestry body sales at Schodorf Truck Body & Equipment Co. in Columbus, Ohio, he spoke immediately of a chipper body mounted on an imported compact-chassis, because “it helps get the work done efficiently in tight quarters.”

Here are specifics of key changes made in individual truck models:

General Motors

The two General Motors truck lines have recently been active in two areas. Getting in step with a fact of life in truck use, they have been turning some light-duty units into mobile offices. There has been early word of making provision

General Motors has carried some of its light-truck features over to the medium-duty 2003 models, including large slanting windshields, steeply sloped aerodynamic hoods and body-mounted, fold-away, and single-arm side mirrors to improve visibility.
for installation of laptop computers in the "offices," a specialty in which GM claims a lead. And there have been recent moves to add more storage space for important papers.

Secondly, the GM lines were the first makers of medium-duty models to offer 2003 models, selling Kodiaks from Chevy and Top Kicks from GMC in 2002.

Some models in the lines have weight ratings below those requiring that operators have a Commercial Driver's License (CDL). In most states, that rule takes effect at 26,000 pounds GVW. Some of the larger Kodiaks and Top Kicks have higher GVW ratings.

What GM appears to have done is use a regular truck-industry practice of offering models that are just light enough to escape a demanding rule. Units with GVWs of 25,500 and 25,900 pounds are offered by a number of manufacturers to work around the CDL requirement.

A stiff federal excise tax is charged on heavy-duty trucks above 33,000 pounds GVW. That has led to production of a number of models with GVW ratings just under 33,000 pounds that "can do almost as much work as a heavy duty truck."

The producer has carried some light-truck touches over to the medium-duty models. This has to be a good thing in vehicles that are often operated by arborists whose main occupation isn't truck driving. Large slanting windshields, steeply sloped aerodynamic hoods and body-mounted, fold-away, single-arm side mirrors to improve visibility and reduce noise were among the items drawing praise.

Tighter turning angles, a set-back front axle and a shorter wheelbase are other features that should make the new GM mediums less "trucky."

General Motors has been active in the midrange diesel field for some time. Its top seller now is the Duramax 6600. It is the product of a joint venture of GM and Isuzu Motors that is named DMAX Ltd. The engine is being built in a new facility in Moraine, Ohio.

The 6600 is about as sophisticated as diesels get. It is a 90-degree, four-valve-cylinder, turbocharged V-8 with aluminum high-swirl cylinder heads and are described as major cooling benefits. The engine's key specifications include a horsepower of 300 and a torque rating of 520 foot-pounds.

Dodge, which introduced new-model half-ton pickups for 2002, is taking the

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next obvious step for 2003 and adding rugged three-quarter and one-ton models.

The one-ton Ram 3500 has the go-anywhere capability of four-wheel drive, dual rear wheels, and a four-door Quad Cab. Powerplant choices include a V-10 gasoline engine at 305 horsepower from Dodge or a 305-horsepower Cummins six-cylinder diesel.

Although Dodge has indicated it will continue to offer the popular Cummins diesel as its "base" powerplant of that type, the phrasing has certainly left the door open for the line to begin offering other diesels supplied by its sibling division, Mercedes-Benz Engines. At this time no specific timetable is being quoted for the expanded diesel lineup, but inside sources verify that the matter is under serious consideration.

**Ford**

Ford, which prides itself on being the nation's largest producer of light trucks, has something special for arborists - an Econoline SuperDuty cut-away chassis (no body) on which the owner can have the body of his choice mounted. The model has been praised for its top-notch maneuverability and for its good visibility from the driver's seat.

**Freightliner**

Freightliner has just updated its Business Class trucks, often viewed as solid medium-duty models. Designated the M2s, the new models bring up a general industry trend, the globalization mentioned above, in which one nation's truck makers and parts suppliers often take their ideas to other countries around the world.

The producer of the M2s is owned by the joint venture of Mercedes-Benz of Germany and Chrysler. Mercedes is a major supplier of diesel power for the M2s, as are the diesels from Caterpillar.

One novel new Freightliner offering is so unique that it has already received more than a large measure of attention.
1997 International 4900 Loader
DT466, Allison MT653 Automatic, Hawk J-1150 Heavy Duty Loader with Grapple, 20' Steel Body With Hoist, AC, Only 53K Miles Special Price $44,900.00

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1994 Int'l 4900 Heavy Spec Crew Cab
L1466. Allison Auto, 38,000 GVW, Low Miles, Govt Owned. Only One Around!

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L1466. Allison Auto, 38,000 GVW, Low Miles, Govt Owned. Only One Around!

1995 Topkick Custom Dumps
Cat Diesel, Auto, NO CDL, Huge Body Selection, Call For Pricing!

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Extreme Duty Construction, Removable Lids, Huge Selection of Chassis In Stock

1998 Ford F700 Forestry Trucks
Gol Or Diesel, NO CDL, New Royal Bodies, From $27,900.00

97 To 98 T6500 Multi Purpose Dumps
Cat Diesel, Auto Or Manual, NO CDL, New Royal Bodies In Stock!

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It is the Sprinter for light-duty urban delivery work. The world-trade angle is that much of the development of the truck, including the designing of its engine, was done by Mercedes-Benz in Europe where the truck is reported to be selling well.

There is a report that a Sprinter in a cab and chassis version for traditional truck work will be seen soon. The report has it that the truck will continue to feature Mercedes diesel power.

**International**

The International (formerly International Harvester) truck line continues to update its offerings by introducing more of its very new High-Performance Trucks (H-PTs) in light, medium and heavy classes. With its H-PTs, International now ranks as an innovator in the midrange diesel field. Some engines in its H-PTs feature intuitive shifting controllers for combinations of International diesels and Allison automatic transmissions "with shift schedules programmed to respond to driver input and vehicle load for optimum engine performance in every application."

The engine segment of the International truck and engine business has just made an addition to its available midrange truck diesels - the VT 365 V-8. International said it was using the engine to unveil Electro-Hydraulic Generation Two (G2) fuel injection technology. The producer said it is the first V-8 to use the firm's technology for improved throttle response, smoother driving and cooled Exhaust Gas Recirculation (EGR) for lower NOx emissions.

The new engine has four horsepower ratings from 175 to 230 with torque up to 620 foot-pounds. The powerplant was designed to address the wishes of operators for reliability, performance and serviceability, according to Dan Ustian, president of the International Engine Group.

Another new International offering is a crew cab model - a truck that could be useful to an arborist who sends out crews that need seating space in the truck cab for more than three.

In another swing toward globalization, it has been announced that International is adding the ZF Meritor FreedomLine fully automated transmission with a "no clutch-pedal" design in its 9000 series trucks. ZF is Germany's top transmission maker. Meritor, now a part of Arvin Meritor, was formerly Rockwell International, based in Troy, Mich. ZF and Meritor have a joint gear-box venture going in South Carolina.

**Mitsubishi**

LCF models, favored in much of Europe and Asia, are beginning to enjoy increased acceptance here. Combining the same amount of work space in a smaller vehicle lowers weight, saves fuel and reduces the number of accidents when moving in tight urban quarters.

Mitsubishi Fuso has gone this trend one better, adding the popular automatic transmission to its FG model, whose features already included an LCF chassis and four-wheel drive. The automatic is said to reduce driver fatigue and minimize driveline wear.

What became known as the line's FE California model has a GVW rating of 14,050 pounds, and is powered by a 145-horsepower diesel.
More new features

While crew cabs were once a rare commodity, now you are as likely to see a crew cab truck beside you as a minivan when you next stop at a traffic light.

And the crew cab growth isn't limited to light trucks such as half-ton pickups. Several medium-duty truck suppliers are adding crew cab models to their conventional cab and low cab forward (LCF) models for vocational applications, such as in the tree care industry.

In a globalization development affecting an established U.S. truck component supplier, Knorr Bremse, leading German manufacturer of truck brakes, has acquired the Bendix brake business of Elyria, Ohio. Both have been working seriously with air disc brakes which have been successful in Europe.

In an additional indication that there will be upcoming news about air discs in the U.S. soon, Haldex, a Kansas City-based brake producer that has had considerable air disc success abroad, has announced plans to grow in the United States. The top indication of this news are reports of work to reduce the weight of those brakes. Their weight has been considered a drawback here.

In the selection of trucks to add on chipper bodies, arborists might check imported, compact units such as those in the Hino, Mitsubishi, and Isuzu lines. All three do a good job in their native markets and have found favor with companies that use trucks in business here.

Power Choices

When selecting a novel truck brand, a key question to ask is: What do other truck users in your area think of the service support rendered by the local dealer for the import line you are considering, and is the service shop conveniently located?

Moving on to the currently popular mid-sized diesel engines that are making a name for themselves with truck users throughout the U.S., it can be reported that these powerplants are winning widespread attention of arborists because they deliver two of the benefits of the heavy-duty diesels used widely in long-distance trucks and to power heavy-duty dump trucks on construction projects.

1. Great power delivered by a relatively small and light device is one appeal of mid-range diesels.
2. A modest thirst for fuel is the second plus, and that is important in view of the way fuel costs have gone up and up in the recent past.

No one has made much of it, but the fact that mid-sized diesels have yet to get bogged down in disputes over what
The compact Mitsubishi Fuso FG is available with four-wheel drive to reach jobs on tough terrain.

should be done to suppress their exhaust emissions is another plus for the mid-rangers.

The bogging down of heavy-duty diesels goes back to the development of the Diesel Debacle that started in the mid-1980s, which sounds like ancient history. More up-to-the-minute is the fact that the debacle could reach a climax on Oct. 1.

Diesel business started turning into a debacle in the early 1980s when the Environmental Protection Agency (EPA) charged diesel makers with cheating to get the exhaust controls of their powerplants approved. The manufacturers denied the charge but were hit with a record environmental fine. The debate has hindered development of these engines while courts and others weigh a flood of proposals on what should be done about diesel fumes that have been judged to be harmful to humans for years now.

Located near the front burner now is a new emissions rule scheduled to go into effect Oct. 1, 2002. It calls for a major reduction in emissions of oxides of nitrogen (NOx).

Truck users have been very unhappy about the regulation, charging, among other things, that they haven’t been able to test engines that meet the new rule. Many said they wouldn’t buy trucks with the new engines but would fall back on seldom-needed trucks in their fleets or on the excess of used units in the national inventory of what are now called “previously owned models.”

The current business recession has played a major role in developing these conditions. Diesel engine makers are the ones most concerned about when things will change. They have spent small fortunes getting ready to meet the new rule.

As manufacturers and outfitters continue to make improvements in work trucks, clearly innovations for arborists are more than cosmetic. Innovations will improve – if not change – the way work is managed in 2003.
Watch out, Milwaukee, we’re on our way!
November 7-9, 2002

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Auto Manufacturing, Inc. - Industrial power take-off clutches. PTO clutches designed for the tree care industry. Designed to last!

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J.J. Mauget Company
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U.S. Rigging Supply/Pelican Rope Works
Urban Forestry Solutions
Providers of company safety manuals, OSHA and ANSI compliance assistance.
Buying a computer leads the novice down a murky trail of systems capabilities and seemingly incomprehensible jargon spouted by sales clerks younger than the average chain saw. This article attempts to take some of the mystery out of the whole process by providing something of a flashlight, map and dictionary to translate "geek-speak" into English.

This exploration begins in the areas affecting a computer system's performance. Every computer system is built around a platform that uses an operating system to translate the wishes of the user into commands that make the software work. The software then creates the final result.

The platform refers to the original manufacturer of a system's processing chip. The choice in new office computers is limited to chips based on a design by Motorola (Apple's Macintosh computer line, or "Mac" for short) or those based on the Intel processor (commonly referred to as "PC's," or personal computers). The actual manufacturer of a specific chip may not be Motorola or Intel, but the design will be based on one or the other.

In recent history, many schools and small businesses used Apple's Macintosh computer line. The Apple operating system was easy to use and the most fully featured available. The Mac is still a fine machine with many useful features. These days most of the general use programs written for PC's are also available in a Mac version.

The major disadvantages to Mac systems are price and expandability. New Macintoshes tend to be more expensive than their PC counterparts. Adding something new to a Macintosh often requires a Mac-specific part and a factory-authorized technician. With the advent of Windows 95 and now with Windows XP, many of the formerly Mac-only features are now also available on PC's. Specialty software (such as databases developed specifically for the tree care industry) may or may not be available for both platforms.

Once the platform has been chosen, the next decision is which operating system to buy. The operating system is the translator between the user, the computer, and the programs. Motorola processors will utilize Apple's operating system; Intel-based processors will use some version of Windows. New PC's come with Windows XP, Windows 2000 or Windows ME. (As of July 1, 2002, Microsoft stopped allowing Windows 98 to be installed on new computers).

Though other operating systems are available, these two are the most common.

Once you have decided on a platform and operating system, you will need to start looking at the various models available. If a PC is your system of choice, you will have a large number of manufacturers to choose from. If a Macintosh system is desired, the choices will be more limited. To determine which specific model is right for you, you will need to match a computer's performance to your specific needs. Several factors go into a computer's performance: processor speed, long- and short-term storage, and data access speed. Each will be discussed below.

Processor speed is one of the first things a salesperson or catalog entry will discuss. The description will be something such as Pentium (or 'P') 4, 500 MHz. The word or letter identifies the manufacturer's product line; the next designation is the generation; and the final number refers to the speed. In the example above, the processor is from the Intel Pentium line, fourth generation, able to perform 500 million calculations per second – all of which sounds impressive but it is of little use to the average user. We are not attempting to guide the Space Shuttle back to Earth; we want to type a document and track billing processes. Processor type and speed is used to determine if a specific computer can handle the requirements of a certain application.

Storage is one of those issues where you will want more eventually – no matter how much extra you think you are buying now. As storage capacities increase, the storage demands of applications increase faster.

Storage, or memory, comes in two types for computers – long-term and short-term. Short-term memory is referred to as random access memory (RAM) and long-term memory is stored on some type of media, most commonly a disk of some type. Both RAM and disk storage have two considerations: storage capacity and speed.

Most computers today come with between 128 megabytes (Mb, Meg., or M for short) and 1.5 Gigabytes (abbreviated Gb, Gig., or G) of RAM. To understand what this means, think of each byte as a word; the computer with 128 Mb of RAM can store 128 million words, while the one with 1.5 Gb could store 1.5 billion words.

Most computers today also allow memory to be added fairly inexpensively. For general business settings, the most RAM that would be useful is between 250 Mb and 500 Mb. RAM comes on small circuit boards computer professionals often refer to as memory sticks. Remember that RAM also comes with a speed designation showing how quickly the information stored in the RAM is available to the processor. When adding additional memory to a computer, it is important to be sure that the speed designation of all the...
memory sticks is the same. Hard drive space has grown from a standard 20 Mb in the early '90s to more than 100 Gb today. New computers come standard with a hard drive between 20 Gb and 60 Gb. Larger hard drives are available though not common.

Now the central question: "What will do the job that needs to be done at my tree care business?" First, determine what software applications you will need. Applications are the programs that make a computer more useful than a really big paperweight. The three basic types of applications are:

- word processors, which are used for creating documents from simple letters to complex publishing and page layouts;
- spreadsheets, which are used to keep ledgers and similar accounting or chart-type data;
- databases, which are used to enter, store, search and retrieve complex information, such as names of clients with billing addresses, and treatment info.

The simplest way to determine which processor working at what speed with how much storage capacity would work for you is to compare the available computers with the requirements of the application programs (software) you will want to run. Software manufacturers label their products to clearly state the minimum requirements needed in order for the program to work. Here the word "minimum" cannot be overemphasized. This is the least amount that will allow the program to run. It will not necessarily run well, but it will run. A standard recommendation is to add between 10 percent and 40 percent of what the manufacturer recommends for memory and hard disk capacity to allow for higher-than-expected workloads and periodic upgrades.

After determining your requirements for a computer system, there are many places to purchase one. Retail, mail-order, and Internet computer stores can be found almost anywhere. NAA members should also check the discounts available to them through the Gateway Affinity program. For a list of NAA Associate Members offering computer services, see the current Annual Membership Directory, July and December Tree Care Industry magazine Buyers’ Guides or the online Buyers Guide. (See www.natlarb.com and follow the Publications link to Tree Care Industry magazine. Click the “As Featured” link to learn more.)

Factors other than price should also be considered. Is the computer going to be used in a situation where outside service or technical support can be relied upon? If so, an on-site service plan may add a little to the total cost but could be the difference in a day’s work and a day’s downtime.

What about a warranty program? Today’s computers are extremely reliable compared to a few years ago. In fact, because computers have only two moving parts of any consequence (the drives and the fans that keep it cool), it is extremely rare for them to fail within the first year. This makes a one-year warranty fairly standard. Power supplies, on the other hand, have a life expectancy of two to five years. Hard disk drives can be expected to last three to five years. Some manufacturers still offer three-year warranties. A three-year warranty with a one-year on-site-within-one-business-day service call is considered gold star service.

Careful consideration and a detailed needs assessment are the keys to wise computer purchases. The best way to help ensure satisfaction with the purchase is to know what the goal is. Always consider, “What do I want it to do when it comes out of the box?” Be sure that the level of service included is appropriate so you don’t pay for service you don’t need but have the support you require. The computer is a tool just like any other — with a little skill it should make your job easier.

Alex Slosman is senior technology coordinator for the National Arborist Association. Look for future columns covering topics such as software licensing, service, preventive maintenance and repair tips, computer skill tricks and short cuts, and many others. If you have a particular computer topic you would like discussed in future columns, please e-mail Slosman@natlarb.com. TCI

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If your company pays field employees by the hour, you know that there is a lot to track sometimes. Keeping accurate records on hours worked is the most important, since there is bound to be a time when an employee thinks he worked more hours than the number on the check. Then there are overtime rules, regulations and paperwork to contend with, not to mention complaints from employees about working too many hours or wanting to work (and be paid for) more hours.
For some owners of tree service companies, it can be a real nightmare. I know, because I’ve been there. Paying by the hour also encourages the clock riders – the ones who like to stand around and talk and waste as much time as possible, just to get the hours in. Other employees forget to clock in from time to time, leaving you to figure out their hours by going over the other employee’s time for the same day. All and all, there is a lot to consider when you pay by the hour.

Another problem with hourly pay is motivation. I used to have a lot of employees who had a hard time staying motivated to give a good day’s work. They seemed to feel like they were in a rut. I used to feel that way sometimes, too, when I was paid by the hour. What can you do to solve these problems? Pay by the day.

I used to pay all of my employees by the hour. One afternoon, after a couple hours of frustrating work on the payroll, I decided it was time for a change. A friend of mine who also runs his own tree service company told me he had started paying his employees by the day. He claimed it was the best thing he had ever done, so I decided to give it a shot. I got all of the information from him, and discussed it with my employees.

This is how it works in a nutshell: An employee making $10 an hour makes $80 a day on an eight-hour work day. If you pay by the day, employees earn $80 whether they work eight hours or not. It’s almost like salary, except they only get paid for the days they work and overtime is still required for more 40 hours.

At first, I was a bit concerned that I wouldn’t be able to get as many jobs finished each week doing this. I was also worried about employees working more than 40 hours a week and having overtime to contend with. However, I actually get more jobs finished each week than before, and overtime rarely happens. I don’t even keep up with the hours anymore, unless it was an unusually difficult week. On such weeks, I made sure there are plenty of bonuses on the checks.

I can honestly say that this has been the best thing I could have done for my company. Now, the employees seem to be more involved than ever before in all aspects of the company. Here are some examples.

First of all, I get more jobs completed. I used to have a problem keeping employees motivated. By the end of a long week, and especially at the end of the summer, productivity was always very low. I would sometimes get the feeling they didn’t care if they got the jobs finished, as long as they put in their hours. It was as if they were there to earn their 40 and that was it.

Once I went to paying by the day, that all changed. When they got used to the process, my weekly productivity went up by 20 percent – and sometimes more. I would compile a list of what needed to be finished each day. When those jobs were completed, they could go home. If they didn’t start a large job until the afternoon, I would make sure they put in eight hours and went home. On two- or three-day jobs, I did the same. Eight hours and that was it. Most of the time, however, I would have a certain amount that needed to be done for the day and it would only take six or seven hours. Quite a few times each year we only worked five hours but everyone still got a full day’s pay. This keeps the employees motivated to work efficiently, so they can get home a few hours earlier.

The change to daily pay had a ripple effect on the whole company. For example, equipment maintenance was a constant headache before the change. Employees had few incentives to keep equipment cleaned and sharpened. I would spend countless hours (after all the employees went home) sharpening saws, cleaning saws, changing chipper blades, fixing flats and whatever else needed to be done before the next day. Sometimes I didn’t get a chance. We would work around the problems until several piled up and they had to be done.

Now, chain saws are sharpened rather than switched whenever they become dull. My employees have finally realized everybody on the crew will be standing around...
waiting for a saw to be sharpened. This wastes time, which prolongs the job, which means they can’t go home early because the job isn’t finished.

The saws are always clean as well. If the saws are not cleaned, eventually they break down. When chain saws break down, it takes time to fix them. Burned out clutches, broken sprockets, worn bars and bad carburetors can sometimes be avoided with a little preventive maintenance.

I used to try to emphasize to my employees how much these things cost me, how not getting the jobs finished fast cost me, and how extra hours to finish a job cost me. Then once, after a bad day at a customer’s house, my customer told me that I had to remember that my employees will never care for my company the way I do — no matter how dedicated they are. I firmly believe this to be true. It’s still true, even with daily pay. At least now, however, employees care more because they want to go home early.

I also like the way employees work together as a team now. I have noticed the change in a couple of ways. Before, little things that needed to be done often took a long while, as one employee would wait for another to finish a particular part of a job. Now, whether it’s cutting a big stump or raking leaves in tall grass or loading large wood onto the trailer, the little things get done quickly because the employees will all do them together. No one believes he has a specific job, other than the climbers, obviously. However, when the climbers get down out of the tree, they might take a small break, and then they become groundworkers, too. They load logs, rake leaves and do anything else that needs done. They now know when they are finished, they go home. That makes a big difference to them.

I’ve also noticed fewer employees calling in sick. I used to get at least one call every couple of weeks from an employee who was sick, hurt or had something very important to do that day. Now, it hardly ever happens. Last year, my six employees missed a total of seven days. They know the rest of the crew is at work and depending on them to be there. If they are a little sick, they still show up, knowing the rest of the crew will help pick up their slack. Two and a half employees are better than two, is how they look at it now. The sick employee might just sharpen chains, rake, or do minor things all day, but he is still there.

My whole company has changed because of day pay. There are no designated or timed breaks. They take their lunch when they are ready, and for as long as they want. I can leave when I need to, without worrying that the jobs won’t be finished correctly, or cleaned up properly. They know they would have to stay to do it right. The overall effect of this has just been overwhelming.

There were many bugs to work out of the system when we switched over, however. It took several weeks, maybe even a couple of months, before things were running smoothly again. At a few points during the transition, I thought about forgetting the whole thing and going back to the way things were before. I am very glad I didn’t. Just remember, if you do decide to give day pay a chance, give it time. You have to adjust, the employees have to adjust, and your company has to adjust. Once everyone has developed a routine and has learned more about it, I can almost guarantee that you will never go back to hourly pay.

Just remember — day pay isn’t for every company. Do some research on it, find out the labor laws for your state, keep an eye on overtime (at least until you are comfortable with the process), and don’t forget to give a bonus every now and then for a job well done. Every little bit of motivation helps.

James Mayes is the owner of Tree Care of Denton in Krum, Texas.
synergy (sin′ər jē), n., Combined action whose total effect is greater than the sum of the individual actions.

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Urban Forestry

Are there more accurate terms to describe who we are and what we do?
By Richard E. Abbott

Who are we? What is urban forestry? It's actually an oxymoron - a figure of speech like deafening silence. People try to associate the urban forestry consulting we do at ACRT with rural forestry. Frequently, they ask if we consult on the production of lumber and pulpwood from city street trees.

The dictionary defines urban as relating to or constituting a city. Forestry is defined as the art and science of cultivating, maintaining and developing forests (a dense growth of trees), together with other plants, covering a large area.

The bottom line is that urban forestry is an archaic term that we should replace with "municipal arboriculture." Municipal can be defined as any local governmental unit - town, village, borough, county or city - and arboriculture is the study of individual trees and other woody plants. As municipal arborists, we focus our efforts on individual trees within a municipality, rather than the production of lumber or pulpwood.

Slowly, we are beginning to use the term municipal arboriculture, thanks in large part to the Society of Municipal Arborists. But, the SMA, now a professional affiliate of the International Society of Arboriculture, has been around since 1964. This means that the term municipal arborist preceded urban forestry, so it's time to drop urban forestry and go back to calling ourselves municipal arborists.

Background

The term urban forestry was coined in the 1970s. Federal funding was available for the care of city trees, if the function was called "urban forestry." The various Cooperative Agriculture Extension services could not get federal funds for city trees then.

Another related development during the 1970s was the debut of the computer. Large mainframe computers became available to manage large databases, such as street trees. Before that, many municipalities stored individual street tree information on 3-by-5 index cards. The data was of limited value because you could not sort by species, size, class or work needs without tedious manual labor. The computer provided an electronic device that could overcome that handicap.

In the late 1970s or early 1980s, I was involved in one of the first computer-based street tree inventories. It was for the city of Scranton, Pa., and Penn State University's mainframe computer was used to process the data. Then, tree condition, species and size class were numerically designated. The technology to print out condition as excellent, very good, good, fair and poor was not yet available. Instead, it was 1, 2, 3, 4 and 5.

In those days, too, data had to be key-punched onto cards, which were then read into the machine. In the early 1980s, I began investigating personal computers as another way to process street tree information. The first large-scale personal computer project was the county of Los Angeles in the early 1980s. In the beginning, computers were used to manage the inventory of large numbers of items. Hence, the phrase "street tree inventory" was created. I used that term and advocated the use of that service.

Fast forward to today

Today, we have two different, distinct services that tally information on city and park trees, and the term "street tree inventory" is as obsolete as "urban forest."

A professional arborist may use a GPS unit and a pen-based computer to conduct an "Arboricultural Resource Assessment."

Street tree inventory is a count of the trees on a street, along with some very limited evaluation of condition. A much more sophisticated approach involves the professional assessment of tree condition, insect or disease presence, structural evaluation, examination of environmental and physiological conditions, extent of decay, use of global positioning systems (GPS), root involvement with sidewalks, cultural and maintenance recommendations, and determination of the proper pruning cycle. Only a professional arborist, preferably a
certified arborist with a college degree, can evaluate these items. This evaluation is so much more than a simple street tree inventory that it should be identified as an Arboricultural Resource Assessment.

Looking at the situation from a personal point of view, it took me many years of college training and field experience to be qualified to do an Arboricultural Resource Assessment properly. I get insulted when a volunteer with two days of training allegedly produces a work product, such as a street tree inventory, that is considered to be of equal value to my services, and that of my staff.

I can send a volunteer down the aisle of a supermarket after two days training and he can count the cans and read the labels. That is an inventory. The volunteer cannot tell you anything about the chemistry or the differences in the product when the can is opened. Let us continue to identify the work volunteers perform as street tree inventories, and recognize it for what it is — a simple tally of numbers. And, let’s give the product produced by a professional arborist the credit it deserves by calling it an Arboricultural Resource Assessment.

Federal and state urban forestry (hopefully to be renamed “municipal arboriculture” in the very near future) agencies advocate using volunteers. It is a way to get the public involved in the care of street and park trees. Also, each volunteer represents a vote.

If volunteers are so competent at street tree inventories, why are we wasting taxpayer money on hiring people with college degrees to manage federal and state urban forestry programs? Couldn’t those agencies provide two or three days of training to a volunteer and get comparable service? I do not advocate that, but it is a logical comparison in which the work product of the volunteer is equated to that professionals who are college graduates.

In the past, many cities have done Arboricultural Resource Assessments, mistakenly calling them street tree inventories. Unfortunately, the government officials dispersing the matching funds did not really know what the programs entailed. They could not distinguish the difference between the work product of a volunteer and a professional.

The solution

I recommend that we identify our role in the care of street and park trees as municipal arboriculture. Further, I recommend we begin identifying the professional collection of street and park tree management information as Arboricultural Resource Assessments, something completely different from a street tree inventory. Then the volunteers can perform the street tree inventories and they be recognized for what they are doing — a simple count of trees along the street.

Richard E. Abbott is chairman & CEO of ACRT, Inc. He invites you to offer your thoughts on this topic by contacting him at (330) 945-7500, or via e-mail: reabbott@acrtinc.com.

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TREE CARE INDUSTRY - AUGUST 2002
The first letter came from Pasadena, Calif., just hours after news broadcasts showed shocking pictures of the storm at the end of 1999 that struck France like an avenging angel, and ripped thousands of centenary trees out of one of its oldest and most prestigious parks: “What can I do to help you?” the message asked, and over the following weeks, several million letters arrived at the devastated Château of Versailles asking exactly the same thing.

Faced with overwhelming public demand, Hubert Astier, former deputy culture minister and president of the château of Versailles, had the bright idea of launching a tree adoption campaign. For 1,000 Francs (approx $140), prospective benefactors had the opportunity to buy a tree and have it planted in their name. “The adopter received an official adoption certificate and a map so they could precisely locate ‘their’ tree,” Astier explains.

The park’s 10,000 trees found adopters within weeks. “This storm has certainly proved the notoriety of Versailles throughout the world,” Astier commented.

The beauty of the Chateau of Versailles was forever changed the night of Dec. 25, 1999, when a violent storm ripped through France and, in a matter of hours, destroying the landscape of the historic park.

Cleaning up was no easy task with 10,000 downed trees — including older cedars, junipers, firs and beeches as well as many trees that dated back to the 18th and 19th centuries.

After the storm, the Apolion Fountain was a mass of tree limbs and debris.

In Versailles Park, this tulip tree in front of the Petit Trianon was one of 10,000 trees lost in just two hours, when the worst storm in living memory hit France.
High winds of history

Just a half hour's ride out of Paris—and a half day's journey in coach—it's strange to think that the world-renowned Palace of Versailles was originally a humble hunting lodge built by Louis XIII for shelter during his vigorous game-seeking forays.

Frightened by the French capital's growing unrest, it was Louis XIII's son, Louis XIV, however, who transformed the humble lodge in the 1660s and then brought over his entire court, far from Paris' madding—and maddened—crowds.

The job of creating a park to match the sumptuous palace was given to famed gardener Le Nôtre. Descended from illustrious generations of plant connoisseurs, Le Nôtre had studied arithmetic and geometry as well as garden lore, and imposed a strict, yet harmonious, discipline on the palace's surroundings. Shaded boskets, emerald lawns, high palisades, tree-covered walkways and shrubs were cunningly shaped by the topiarists and stretched between bubbling fountains. Canals were set up so that their reflections underlined the garden designer's artful play on perspective. The Allée Royale leading from the château was baptised "la Grande Perspective" because of the magnificent view it gave over the 2,000 acre park. At the height of its glory, this prototype of French classical garden art was to fascinate foreign courts who longed to imitate the Sun King's lavish bucolic revels.

The Sun King died of gangrene in 1715, and 70 years later, during the French Revolution, his palace was stripped bare and the gardens left to ruin.

Replanting overdue

According to historical archives, several decades after the death of the park's originator, a violent storm felled several hundred trees. Prompted by the disaster, Louis XVI carried out the first major replanting programme in Versailles Park in 1776.

A hundred years later, a similar program was repeated, and experts said a third program was long overdue when violent storms in 1990 felled some 1,800 of the park's trees and caused the death of a young Japanese woman crushed by a falling limb.

It was after this tragic storm that specialists decided to cull older trees and replant selected portions of the park with 5- to 6-meter-high saplings in a program planned to last until the year 2010. When work began, however, arborists discovered that a large proportion of the park's older specimens were in a pitiful condition. "That's when we realized work should have started way back in the 1960s," says Astier.

Worst storm in living memory

On the night of Dec. 25, 1999, the worst storm in living memory hit France like a runaway train. In just two hours, winds of up to 100 mph ripped out more than two centuries of the park's history. Joel Cottin, head of Versailles' palace gardens, and Alain Baraton, chief gardener of the Trianon, could only stand and watch.

"The noise of the wind was so loud I wasn't aware how many trees were falling until I got a phone call from Joel Cottin," Astier remembers. He tells how the palace's head gardener nearly cried as he related the heartbreaking spectacle of ancient oaks and centenary cedars falling like dominos.

By 8:30 on the morning of Dec. 28, the wind had calmed slightly and the three men were able to emerge and survey the damage. Uprooted trees blocked every alley, branches hung menacingly from leaning trees, holes the size of bomb craters studded the wounded earth, and hundreds of pigeons lay dazed or dying, victims of the violent gusts of wind.

"The park was completely blocked," Astier remembers. "It was a miracle that no one was hurt."

The storm that left France's most famous park looking like a battlefield had repercussions all over Europe. Some 120 people were killed in mudslides and floods. In France, an estimated 1.3 million trees were ripped out in a single night—put end to end, they would have stretched from Paris to Singapore—and the country's transport network was in chaos as police and army struggled to clear the fallen timber. With miles of
electric lines hanging in tatters, many homes were left without heat or power for days or weeks. It is estimated that at least 1.5 million people celebrated the new millennium in near medieval conditions - a fact that many considered strangely symbolic at the dawn of this 21st century.

**Historic trees**

In Versailles Park, a staggering 10,000 trees were lost in those two nightmare hours, including older cedars, junipers, firs, beeches, and 80 percent of what Astier refers to as the “rarer essences,” meaning trees that were rare in their day and which include most of the historic 18th-, and 19th-century specimens.

Among trees razed by the devastating winds was the 19th-century Corsican pine imported as a sapling from the island where Napoleon was born, and planted to celebrate his marriage in 1810 with the Austrian archduchess Marie-Louise.

Also down were the two tulip trees shipped back from Virginia by Lafayette as a gift from George Washington to Marie Antoinette. Two junipers, an Atlantic cedar and a cedar from Lebanon — all more than 200 years old — were victims, too. By some miracle the spreading oak said to have been planted by Marie Antoinette nearly 400 years ago survived.

**Why was the storm so violent here?**

Geographically, the town of Versailles is situated in an east-west corridor, and since the château is also set up on a small hill, it is particularly exposed. Specialists were able to define two main wind passages, one of which destroyed woodland near Plan des Suisses and one that wreaked havoc in the Trianon gardens.

After the storm, the aspect of the park as seen from Le Nôtre’s “Grande Perspective” was completely modified. Large parts of the park were suddenly bare of the shade that had seduced visitors over the centuries.

As Hubert Astier points out, it’s lucky that regeneration work started 10 years ago, since one advantage of the storm is that with most of the bigger trees down, saplings planted in 1990 now have the light necessary for rapid development.

**Clean-up operation**

Usually busy in the château gardens, the day after the storm, Cottin, Baraton and a team of trained workmen were busy with chain saws clearing away the storm debris.

“We had 50 men from the park and 50 others from private enterprises and on loan from the Office Nationale des Forêts,” Cottin explains, adding that crowds of volunteers from Versailles and surrounding areas had to be turned away because of the danger from uprooted trees and falling limbs.

Surprisingly, wood from the clean-up operation was burnt rather than sold (although wood from Marie Antoinette’s tulip trees was used to sculpt handles for a limited edition of commemorative knives). Bonfires lasted for weeks.

“There was so much timber down all over France that the market was flooded,” Cottin explains. “Our main priority was to get the park cleaned up as quickly as we could.”

Elsewhere in France a similar process organized by the Office Nationale des Forêts was going on. “Our main priority was to clear roads and airports,” a spokesman for ONF explains. “Then we had to clear fallen trees from properties situated near forests, and finally we could get on with clean-up work and start reopening the most popular gardens and footpaths.”

A vast inventory of fallen trees was made before lumber professionals came to drag the dead wood away. Once the fallen trees had been removed, the full extent of the damage to France’s forests became appallingy evident. The ONF estimated it would take more than 10 years to regenerate what amounted to a staggering 10 percent of France’s total forest area.

Natural regeneration (wherever possible) has been the main thrust of the ONF’s reforestation operation and, so far, the decision seems to have proved a winning one.

“There were scores of acorns, beech-
guaranteed approvals every single time... guaranteed!

nuts, and chestnuts just lying dormant in the forest soil," explains an ONF spokesman. "So once the fallen trees had been evacuated and the seeds exposed to sunlight, in most cases germination started rapidly. The job of foresters now is mainly one of surveillance: We ensure growth and only intervene to restrict brambles and other undergrowth that might compete with the young trees."

Plants issued from nurseries are only used in forests where there are not enough seeds to ensure natural regeneration, or where public frequentation means a hostile environment for young saplings. The ONF's policy is to employ a wide diversity of forest essences best adapted to local conditions of soil and climate.

restoring the park

The main program for restoring Versailles Park was launched in autumn 2000 and will continue through 2002 when President Astier hopes the park will have regained some of its original aspect. After realigning the alleys and cleaning out feeble or senescent trees, work was started on the Trianon gardens and around the "petit hameau" of Marie Antoinette, where 1,350 trees were down. This gigantic labor of love reposes on a scrupulous study of documents of the period.

"It has taken two years' hard work just to restore Marie Antoinette's original conception of her English garden," Astier explains. "Our aim is to replant as many of the original tree species as possible," he adds, speaking with gratitude of companies such as the U.S. gardeners Scotts who flew in tulip trees - along with 90 other saplings - to replace those originally given to Marie Antoinette by Americans.

"We shall leave some of the bigger trees down," says Astier, "to show future generations what the storm was like."

Two years later

Today Versailles Park is open once more, and joggers and cyclists pound the network of leafy tracks. For citizens of the ever-growing city, this park is a vital green lung. For tourists - with its fountains and geometric gardens and brilliant Son et Lumière spectacles - it is one of France's major tourist attractions. Nine million visitors came to the château last year alone, avid to drink in the palace's culture, wander in the shady boskets, or just hire boats and laze on the grand canal like revelers did in Louis' day. Perhaps it's the park's immense popularity that explains the worldwide support offered for Hubert Astier's tree adoption project.

Most of the money for rehabilitating the park has had to come from the private sector, however, and the adoption scheme is not sufficient to cover costs. With long-term figures estimated at $23 million, other schemes have been launched, including an auction of the park's rarest trees and a fund-raising association presided by the Duke of Anjou (a descendant of King Louis XIV) boasting "names" ranging from Prince Michael of Greece to legendary actor Gregory Peck.

Donations are still rolling in, and though 68 percent of these contributions have come from the French, most of the remaining 32 percent has been donated by the château's keenest visitors: Americans, Japanese and Canadians.

Other donating countries have included Czechoslovakia and Lebanon. Late last year the alpine region of Switzerland sent in a team of its best lumberjacks to help local experts plant trees.

astier's long-term project

Never one to lie back on his laurels, Hubert Astier's long-term project is to return the park to its original glory. Using documents of the day and referring to Le Nôtre's guiding principles, the Grande Perspective will soon be bordered with marble statues and topiary work as it was in Louis XIV's time. Tree-shaded walkways and palisades will be reintroduced.

By 2015, Astier predicts that the park will have regained its initial aspect and more. "Maybe by then the storm which wreaked such havoc will fade into history - just like the events which caused such havoc in the life of the park's originator!"

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The Making of an Industry Standard

The ANSI Development Process

By Joan Wagner

Voluntary industry consensus standards are interactive and beneficial components of the green industry. Often enveloped within a lengthy process of development, these standards are created when a need arises — to improve safety conditions for arborists or to establish guidelines surrounding arboricultural practices.

Developed to aid arborists and others involved in the green industry, the standards adopted by the American National Standards Institute (ANSI) are created by industry experts seeking to professionalize and improve the industry for all involved. According to its mission statement, ANSI is a private, nonprofit organization that administers and coordinates the voluntary standardization of just about anything in order to “enhance both the global competitiveness of U.S. business and the U.S. quality of life.”

The process

Bob Rouse, staff arborist for the National Arborist Association and secretary of the ASC A300 Committee, explains that three factors contribute to the decision to produce a standard:

1. the establishment of a need for the standard;
2. the establishment of the fact that a group of experts and industry members can come to consensus on the technical content of the standard;
3. the determination that the scope of the standard (what the standard will and will not include) applies to the group that wants to develop the standard.

Independent committees called Accredited Standards Committees (ASC) are approved by ANSI and address most steps involved in the process of establishing or re-establishing a standard. ASC committees comprise a variety of experts, national companies, government agencies, and nongovernmental organizations.

The official process begins with the appointment of a subgroup of the committee to investigate the subject, produce an outline, and determine the scope of the issue. The subgroup often seeks input from other groups such as industry members to help determine scope.

Once the subgroup starts, the composition of a first draft is begun and official ANSI procedures commence. After filing a project identification notice with ANSI, the committee then announces that it will proceed with the standard-making process in order to create what Rouse calls an “openness that allows other industries to see what the (committee) is doing.”

After a satisfactory draft has been written, the committee calls for a public review of the document. Other committees, the entire ANSI body, and anyone involved in the industry are invited to read the draft and make comments. The draft is publicized in a number of ways. A project initiation notice and a public review notice are published in Standards Action, a bi-weekly ANSI publication designed to invite public comment. The secretariat of the committee is responsible for providing copies of the draft for public comment.

“Unlike most ANSI-approved secretariats that charge for public review drafts, ISA and NAA provide public review drafts free of charge.” The public commentary period lasts 45 days if responding to a copy posted on a Web site and 60 days if responding through the U.S. mail.

After public commentary has ended, all comments are gathered and documented by the secretariat and brought back to the committee. The committee then considers each comment and issues a response to the person who made the comment. In this way, notes Rouse, the public commentary process becomes one of “openness and transparency so individuals can have an input in the industry.”

If no major problems exist with the draft (other than slight grammatical or editorial corrections), the draft can be sent for approval to ANSI’s standards review board. However, if more changes are to be made based on public commentary, a new draft and any outstanding or unresolved comments from consensus body members are recirculated, and another public commentary period is held to give everyone the opportunity to respond, reaffirm, or change his or her vote. Rouse relates that there are usually two to four public comment periods per draft, and committees remain responsive to public input.

Jim Skiera, associate executive director of the ISA and ANSI Z133 secretariat, recognizes public commentary periods as an essential aspect of the process.

“It lengthens the process but makes it more credible at the same time,” he says. “It’s not just one aspect of the industry creating the standard. It makes it more inclusive.”

A notice of the right to appeal the standard is also sent to outstanding objectors before the standard has been submitted to ANSI’s standards review board. All appeals must be considered before the
standard can be approved. Once the standard has been submitted to ANSI for approval, the board generally approves the standard with a two-thirds consensus. The review board oversees the development procedure and leaves technical knowledge to the committee. Once the standard has been approved, organizations can then publish and distribute the standard to the public.

The standard process is one of constant feedback, even after one has been approved. Every five years, ANSI requires the revision, reaffirmation, or withdrawal of each standard. In this case, committees once again review the standard to determine if the language is still relevant.

"Essentially, anyone who belongs to a member organization or employer of (the committee) and anyone involved in the green industry can have an input on standards," Rouse says.

Practice and safety:
Committees working for arboriculture

Two ASCs working to produce standards for arborists and other members of the green industry are the A300 and Z133 Accredited Standards Committees.

The A300 Committee works to improve standards for the practices of arboriculture. These standards were developed so arborists and plant maintenance managers can write accurate work specifications that follow accepted tree care industry practices. The standards were designed so anyone in the green and land-use industries can use them, though Rouse notes some technical knowledge is necessary.

A300 standards address pruning, fertilization, tree support systems, and lightning protection, though the fertilization standard is being revised. The committee is also developing a section on the management of trees and shrubs during land-use planning, site development and construction. The committee also is looking to establish sections regarding transplanting and integrated vegetation management.

Rouse predicts drafts for the land-use planning and transplanting sections could be out by 2003, after they are made available for public comment this fall.

The Z133 Committee addresses the safety of those in the arboriculture industry. The committee aims to define, clarify and create standards to improve the safety of the tree care industry. The committee meets twice a year in Washington, typically in April and October.

The last revision of the Z133 Standard was published in 2000 and clarified language regarding four major issues in the tree care industry – struck-bys, electrocution, tree removal mishaps, and serious accidents caused by falls. Skiera calls the new revision "much less vague" and notes that it "provides much more guidance."

“Our goal is to improve the safety record of the industry,” Skiera says.

In addition to hiring a technical editor to improve the document’s layout and readability, the Z133 Committee also is looking to expand the crane removal section. The committee also may develop...
sections that address plant health care professionals, winches, rigging, and general safety.

The Z133 Committee is working with the Occupational Safety and Health Administration (OSHA) to have the standard recognized as the official industry safety standard. Currently, there is no specific OSHA standard related to tree care other than one related to work near power lines; OSHA draws its guidance from general industry standards as well as from related industries such as logging.

Skiera emphasizes the importance of participation for the future work of committees. For example, in the back of the Z133 standard, there is a form to fill out to request an interpretation of the standard or pose questions or comments. Once the form is mailed back, the committee responds to the input and applies it to future work.

“You don’t have to be on the committee to influence the committee,” Skiera stresses.

Impacts and benefits of standards

The interest in standards appears to be growing.

NAA member companies, as well as local ISA chapters and professional affiliations, regularly request standards information. Web seminars and workshops are being held to transmit standards information and educate the public. Rouse emphasizes that while some standards catch on more quickly than others within the industry, the impacts and benefits of standards are quickly realized.

For example, the 2000 revision of Z133 sold more in its first year than in the combined years of availability for the 1994 version. While Skiera credits in part the success of Z133 to the marketing of the standards, employers stand to benefit, according to Rouse, because “they’ve got a roadmap to establish a safe workplace for their employees.”

He also cites multiple benefits of acceptable safety standards to employees of tree care companies. “These are standards they can look to for safe working practices. The benefit of writing a standard in a consensus manner is drawing experience from many different companies and individuals.”

To purchase copies of A300 or Z133 standards, call the NAA toll-free at 1-800-733-2622 or visit www.natlarb.com. To learn how you can participate in the A300 committee, contact Bob Rouse toll-free at 1-800-733-2622 or by e-mail to rouse@natlarb.com. To learn how you can participate in the Z133 committee, contact Jim Skiera at (217) 355-9411 or by e-mail to jskiera@isa-arbor.com.

Joan Wagner, a senior at the University of Illinois at Urbana-Champaign, is serving a summer internship in ISA’s Educational Goods and Services Department.
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TREES CARE INDUSTRY - AUGUST 2002

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The lerp marches on.

Despite the ability to micromanage the imported red gum lerp psyllid (*Glvacapis brimblecombii*) with chemical treatments, the imported pest is advancing up and down the California coast because of the inability of scientists and arborists to control it on a macro scale.

This native of Australia and a relentless destroyer of red gum eucalyptus (*Eucalyptus camadulensis*) trees has now progressed into northern California and all the way to the Mexican border – and presumably south of it. Arborists and scientists throughout the state are alarmed by the impact it has had on one of the signature, though imported, trees of the region.

Biological control

The introduction of parasitic wasps that are the natural enemies of red gum lerp psyllid (RGLP) in Australia holds a lot of promise, but establishment of the parasitoids is not yet as successful as establishment of the pests. Dr. Don Dahlsten, professor of biological controls at the University of California at Berkeley, won't predict whether the wasps, genus *Psyllaphagus*, will be able to control the psyllids.

“The good news is that we have had good releases in a number of sites around the state,” Dahlsten reports. But it is still far from certain whether the parasitoids alone will cause lerp populations to drop. That, in fact, is being evaluated this summer.

“It’s a project that’s in progress,” he notes. It takes time for biological controls to establish and become effective, and the program had some early difficulty in raising the parasitic wasps. Now the university no longer has to raise the wasps, because they can be captured in the wild.

At first Dahlsten thought that the wasps would establish better in coastal areas, but now they seem to be adapting to drier inland areas, such as Imperial County. Dahlsten cautions that there are many factors at work when biological controls are used. In Australia the lerp psyllids are everywhere among eucalyptus trees, but they do not kill them. He does not know what unknown factors keep psyllid populations low. He points out, however, that insecticides used to kill RGLP in California may also kill their parasites.

“If the psyllid gets a dose of it, it will affect the wasps,” Dahlsten says. Insecticides could affect the wasps when they feed on the psyllid and could affect the wasp egg after it is laid on the leaves.

Sprays

Scientists and arborists agree that spray treatments on lerp psyllids on red gums are often ineffective. The characteristic lerp, the sugary protective structure built on leaves by the nymph, prevents sprays from reaching the pest. In addition, it is difficult to effectively spray a 60-foot eucalyptus tree, and there are safety concerns because of the urban locales.

Soil injection

Ground applications can be efficacious, however. Jim Wanland, manager of pest control for Western Arborist, Inc., has used soil-injected Merit (another formulation using imidacloprid) on infested red gums at golf courses, movie studios and Dodger Stadium. He has tried micro-injection methods but feels ground application is “a better way to go.”

“We’ve started a (red gum) preservation program that is so successful that they’ve had to have them pruned down,” Wanland says of trees at Oakmont Country Club in Glendale. He reports the golf course managers wanted to save a stand of eucalyptus outside the clubhouse, and he has since saved about 130 trees.

“They haven’t lost any,” Wanland notes of the red gums. He has used spray materials, too, with moderate success, mixing Merit with Tempo to give him a systemic with a contact insecticide. He
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Wanland injects Merit at labeled rates into the drip zone of the tree, using a truck with water tanks and a Green Guard root feeder to force the material into the soil every 3 feet. Then he makes sure the tree is well irrigated. In hot weather he sees lerp psyllids being killed within two weeks. In winter he may make an application that will take effect with the onset of warmer weather.

At a cost of "roughly $100 per tree," Wanland is very happy with ground application. It's an alternative to losing grand old eucalyptus trees.

**Microinjection**

Tests conducted by Dr. Lester Young on the efficacy of two insecticides injected into the trunks of red gums set the stage for widespread use. Young, professor of horticulture/plant and soil science at California State Polytechnic University, Pomona, looked at both Imicide and oxydemeton-methyl in 1999 and 2000. He found both effective, but less so when mixed. The Imicide proved both efficacious and long-lasting.

"The mixture is not what you want to do," Young suggests. "I'd go with the labeled material."

Applied to 20-year-old red gums lining a golf course in Industry Hills east of Los Angeles, Imicide, a J.J. Mauget formulation of imidacloprid, was very effective — even though the trees were from 60 percent to 80 percent defoliated. Treatment followed the protocol established by Mauget, which funded the study, and was published in the *Journal of Arboriculture*.

An 11/64-inch drill bit was used to penetrate the tree trunk about ¾-inch into the xylem, and capsules were attached to the holes by feeder tubes. Imidacloprid was applied at a rate of 3 mL of 10 percent active ingredient per 5 cm of trunk diameter. Averaged reduction of lerpps over three months was 81.4 percent; over eight months 73.2 percent; and over 15 months 40.7 percent. Because of different tree sizes, health, and availability of water and nutrients, the variation between individual trees was often great.

"Each tree is like a person, and will have different responses," Young notes. Still, he says, the Imicide treatments were effective quickly and were long-lasting.

"It’s really sad" to see what’s happened, laments Tom Launder, an arborist whose company, Arborist Consulting Services in Oceanside, Calif., has treated hundreds of eucalyptus in San Diego County. Some of the trees that have been killed are nearly 100 years old, and their loss is transforming the look of older Southern California communities.

"I had one gentleman say that this is a billion-dollar problem that we’re throwing nickels and dimes at," Launder says. He points out that he can save individual trees with microinjections, but that the hoped-for salvation by a parasitic wasp is so far proving to be some distance in the future. That means that huge stands of red gum eucalyptus are being killed.

Launder uses microinjections of Imicide to treat individual trees. The systemic insecticide is extremely effective when properly injected into the xylem of red gums, but it’s too expensive to use statewide, so there is no way to stop the advance of the pest.

Arnold Farran, a Mauget operations executive, explains that each tree will require several capsules, depending its size. "Take the diameter of the tree at breast height, and divide by two," Farran explains. A 24-inch tree, for example, would require 12 capsules.

While that may seem like a lot of time, effort and expense, Farran insists that the cost of the Imicide injections is cheap compared to cutting dead trees and removing them. The suggested retail price of the injectors is $3.17 each. A 36-inch tree would require 18 units, which would cost $57. That includes the insecticide, but not the labor to install them. It takes a few minutes to install each injector.

Launder, who has treated many trees this way, drills the injection holes just above soil level. He also drills another set of holes a few inches up from the Imicide holes, inserting microinjectors of
fertilizer there. He uses the same number of fertilizer capsules as he does Imicide capsules.

Before Launder treats a tree he has to try to predict whether it can be saved. First, he wants to treat trees that have at least 20 percent to 30 percent of their leaves. Second, he looks at the bark to see whether it is split beyond normal from drying out of the tree. If a red gum has splits of an inch or inch and a half, it may be too far gone.

"It depends on how much leaf surface you have left," he emphasizes, but adds that he may drill a hole into the tree to check the health of the xylem. Old trees, such as those he’s treating in Rancho Santa Fe and in an historic part of Escondido, not only require more treatment, but they also don’t recover as well as young trees do.

Nevertheless, Launder has been saving historic 50-inch trees he’s been treating in Escondido. “I haven’t lost a tree out there yet,” he reports happily. His observations indicate that the insecticide normally has moved through the tree and begins working within two weeks. Warm weather and good soil moisture speed uptake, because the xylem is flowing well.

“The first thing that happens is the lerps stop feeding,” Launder notes. Soon, the honeydew from their excrement stops dropping from the leaves.

Though Launder admits injection is not a permanent solution, “we’re buying the trees time,” he says. Nine to 12 months later he checks treated trees again as part of his IPM program to see if lerps are reappearing on the leaves. He will treat again as needed if the property owner wants to spend the money. Large trees infested in Escondido were treated again after 17 months.

“And I’m going to do it again this summer,” Launder reports. He feels that the nutrition program – along with good irrigation practices – boost the health of the treated trees. This gives them an excellent chance at recovering from even severe lerp psyllid infestations. A eucalyptus can go through several defoliations, and if it comes back with fresh growth in the spring it may still be salvageable.

Launder has done a lot of work in the San Diego County city of Rancho Santa Fe. North of San Diego, Rancho Santa Fe was recently recognized as the most costly place in America to buy a home. It was built in the middle of a red gum forest planted in the early 1900s. The city has now become a poster child for infested trees, and it has changed the aesthetics of the area.

Downtown areas that were once defined by shady lanes of overhanging eucalyptus trees have been virtually denuded. Launder says. He sees no evidence that parasitic wasps, which have been released in the area by the University of California, are diminishing populations.

“They are surviving our winters,” Launder says of the wasps. He hopes that populations will establish and begin slowing the advance of the lerps. Until then, all he can do is respond to the cries of help from cities and homeowners.

Firewood has become plentiful in Southern California lately. Communities like San Juan Capistrano, Carlsbad and Los Angeles are removing many trees (Los Angeles recently announced that it was earmarking $2.3 million for the removal of some 20,000 dead eucalyptus trees), and others such as Newport Beach are treating and fighting the lerps.

“We’re trying to save key trees,” Launder explains, describing the situation in heavily infested San Diego County. But if arborists are called into an area too late, there isn’t much that can be done. He’s working on the assumption that microinjection is a method of saving a few trees until the biological controls kick in, but he’s not sure that’s ever going to happen.

In the meantime, large numbers of trees in Rancho Santa Fe are being tagged for removal. In most cases new tree species are being selected for replanting. Sometimes, red gums are replanted.

“I wouldn’t recommend it,” Launder cautions, expressing his pessimism that the lerp will be conquered in the near future. “Needless to say, it’s pretty devastating.”

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Fungi May Help Trees Fight Acid Rain

A recent discovery has indicated that mycorrhizal fungi on the roots of some trees in the Northeastern United States can help those trees defend themselves against the effects of acid rain.

Timothy J. Fahey, a Cornell University forest ecologist and co-author of the fungi discovery, as well as his fellow scientists, reported that fungi on some tree roots help supply the trees with calcium - one of the important plant nutrients that acid rain can leach from forest soils. Trees that contain the fungi include spruce, fir and oaks. Unfortunately, according to Fahey, the fungi don’t help sugar maples, noting that calcium and magnesium depletion in soil caused by acid rain is cited as a cause in the decline of sugar maples in the Northeast.

The report appeared in a recent issue of the journal *Nature*.

New Zealanders Give Thanks for Chain Saws

Members of the tiny farming community of Tapawera, in the remote far north of New Zealand’s South Island, are giving thanks to “God’s gift to humanity”: the chain saw.

At a recent special service dedicated to the chain saw, 30 attendees brought their saws, placed them on the altar, and afterwards performed an impromptu “chainsaw orchestra,” according to the Nelson Evening Mail newspaper. Church council member Ian Cuthbertson gave thanks to the people who invented the first chainsaws, those who made them now, “and for people who use chainsaws for our benefit - farmers and forest workers,” the paper reported.

Children received pictures of chainsaws to color, and one child drew a picture of Jesus holding a chain saw.

Pastor Havell Stephens-Smith said the idea for the service came to him through God.

Sudden Oak Death Pathogen Found in UK

Officials in the United Kingdom recently stated that the pathogen that has caused thousands of sudden oak deaths in the United States has been found in the UK.

According to Secretary of Environment, Food and Rural Affairs Margaret Beckett, the organism that causes the disease - *Phytophthora ramorum* - has been detected, but the disease itself has not been found.

A survey found the pathogen on viburnum and rhododendron plants.

Beckett said research is under way to determine whether the recently discovered organism could cause the same widespread damage as it did in California.

Sudden oak death has destroyed thousands of California’s prized coast live, tan and black oaks and has spread to other trees and shrubs, including bay laurels, rhododendrons, big leaf maples, madrone and manzanita.

No cure has been found and scientists are still unsure as to how the disease spreads.

Pollution violators Told to Plant Trees

In New York City recently, owners of six companies that have been violating anti-pollution laws have made a deal to plant 100 trees as part of a settlement with the New York State Attorney General’s office.

The six companies cited own trucks, buses and vans that have been the most frequent violators of anti-pollution laws against idling.

PepsiCo Inc.'s Frito-Lay Inc., Greyhound Lines Inc. and Gray Line New York Tours, Community Coach Inc., Leisure Lines Inc. and Suburban Trails Inc. will pay a total of $103,000 for trees to be planted in neighborhoods that include Central Harlem, the South Bronx and Fort Greene in Brooklyn.

“We thought that instead of just levying a fine that would go into state coffers, it would make sense to remediate the situation to the extent that idling has led to emissions that have caused asthma and health consequences,” said state Attorney General Eliot Spitzer. “The best defense to that are trees - putting trees back in neighborhoods that need them.”

Pa. Combats Hemlock Woolly Adelgid

The Pennsylvania State Department of Conservation and Natural Resources (DCNR) Bureau of Forestry recently announced it has more than doubled the release of predatory insects to target an emerging foe of the eastern hemlock, Pennsylvania’s state tree.

This year, a total of 25 sites in 15 counties have received more than 80,000 of the predatory ladybird beetle *Pseudosycymnus tsaugae* (Pt), which eats hemlock woolly adelgid eggs and its other life stages. From 1999 to 2001, 34,000 beetles were released at six locations in six counties.

“This increased biological effort comes amid public concern and mounting damage caused by the hemlock woolly adelgid,” state forester Dr. James R. Grace said. “Infestations of the hemlock woolly adelgid have been confirmed in 41 counties in Pennsylvania, sometimes endangering trees whose grace and beauty dominate many of the most attractive forested residential and high-use recreation areas in the state.”

Purchase of the beetles, which cost $2 each, and their release and study are part of an effort to curtail the hemlock woolly adelgid’s spread and damage, said Dr. Donald A. Egggen, chief of the Bureau of Forestry’s Forest Pest Management Division.
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<td></td>
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<tr>
<td>60. Weaver Leather, Inc.</td>
<td>31</td>
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<tr>
<td>61. Western Tree Equipment &amp; Repairs</td>
<td>14</td>
<td></td>
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<tr>
<td>62. Zenith Cutter Co</td>
<td>46</td>
<td></td>
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</tbody>
</table>

* Please circle this number on the Reader Service Card for more information.
On a beautiful, balmy spring day with no climbing on the agenda, I hunkered down for a day of solo ground clearing and chipping.

The brush piles went down as the chip box filled up, and by early afternoon, it was time to dump the truck. I shut off and disconnected the chipper on a relatively level piece of ground. Instead of dumping the chips first, I decided to grab a quick lunch. I sat on the tray of the brush intake funnel to tear through a meatloaf sandwich.

In a heartbeat, I lost my appetite as the chipper tipped over on me, gripping me inside the funnel box like a fly in a Venus fly trap. Nine hundred pounds of metal pinched down on me, leaving me in a very undignified position, with my butt and back inside the funnel, my legs splayed out in front of me with heels flat on the ground, and head pushed down between my legs. On the ground, inches from my face, was the meatloaf sandwich I had been looking forward to all morning. Now this position may be no big deal to an Olympic gymnast, but I really hadn’t had time to loosen up properly.

My first thought was suffocation, and I started yelling for help. The only one around was a neighbor mowing his lawn; the engine drowned out my screams. But if I could yell, I could breathe, and I knew getting out was up to me. With heels flat against the ground, I had no leverage to push with my legs. At that point, I figured my back was broken. Even with a healthy one, leg-pressing 900 pounds was not an option, but clear thinking was not my forte at that moment. In desperation, I wiggled hard to the left, and popped out of the funnel. The bar that should have been supporting the rear jack had dug into the ground, stopping the chipper from going over further. Looking like an evolution-of-man poster, I slowly went from crawling on all fours to a bent-over Neanderthal to a modern human with really poor posture.

I was lucky. I only suffered a couple of herniated discs. After some weeks of rest, I found I could still work, with some mild discomfort. My nights, however, gave new meaning to the concept of pain threshold. I’m OK as long as I don’t feel the need for sleep.

I took home three lessons from this day:
• If crazy enough to work alone, don’t do stupid things.
• Either take the time to use the front and rear jack on any unhitched piece or equipment, or at least find a table at a nice restaurant for lunch.
• Avoid red meat – it really is bad for you.

Peter Giangiulio is the owner of Carleybrook Gardens Tree Service in Mohnton, Penn.
Cambistat™ 2SC

Improve the Durability of Urban Trees

**Tree Size Maintenance**
Vegetative growth is reduced by approximately 40-60% over 3 years. This energy can be reallocated to root development, defense, and storage.

**Heightened Tolerance to Drought, Heat, and Cold**
Plants treated with Cambistat™ have greater ability to photosynthesize under adverse conditions. They also conserve their moisture resources more effectively during drought.

**Root System Enhancement**
A root system with greater capacity to explore the soil for water and minerals will improve a tree's durability under all urban stress situations.

**Greater Defense to Insects and Disease**
Studies show that plants treated with Cambistat™ have less stress-related insect and disease issues than untreated controls.

Please circle 44 on Reader Service Card

**SEMINAR 6 ISA CEU'S**
This program is guaranteed to give you a new effective tool to use if you are a city forester or an arborist. You will gain new knowledge on how to deal with tree decline, construction injury, trees growing in stressful sites, over-mature trees, chlorotic trees, trees growing in tight quarters, growth management, and more.

CALL US for Seminar Dates, Product Information and Distribution Opportunities

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William R. Chaney, Ph.D. Purdue University
"Biology and Benefits of Paclobutrazol"

Gary W. Watson, Ph.D. Morton Arboretum
"Enhancing Tree Root Development and Tree Health with Paclobutrazol"

*At simulation of fibrous roots has been seen in oaks, elms, maples, and lindens. Other species need more research.

Photo courtesy Gary Watson, Morton Arboretum
PHC® for Trees.
The fertilizer that **keeps on giving**.

PHC for Trees products are high-quality fertilizers packed with BENEFICIAL BACTERIA. The fertilizer gives trees the nutrients they need . . . NOW.

The microbes provide additional fertility. . . slowly and steadily . . . as they make your landscape their home and continually improve your soils.

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Nutrient Management System
Net Wt 8 Lbs (3.6-Kg)

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Why should you attend?

SMART MANAGER and
EXPERT PRACTITIONER

seminar series allow you to customize your educational experience to fit your needs - with several sessions offering ISA continuing education units.

BUY GOLD! ... Take advantage of the gold card. If you are attending 5 or more seminars ... SAVE, SAVE, SAVE!

NAA will provide certificates of recognition to those individuals who attend each of the six (6) SMART MANAGER seminars during TCI EXPO, with additional recognition for those who attend the "Business Managers' Workshop" on November 6.

The sky is the limit with what you'll learn from this year's exciting program. Over 150 exhibitors under one roof, bringing you cutting-edge tree care equipment, technology, supplies and services.

Registration Procedure

Please photocopy and complete a separate registration for each conference attendee. Registration is REQUIRED to obtain your admission badge.

Register before the Early Bird deadline of October 4 to receive discounts on Trade Show Admission and educational seminars.

All TCI EXPO admission badges will be mailed to attendees who register prior to October 11, 2002. Individuals registering after October 11 must stop by the pre-registration desk located outside of Hall D to pick up their admission badge.

Bring your employees to TCI EXPO 2002. TCI EXPO - a valuable educational experience!
Weaver Leather, Inc.
Wisconsin Arborist Association
Wood/Chuck Chipper Corporation
Woodsmen, Inc.
Yale Cordage, Inc.
Zenith Cutter Co.

Your TCI EXPO 2002

Attend TCI EXPO 2002 and make a difference in your future!

The products and services you need to achieve success with your tree care company are all under one roof.
There will be two drawings each day on the Trade Show floor for at least $200 in ARBORBUCKS. Drawings will be held on Thursday and Friday at 12 noon and 2 p.m. and Saturday at 11 a.m. and 1 p.m.

ARBORBUCKS can be used the same as cash to make purchases at the show from participating vendors. There is no cost to enter the drawing. Just complete the survey found in your pocket program.

Winners must be present to receive ARBORBUCKS cash!

**Drawing Schedule**

- **Thursday, Nov. 7**
  - 12 noon
  - 2 pm

- **Friday, Nov. 8**
  - 12 noon
  - 2 pm

- **Saturday, Nov. 9**
  - 11 am
  - 1 pm

ARBORBUCKS are as good as cash at participating vendors.

**ARBORBUCKS participants:**

- Aerial Lift of CT
- Alexander Equipment, Co.
- Alturmats, Inc.
- American Arborist Supplies Inc.
- Arborjet, Inc.
- ArborSoftWorx
- Arborwear LLC
- Concept Engineering Group, Inc.
- DICA Marketing Co.
- Fehr Bros. Industries, Inc.
- Fresco Arborist Supplies
- Growtech, Inc.
- Karl Kuemmerling, Inc.
- Marshall Manufacturing
- Minnesota Wanner Company
- National Arborist Association, Inc.
- Northeastern Arborist Supply
- Plant Health Care, Inc.
- Rayco Manufacturing, Inc.
- Sherrill Arborist Supply
- T-Mate-O Tree Supports
- U.S. Rigging Supply/Pelican Rope Works

and more - see final list at registration

Visit the Tree Demonstration Area on the trade show floor for scheduled demonstrations of various arborist skills. Upon completion of a scheduled demonstration, **ISA Certified Arborists** will become eligible to receive ISA re-certification credits by filling out a demonstration attendance form.
NAA will provide certificates of recognition to those individuals who attend each of the six (6) SMART MANAGER seminars during TCI EXPO, with additional recognition for those who attend the “Business Managers’ Workshop” on November 6.

Professional Practitioner Workshop I
Morning Session
9 am - 12 pm
Room 202 A/B
Midwest Express Center

Evaluating Trees for Hazard - Ed Hayes
The mission of this workshop, like the stated mission of Safetrees, is to bring to the field the best research available on tree assessment and risk management in an easy-to-understand format. Dr. Ed Hayes, co-founder of Safetrees, has over 25 years of experience with this topic. He is the author of Evaluating Tree Defects, and a veteran of numerous tree hazard assessment presentations throughout the world.

Professional Practitioner Workshop II
Afternoon Session
1 pm - 4 pm
Room 202 A/B
Midwest Express Center

Elements of a Hazard Tree Risk Management Program - Mark Duntemann
As arborists, consultants and urban foresters, we deal with the question of risk on a regular basis. The past 15 years has seen a marked increase in hazard tree diagnosis training. A parallel to this training is an increased concern about the liability associated with managing trees. Adding a third and final element to the discussion on hazard trees, this session focuses on risk and how we, in a profession that maintains and manages trees, can develop progressive-risk reduction strategies that are achievable, defensible and reasonable. Duntemann is president and owner of Natural Path Forestry Consultants, Inc., Montpelier, Vt. His business deals with all facets of urban forestry. His client base is primarily government agencies ranging from local cities and park departments to state, national and international agencies, located in 17 states and five countries.

Two Special Workshops

Business Managers’ Workshop I
Morning Session
9 am - 12 pm
Room 201 C/D
Midwest Express Center
Taking Control of Your Business Financial Planning - David G. Dewsnap, CLU
For the past 20-plus years, financial planner David Dewsnap has worked with business owners on effective methods of conducting business and personal financial planning. During this time, he has helped bring special attention to the unique problems associated with business succession planning and its corollary issues: retirement income planning, estate tax reduction, and special situation planning. In addition to his presentations for NAA Business Management workshops, he has spoken before groups from Vermont to Georgia, and been guest lecturer at the University of Delaware and the Wharton School of Business. David is affiliated with Whipple & Associates in Horsham, Pa., and is a registered representative of MML Investors Services of Springfield, Massachusetts. In this session, he will be providing attendees with some of the valuable insights he has gained through his considerable experience and extensive education so that they can improve their business financial planning skills and techniques.

Business Managers’ Workshop II
Afternoon Session
1 pm - 4 pm
Room 201 C/D
Midwest Express Center

The 11-Step, Bulletproof, “Kick Butt” Super-Selling Process - Marty Grunder
Marty Grunder is a nationally recognized speaker, consultant, and entrepreneur. His years of running a successful multi-million dollar landscaping business has prompted not only other landscapers but entrepreneurs from across the country to seek Marty’s advice. The informal requests for his secrets of success resulted in the formation of The Winner’s Circle in 1996. Today, The Winner’s Circle — a marketing, management, and motivational consulting company — works with small businesses all over the U.S. and Canada. In this session, participants will learn the exact 11-step bullet-proof selling process to instantly improve their sales, including how to handle rejection, squash price shoppers, make big sales on the first visit, get indecisive prospects to make a decision, get multiple sales from the same client in a one-year period, get referrals without begging, sell while you’re asleep, get the sales even if you are the highest price, raise your prices at renewal time and still get the job, and much more.

TCI attendees are invited to participate in either full-day workshop on Wed., Nov. 6, 2002.

Please use the TCI EXPO registration form to indicate attendance at either of these programs.
**Thursday, November 7, 2002**

7:30 am  REGISTRATION OPENS

7:45 - 8:15 am  ANNUAL BUSINESS MEETING - Open to NAA members only
The business of the association will be conducted at this time including the Board of Directors election.

8:30 - 9:45 am  KEYNOTE ADDRESS: CONSEQUENCES OF PROLONGED DROUGHT ON TREES AND WHAT YOU CAN DO ABOUT IT – Dr. Philip Wargo
Two dry bands of drought straddle the nation. The first runs up the East Coast from Georgia to Maine, the second blankets the Rocky Mountain States down to the southern tip of Texas and west to California. Predictions are that drought is likely to persist or intensify. Amid water ban discussions and rising water costs, trees silently suffer, because drought is a leading cause of plant stress. Dr. Philip Wargo, Principal Plant Pathologist with the Northeastern Research Station at Hamden, Conn., focuses on the physiological effects of stress and how it predisposes trees to dieback and decline diseases. He has developed and evaluated procedures to measure tree health and to predict the onset of decline. Learn what to expect as trees begin to display the long-term effects of drought, and what you can do for your clients to mitigate the problem.

9:57 am  TRADE SHOW OPENS
Don’t miss a single booth! Wear your walking shoes, because with more than 150 exhibitors, there will be a lot of ground to cover. TCI EXPO is the largest tree care trade show in the nation. 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 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 pm  ARBORBUCKS DRAWING - Tree Demonstration Area
It’s not too late to enter the drawing. You could be the winner!

4 pm  TRADE SHOW CLOSES

4 - 5 pm  MANAGING AND SCHEDULING WORK CREWS - Tony Bass
Tony Bass grew the company he started (Bass Custom Landscapes) to over $2.5 million in annual sales while working in a county that has a total population of barely 100,000 people. In addition, he has worked with numerous companies as their personal consultant and has spoken to several leading industry organizations. In this session, which is geared primarily for owners/operators, team leaders, project managers, and schedulers, Tony focuses on key areas and methods of efficiently and effectively managing one crew to multiple crews, including scheduling and routing, job costing, downtime, planning in advance, and motivation and people management skills.

6 pm  WELCOME RECEPTION & EXCELLENCE IN ARBORICULTURE AWARDS PRESENTATION for all Attendees and Exhibitors - 104 C & D, Midwest Express Center
Complimentary hors d’oeuvres. This celebrated evening recognizes and honors commercial tree care professionals and their valuable clients. Join us and enjoy an evening with fellow tree care professionals.

**Friday, November 8, 2002**

7:30 am  REGISTRATION OPENS

8 - 9 am  WOOD BUILD-UP AND BREAKDOWN
Dr. Robert Blanchette
Dr. Blanchette will discuss what happens in trees when they build up wood during breakdown. He will discuss the life cycle of forest fungi, biological control of forest fungi, and how to incorporate design into your practices.

9 am  TRADE SHOW OPENS
Plan on an information-packed day of activities. Don’t miss a single booth! Wear your walking shoes, because with more than 150 exhibitors, there will be a lot of ground to cover. TCI EXPO is the largest tree care trade show in the nation. 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.

9:30 - 10:30 am  PRESERVING TREES DURING CONSTRUCTION
Sharpen your consulting skills! Jim Kringer emphasizes on paving. He set up the city’s related tree failures.

9:30 - 10:30 am  INTERVIEWING & HIRING TALENT
Jean L. Seawright, CMP, manages one of the leading employment businesses. Known for her unique presentations, Jean will shapen your consulting skills! Jim Kringer emphasizes on paving. He set up the city’s related tree failures.

12 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 pm  ARBORBUCKS DRAWING - Tree Demonstration Area
It’s not too late to enter the drawing. You could be the winner!

4 pm  TRADE SHOW CLOSES

4 - 5 pm  HOW TO WRITE PRUNING SPEC’S
Expectations are pivotal in business relationships. When you use the A-1 expectations for your clients, your marketing efforts will be rewarded.

4 - 5 pm  HOW TO GET TOP DOLLAR FOR YOUR SERVICES
Jeff D. Stokes is the CEO of Pinnacle Performance, Inc. In this session, attendees will learn how to get top dollar for your services. They will learn how to bid; calculate the minimum acceptable price; and more. Over the past 20 years, Lou Benson, P-1, has spoken to several leading industry organizations. He has served as the \"right hand\" of the Association for more than 20 years.

5:15 - 6:15 pm  WELCOME RECEPTION & EXCELLENCE IN ARBORICULTURE AWARDS PRESENTATION for all Attendees and Exhibitors - 104 C & D, Midwest Express Center
Complimentary hors d’oeuvres. This celebrated evening recognizes and honors commercial tree care professionals and their valuable clients. Join us and enjoy an evening with fellow tree care professionals.
N: HOW TREES DEFEND THEMSELVES IN AN URBAN ENVIRONMENT

Trees as trees are invaded and decayed in the urban landscape and provide.

ease mechanisms, deterioration processes of wood, biological uses est pathogens, and the conservation of archaeological wood and wood of

RSHOP: PRACTICAL TECHNIQUES TO IMPROVE QUALITY,

 Benson, Ph.D.

H has developed and presented many of the nation’s most popular

100 Standard to write pruning specifications, you set consistently high

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I THE NEW MILLENNIUM - Jean L. Seawright, CMC

of the most respected HR management consulting firms in the nation and is

STRUCTION AREA

Dos how to save trees during construction projects, with an

AVING A300 - Tim Johnson

hen you meet or exceed your customer’s expectations, you get repeat or

R JOB - Jeff D. Stokes

formance Group, Inc., an organizational development solution provider. In

in the beginning of the year, react to budget var-

'S SAFETY PROGRAM MEASURE UP? -

LeVanGie and Peter Gerstenberger

f the things that contributes to your success, or one that stands in

SATURDAY, NOVEMBER 9, 2002

REGISTRATION OPENS

HOW ACCIDENTS OCCUR, AND WHY: ARBORICULTURAL

R - Dr. John Ball

Learn how to reduce risk in your profession and business. Dr. Ball

how to begin the

POWER SELLING: WHAT MAKES A TOP SALESPERSON

Becker

As an internationally known expert on sales and customer service, a best-selling author, and a dynamic and entertaining speaker, Hal

for all of your operations. As an internationally known expert on sales and customer service, he will share with you how to become

GROWING YOUR BUSINESS WITH IMPROVED CUSTOMER

ervice - Kennette Reed, CLP

Kennette Reed, CLP, is a customer service specialist marketing professional, speaker, author and interior landscape consultant. In

creases profitability through increases in customer retention rates; how to be thankful for customers who complain; how you can

GROWING YOUR BUSINESS WITH IMPROVED CUSTOMER

ABORBUCKS DRAWING - Tree Demonstration Area

It’s not too late too enter the drawing. You could win!

ABORBUCKS DRAWING - Tree Demonstration Area

Your last chance to win! See you at the demo area.

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.

TCI EXPO 2002 TRADE SHOW CLOSES!
Driving to the Midwest Express Center

From General Mitchell International Airport:
• Start out going north on S. Howell Avenue/ WI-38 N towards Airport Exit by turning left.
• Turn left onto W. Grange Avenue.
• Turn slight left to take the ramp toward I-94.
• Take the WI-119 W ramp.
• Merge onto Airport Spur.
• Take the I-94WUS-41 N exit toward I-894 Milwaukee.
• Merge onto US-41 N.
• Take I-43 N toward Green Bay.
• Merge onto I-43 N.
• Take the Kilbourn Avenue exit (exit number72C) towards Civic Center.
• Keep right at the fork in the ramp.
• Turn right onto N 6th Street.
• Turn left onto US-18 E/W Wells Street.
• Turn right onto N 4th Street.

From North (Sheboygan, Green Bay & points north)
• Go south on I-43 South to downtown and take “Wells Street/Ith Street/Civic Center” exit.
• Follow signs for Wells Street. (left on ramp)
• Go east on Wells Street, see Midwest Express Center underpass, past 6th Street.
• For parking and main entrance, continue into underpass. Parking entrance is on left inside underpass. Main entrance is at 4th Street & Wisconsin Avenue; continue through underpass and turn right, go one block.

From West (Waukesha, Madison & points west)
• Go east on I-94 East to junction with I-43 and I-794, near downtown.
• Follow signs to “James Lovell Boulevard/Civic Center” exit. Exit is a “Exit Only” lane on right, just beyond ramp marked “Chicago.” (I-94 East)
• Take “James Lovell Boulevard/Civic Center” exit; go left on ramp, under freeway.
• Continue on James Lovell Boulevard three blocks to Wells Street.
• Turn right on Wells Street, see Midwest Express Center underpass just past 6th Street.
• For parking and main entrance, continue into underpass. Parking entrance is on left inside underpass. Main entrance is at 4th Street & Wisconsin Avenue; continue through underpass and turn right, go one block.

From South (Racine, Kenosha, Chicago & points south & east)
• Go north on “I-94 West” to junction with I-894 West/I-43 North.
• Follow signs to “Milwaukee Downtown” and continue on I-94 West/I-43 North to interchange with I-794 East, near downtown. Stay in middle lanes marked “I-43 North.”
• Watch signs for “Kilbourn Avenue/Civic Center”; exit is on the right, just past the interchange.
• Exit at “Kilbourn Avenue/Civic Center,” through a tunnel. Emerge on Kilbourn Avenue at 6th Street.
• For parking, turn right on 6th Street, go one block, and turn left on Wells Street. Parking entrance is on left inside Midwest Express Center underpass.
• For main entrance, continue ahead on Kilbourn to 4th Street and turn right. Go two blocks to entrance on 4th Street and on Wisconsin Avenue.

From Southwest (Beloit, Janesville, Rockford, Quad Cities, etc.)
• Go northeast on I-43 North.
• Follow signs to “Milwaukee Downtown” and continue on I-94 East/I-43 North to interchange with I-794 East, near downtown. Stay in middle lanes marked “I-43 North.”
• Watch signs for “Kilbourn Avenue/Civic Center”; exit is on the right, just past the interchange.
• Exit at “Kilbourn Avenue/Civic Center,” through a tunnel. Emerge on Kilbourn Avenue at 6th Street.
• For parking, turn right on 6th Street, go one block, and turn left on Wells Street. Parking entrance is on left inside Midwest Express Center underpass.
• For main entrance, continue ahead on Kilbourn to 4th Street and turn right. Go two blocks to entrance on 4th Street and on Wisconsin Avenue.

Flying

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 percent 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.

To take advantage of this special offer, book online with usairways.com using Meeting ID: MTG000361 or call US Airways’ Group and Meeting Reservation Office toll free at 1-877-874-7687 and refer to Gold File No. 29622383. Should you require assistance with booking online, refer to the following addresses: http://usairways.com/groups/guide.htm or - http://usairways.com/groups/faq.htm.

Delta Airlines
Delta Airlines is offering special rates which allow for a 5 percent discount off Delta’s published round-trip fares. By purchasing your ticket 60 days or more prior to your departure date, you can receive an additional 5 percent bonus discount. Special round-trip Zone Fares are also available for savings on mid-week travel to the meeting. Two-day minimum stay; no Saturday night stay required. Seven days advanced reservations and ticketing required. For reservations, call Delta Meeting Network Reservations at 1-800-241-6760 and reference Delta File Number 187414A.
Finding a hotel room

This year the host hotel for TCI EXPO 2002 is the Hilton Milwaukee City Center, directly across from the Midwest Express Center via skywalk at 509 West Wisconsin Ave. Hilton Milwaukee City Center is offering TCI EXPO 2002 attendees a rate of $117 single/double occupancy. Self-parking is available on a daily basis at a charge of $12 per day. This includes in and out privileges on a 24-hour basis. Space is limited; be sure to make your reservation early. This rate will be offered until October 6, 2002. To make your reservation, please call the Hilton Milwaukee City Center direct at (414)271-7250. Be sure to reference the National Arborist Association/TCI EXPO room block when making your reservations.

Alternative accommodations are available at the Holiday Inn Milwaukee City Centre, located across the street from the Midwest Express Center. The address for the Holiday Inn Milwaukee City Centre is 611 West Wisconsin Ave., Milwaukee, WI 53203. The Holiday Inn Milwaukee City Centre will offer TCI EXPO 2002 attendees a rate of $90 single/double/triple/quad occupancy. Valet parking is available for overnight hotel guests at a daily rate of $8. This includes in and out privileges on a 24-hour basis. Reservations must be made by October 4, 2002 in order to guarantee this preferred rate. To reserve your room, please call the hotel direct at (414)273-2950 and be sure to reference the National Arborist Association/TCI EXPO room block.

Airport Transportation

Ground Transportation is available on the baggage claim level.

Airport Connection provides shuttle service to downtown hotels. A special rate of $16, applicable to roundtrip transfers only, has been established for TCI EXPO attendees. The Airport Connection reservation desk is located near Baggage Claim 2 or call (414)769-2444 in advance to make your reservation. Please reference the National Arborist Association/TCI EXPO when making your reservations.

Exhibit Hall Hours

Thursday
Nov. 7, 2002
9:57 am - 4 pm

Friday
Nov. 8, 2002
9 am - 4 pm

Saturday
Nov. 9, 2002
9 am - 3 pm
TCI EXPO Online
Register online at www.natlarb.com for the world's largest tree care show. NAA 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 4 to receive discounts on Trade Show Admission and educational seminars. Registrations received after October 4, 2002, 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 National Arborist Association to enter the exhibit hall and all seminars. Be sure to pre-register and avoid long lines at the registration area.

TCI EXPO Badges
All TCI EXPO admission badges will be mailed to attendees who register prior to October 11, 2002.

Individuals registering after October 11, 2002 must stop by the pre-registration desk located outside Exhibit Hall D 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.

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 National Arborist Association office. Cancellations received on or before October 18, 2002, will receive a full refund less a $25 administrative fee. Fees cannot be refunded after October 18, 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 ____________________________  

### 3. Seminar Selections

**THURSDAY, NOVEMBER 7**  
☐ #1 - 8:30am Consequences of Prolonged Drought on Trees .................. 1 Hour  
☐ #2 - 4:00pm More Fun at Work With Modern Arboricultural Techniques ... 1 Hour  
☐ #3 - 4:00pm Managing and Scheduling Work Crews .................. 1 Hour  

**FRIDAY, NOVEMBER 8**  
☐ #4 - 8:00am Wood Build-up and Breakdown .................................. 1 Hour  
☐ #5 - 9:30am Supervisor's Skill-Building Workshop .................. 1 Hour  
☐ #6 - 9:30am Preserving Trees During Construction .................. 1 Hour  
☐ #7 - 10:00am Interviewing & Hiring Talent in the New Millennium .... 1 Hour  
☐ #8 - 10:00am How to Write Pruning Specs Using A300 .................. 1 Hour  
☐ #9 - 10:00am How to Get Top Dollar for Every Job .................. 1 Hour  
☐ #10 - 11:15am How Does Your Organization's Safety Program Measure Up? 0 Hour  

**SATURDAY, NOVEMBER 9**  
☐ #11 - 8:00am How Accidents Occur, and Why? .............................. 1 Hour  
☐ #12 - 8:00am Power Selling: What Makes a Top Salesperson? .......... 1 Hour  
☐ #13 - 9:30am New Life (and Profits) From Old Trees .......... 1 Hour  
☐ #14 - 9:30am Growing Your Business with Improved Customer Service ... 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. 4, 2002: $205  
  - After Oct. 4, 2002: $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. 6, 2002  
  - $95  
  - $95

- **Professional Practitioner Workshop** (lunch not included) - Wednesday, Nov. 6, 2002  
  - $95  
  - $95

**TOTAL** $______________

### 5. Payment Method

- Check Enclosed  
- MasterCard/Visa/AMEX  
- Amount $__________

**CARD NO. ____________________________  
NAME ____________________________  
EXP. DATE ____________________________  
SIGNATURE ____________________________

**6. NAA Membership**

1. Is your company an NAA Member Firm?  
   - Yes  
   - No

2. Do you wish to receive NAA Membership Info?  
   - Yes  
   - No
The Biggest Show Ever

November 13-15, 2003

BALTIMORE!

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National Arborist Association

3 Perimeter Road, Unit 1
Manchester, NH 03103