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To me, it seems odd that with all of the concerns about how to run a tree care business effectively – employees, professional growth, management issues, training, safety, compliance – that any tree care company owner would cut their professional development line.

Have you ever wondered how you could get “Joe” to understand what it means to work as a team? Did you ever think that if only “Jim” had a better understanding of some of the newer climbing techniques out there, he could truly be a productive employee? Have you ever considered why your managers just don’t seem to handle their planning as well as they should? And what about you? Are you tired of trying to figure out why guys who love the same kind of work and are just 10 or 15 years apart in age don’t work in the same way? Have you noticed that the same things don’t even motivate them?

Stephen Burnett, professor of strategic management at Northwestern University’s Kellogg Graduate School of Management, calls slicing your professional development budget, “mortgaging your future.”

He says, “The labor shortage is not going to go away. You counter that by having more productive employees. But you won’t if they aren’t properly trained.”

The Boston Sunday Globe reports, “Some academics, executive coaches and human resources professionals argue that companies that provide education and training are almost always MORE PROFITABLE than those that don’t, and in an information age, companies cannot afford not to maintain programs.”

TCIA has tried to be responsive to these needs by establishing the Tree Care Academy online and working with ASCA and ISA on Arborlearn.org – online learning for the tree care industry. In addition, we regularly revise our Home Study courses, so that arborists don’t have to travel to get great training. We bring our professional staff to your doorstep with EHAP training. In addition, we have the finest education for arboriculture at TCI EXPO, to be held in Baltimore this year, and at our annual Winter Management Conference – business education for tree care company owners and managers.

Ongoing education is the only way you can stay alive as a business professional these days – and it’s not just for you; it’s for your employees. More importantly, with all of the information out there, someone has to distill it into knowledge and implementation – not just bits and pieces of stuff floating around. The best way that I know of to do that is to meet regularly with the people who do what you do, learn from them, talk with them, and learn with them. Staying at home and hoping the business world won’t change for the worse is more than ostrich behavior, it’s a death knell for your business.

Hold that red pen – don’t cut professional development. It’s your bottom line that’s at stake.

Cynthia Mills, CAE
Publisher

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Please circle 36 on Reader Service Card
September
continued on page 6

Features

Caring for Fruit Trees
By Cass Turnbull

Prep Trees Now for Growth Next Year
By Lana Robinson

Trees & Humans: General Similarities, Specific Differences
By Dr. Alex L. Shigo

Departments

Outlook
By Cynthia Mills, CAE
When cutting budgets, remember human resources are your most valuable asset.

Cutting Edge
New products and news in the tree care industry

Branch Office
By Howard L. Eckel
Buying or selling a business – by the numbers.

Washington in Review
By Peter Gerstenberger
Employers who “willfully ignore” workplace safety regulations could face up to 10 years in prison.

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Please circle 46 on Reader Service Card
September
continued from page 4

30 Industry Almanac
Important regional and national meetings
and activities

32 Urban Forestry
By Rick Howland
A replanting project demonstrates that Albany
takes its trees seriously.

TCI EXPO Brochure
The world’s largest tree care show, TCI EXPO,
is filling up fast. Join us in November in
Baltimore.

35 Council Corner
By Russ Carlson
Forensic science is the tool for consultants in
tree appraisal.

44 Seasonal Business
By John Allin
Growing your snow business through planning
and attitude.

49 Arborist Equipment
Stump cutter safety requires understanding the
machine you are using.

52 Classified Advertising
Help wanted, services, businesses, new
and used products for sale

26 Fall Work Leads to Spring Growth

62 TCIA Reporter
The latest news, safety and training
products, commentary and benefits of
membership with the Tree Care Industry
Association

66 Tree News Digest
The latest news, stories and information
on trees from around the world

68 From the Field
By Edward Kennedy
When was the last time you walked
away from a job?
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Caring for Fruit Trees

By Cass Turnbull

Ask five knowledgeable arborists how to prune fruit trees and you may well get five very different answers. The differences of opinion stem from the fact that fruit trees have grown for centuries as food sources rather than ornamental trees. As a result, orchard owners have developed systems to maximize fruit production and to make it simple to pick all the fruit – fast. Their pruning plans also make it easy to spray and do more intensive pruning to produce more and more fruit.

If your client only wants fruit production

To maximize fruit production, most County Extension Services have inexpensive bulletins that detail the care and pruning process. They will explain early training of young trees, pruning for production, and what to do with that ugly old apple tree to bring it back into good shape. You will learn the single leader method, the open center method, and the modified central leader method. You will learn about Type IV tip bearers with “blind wood.” You will learn how to spread open young limbs (some people use clothespins) or to shore up old limbs with 2x4s to keep them from breaking. All the information in these bulletins will help trees produce lots of fruit. If all of the above seems like too much work and you don’t want to learn that much, try the Turnbull method of pruning fruit trees. It is less work and you don’t have to concentrate as hard. It makes your client’s trees look good and will produce enough, if not the maximum, amount of fruit.

Pruning errors

First, let’s go over what not to do. The two most common errors in pruning fruit trees are:
1. topping;
2. creating umbrella trees with ugly, watersprout (sucker)-laden crowns.

Topping is unequivocally bad for any tree, including fruit trees. The watersprouts that shoot back up from a topped fruit tree will not only be ugly, they are too busy trying to get enough leaves back in order to feed the tree to make much fruit.

However, many orchardists will reduce the height of apple and pear trees using the dropcrotch method of lowering trees. Dropcrotching (reduction) means you selectively head back leaders to a side branch of a decent size, say one-half the diameter of the parent stem. (Fig. 183). This is hard on the health of old trees and
opens them up to rot. Younger (15 years or less) trees withstand this height reduction better. Dropcrotching reduces the amount of watersprout regrowth, as compared to topping, but does not eliminate it. On an old apple or pear, do not make a dropcrotch (reduction) or thinning cut that exceeds 2 or 3 inches in diameter at most. Do not use it as a way to keep your ornamental tree small. Don’t prune too much (no more than one-quarter of total leaf surface) in any one year. And don’t try to fix it all in one year. If you have a tree that needs a lot of work, do it over several years.

The second error is the creation of “umbrella” trees. This happens when an arborist cuts to an outside branch year after year — something you might be tempted to do if you already know something about pruning. This is called bench-cutting.

Apical dominance

We now need to understand apical dominance. Here is some basic tree and plant biology, which you can use to impress the rest of your crew on the way to the job site.

The last bud on the end of a branch (the terminal bud) releases a chemical that, moving via gravity, keeps the buds on down the line rather subdued. Think of it as the boss bud. When you cut off the end boss bud, or even pull it over, the chemical flow is disturbed and the other buds begin to grow.

Trees that have been pruned into umbrella shapes have terminal (boss) buds that are too low. Gravity prevents the chemical from reaching buds down the line, so a crown of watersprouts develops at the top. To help keep your old apple tree from excessive crown watersprouts, thin back low branches to a branch facing more up and out.

Pick out a major (scaffold) branch and follow it with your eyes. Does it dip down quite far, crossing other lower scaffold branches and cluttering things up? Then you may selectively head it back to one of its side branches that faces more upward and outward (40 degree to 60 degree angle is ideal). The scaffold branch now ends in a boss bud with greater apical dominance. This will reduce the number of returning crown watersprouts farther back as well as improve the looks of the tree.

Keep in mind apical dominance if you attempt to reduce the height of your apple or pear tree. It is a good idea to cut back a tall vertical branch to a shorter branch that also faces upward. Basically you are not trying to eliminate all vertical branches. You are simply replacing them with shorter, younger, and fewer vertical branches. This retains some apical dominance and allows the tree to grow a little every year. It’s like a volleyball game — you rotate out a few of the tallest old watersprouts every year.

You may have a forest of watersprouts that are the result of previous bad pruning efforts by the homeowner or landscapers. If you remove all of the watersprouts, they all come back. Leave some to apically dominate the rest, shorten some to create a second story of branches, and thin out the rest.

Note that the natural state of many old fruit trees is an umbrella, which is all right if the umbrella is low down on the tree where you can get the fruit, and if you don’t care how it looks. But often the umbrella occurs high up on the tree, shading out the fruit below, and spoiling the overall good looks of the tree.

Pruning for form and health

So, how do you prune an apple or a pear tree? The easiest way is to prune it like other trees — for health and good looks. First, and always, take out the dead branches. Be thorough. Then take out some of the worst rubbing branches and the ones headed the wrong way. (These are the ones that start on one side of the tree, head the wrong way through the center, and come out on the other side.) Also, thin or selectively head back some of the branches, especially toward the top (even a few big branches, 1 inch to 2 inches) to increase light penetration and to lower your tree. This helps ripen the fruit lower down. It increases air circulation, too, which is important in order to discourage the numerous bacterial and fungal diseases that spoil the fruit. Look for narrow, weak big-branch crotches. Heavy, fruit-laden branches need to be strong.
Pruning Dose

**Group A: Peach, Apricot, Nectarine, Japanese plum**
Head a lot. Prune hardest.

**Group B: Apples, Pears**
Keep young trees short. Head laterals to encourage fruit spurs. Prune medium.

**Group C: Cherries, European plums**
Hard to keep trees short with pruning. No topping. No heading laterals. Train early by bending branches. Least pruning.

Narrow crotches are the ones that break under fall fruit weights. Now, you could stop here and you would have a pretty good-looking apple or pear tree without too much trouble. It will have fruit, and the client will be happy. But if the client wants to maximize fruit production, read on.

**Pruning for fruit production**

Certain kinds of branches make more fruit buds or spurs than others. These are the ones that are situated in a not-too-horizontal position. You can pull or push new branches into such a position, or you can just start cutting out the ones that aren’t in the right place and leave the ones that are. Nature makes fruit by sending up a young, straight-up soft branch. It flowers on the tip, and the flower turns into a fruit. The weight of the fruit pulls this supple branch over (Figure 184 A, B, C). As a branch gets older, it stiffens in a more horizontal position. As the branch tips over, the apical dominance of the terminal bud weakens, and buds farther down the branch are released to laterals and smaller spurs. These

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tiny spurs have fat fruiting buds rather than skinny leafy buds. We want the laterals and spurs.

You can encourage some, but not all, of your smaller side branches (laterals) to make spurs by heading back to two or three buds (Fig. 185). This works on pears and apples, but it doesn’t work on cherries. Plums, apricots and peaches are totally different.

Now, if your main branch gets pulled too far over – past 90 degrees – apical dominance is diminished, too many buds are released, and those miserable watersprouts start charging back up.

In some senses pruning fruit trees breaks all the rules for ornamental tree pruning. You try to keep your tree small, something that should never be done to other trees. Arborists often reduce fruit trees dramatically, which would be extremely bad pruning on a maple or oak. We head laterals to force them to make spurs. We shorten major scaffold branches with heading cuts (Fig. 186), especially young ones, so that they won’t swing in the wind and lose fruit (Fig. 187). Heading causes these branches to get fatter or stouter. We need stout branches to hold up heavy fruit. On apples and pears, especially, we properly make a lot of heading cuts.

Other fruit trees

Peaches, nectarines, and Japanese prunes are pruned quite heavily, making scary-looking large heading cuts. Instead of setting up persistent spur systems like apples and pears, these trees make fruit on new wood. The heavy pruning is done to force renewal shoots to grow, and also to keep the branches short enough that they don’t break under the fruit load. Cherries or European plums shouldn’t be pruned much at all. Dead branch removal is always okay.

Recap

Let’s recap what we’ve gone over thus far. Prune your fruit tree like any other tree (Figs. 188-191):

1. First, and always, take out all of the dead branches.
2. Take out the worst crossing, rubbing branches.
3. Take out the worst wrong-way branches.
4. Take out some, not all, of the watersprouts.
5. Remove weak crotches if they are or will become part of the main framework (scaffold) branches.
6. Thin (don't strip) all those branches rather than heading them, and do more thinning on the top to encourage light penetration and air circulation.

When dealing with watersprouts on your apple or pear tree, remember to cut some out altogether; leave some alone (don't cut off the tips), since they will flower and fruit and be pulled over and produce more spurs later; head back some watersprouts to thicken them up into second story branches. Try to head back to another upright side branch and not to a horizontal branch that would watersprout back badly.

If you want to encourage more fruiting on apples and pears, prune for more horizontal branches. You can head back laterals to force more spurs to form.

More about fruit trees

Pruning of young trees (under six years) is done to develop strong, low framework branches and not much else. In fact, it may take a while longer for a tree to fruit. Go easy in the early years. There are some newer varieties that fruit earlier.

Old trees can be invigorated by heavy pruning to produce new wood and spur systems, although you may experience a temporary drop in production when you cut off older and lower limbs or hooks.

Summer pruning of fruit trees is all right if the tree is vigorous and healthy and well watered. Summer pruning can be useful for spotting dead wood. It can be useful in reducing the spread of fungus-bacterial diseases that like damp weather, and it will help reduce watersprout regrowth. Summer pruning generally slows the growth rate and will help restrict the size of your tree. It is harder on the plant, however, so go easy, and never prune during a drought.

Proper horizontally placed branches are only one factor in fruit production. Many fruit trees need a cross-pollinator tree in the neighborhood. The Cooperative Extension Service in your area has lists of what type of tree pollinates what for and which fruit trees do well.

New dwarf varieties called "spur type" apples don't need to be pruned to make them set up spurs. They do it themselves. In fact, be careful that you don't prune them off.

Bee activity is needed for pollination. If it has been a very wet spring, you may not get enough bee activity. Bees, like some Parks Department workers I know, won't work in the rain. On the other hand, if you don't see any bees and it has been sunny, it may be that someone in your neighborhood has inadvertently killed them with pesticides. Misapplication of some commonly used pesticides can wipe out entire hives. If one of your client's neighbors doesn't read the label and applies something like Sevin on plants in bloom during the middle of the day, a bee mightumble into a flower and then carry the poison back to the hive and kill the entire hive. This is a tragedy for the flowering plants in the neighborhood as well as the bees.

Fruit trees need sun in order to flower and fruit. If a tree never sets fruit, it might have been panted in a spot with too much shade. Recommend removing the fruit tree and planting a vine maple, Japanese maple, or other understory tree.

Fruit trees, especially Gravenstein apples, sometimes get into an every-other-year-routine, which can be modified by pruning. A tree may also simply be too old to produce much fruit. An arborist who understands proper pruning of fruit trees can improve production, or he may want to recommend that the client have the tree removed and replaced.

You can improve the size and quality of the fruit by thinning branches so more...
light gets to the interior of the tree. Also, you can thin spurs and baby fruit, so that more energy gets put into the remaining branches or buds for bigger, tastier fruit. Don’t go overboard though, you might get “bitter pit,” “cork,” or other fruit tree maladies.

There is a difference in the severity of pruning of European and Japanese plums. Japanese plums should be pruned heavily, like peaches; the strong upper wood should be cut back to weaker branches. Japanese plums and European plums will not cross-pollinate each other.

These days your clients don’t have to suffer with big fruit trees; nurseries now have new dwarf rootstocks. Dwarfing rootstocks come in small, smaller, and very small. A really smart-sized fruit tree is about 4 feet tall. Unless, of course, your client loves that old tree and doesn’t mind repeat visits from your company.

Do not try to make a cherry tree small again by topping it. It won’t work. They have yet to develop a really good dwarfing rootstock for cherry trees, although there are a few available. That’s why that big bucket truck with the 70-foot extension is called a “cherry picker.” People often want to lower cherry trees because they cannot stand the waste of the fruit on the top where they cannot reach. Removing the top would not actually increase cherry production down low and is likely to encourage wood decay. Other people welcome the day when the tree gets tall enough that the birds leave the lower cherries alone.

Arborists new to particularities of fruit tree pruning might consider this article confusing and self-contradictory. It is. Even people who specialize in fruit tree pruning are often unsure and easily swayed to other methods and ways. Take heart — arboriculture professors often send students out to practice on apples and pears because these trees are so forgiving. In eastern Washington, machines mow them to force fruit production. Stay away from topping, especially cherry trees, and you’ll do fine.

**Summary**

Traditionally, fruit trees are for people who don’t mind paying for a lot of pruning and spraying. You can, if you like, prune fruit trees as you would ornamentals, for health and good looks, and leave it at that. Or, you can become the town specialist in maximizing fruit production for clients.

Cass Turnbull is a lecturer, author and founder of plant Amnesty in Seattle, Wash.
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5775

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94 GMC TOPKICK: CAT 3116, 275 hp, Allison 6 spd auto, 47,220 lb GVW, with 65 ft LIFTCALL LM56-26 bucket, 2 single buckets, joystick, 18 ft steel flatbed. $49,500.

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Celebrating 20 years at Bandit

Starting out just 20 years ago in Remus, Mich., Bandit Industries sold only $90,000 worth of equipment in their first half year of business. Today, annual sales are about $75 million. This year, Bandit is celebrating 20 years of success.

Bandit is the brainchild of Mike Morey, Sr. and Dave Forquer. They worked together at a Bandit competitor before branching off in 1983 to start their own line of hand-fed chippers. The pair started in a 6,000 square foot building with no employees. “We used a credit card to buy materials to build our first machine,” Mike recalls. Eventually, Dianne Morey, Mike’s wife, left her job to take over human resource tasks.

Orders during the first few years were shaky. “We went through times with no orders and times with more orders than we could ever dream of filling.” says Mike. At one point, they decided it would be impossible to produce 20 machines a month. Now Bandit can produce 200 units a month and has produced more than 2,500 in a year.

In 1987, the first hydraulic winch was designed for a hand-fed chipper. In human resources, Dennis Tracey and Jerry Morey both entered the company as co-owners. Mike describes Dennis, who passed away in 1997, as a “great guy and a great competitor, whether on the golf course or going after a sale.”

Shortly after starting with Bandit, Jerry was on the road, working on sales, setting up dealers and going to trade shows.

Dominic Giuffre Jr. (on crane) is ready to try out a new Terex Stinger boom truck, the first off the new production line. Front row, from left: Frank Giuffre Jr.; Waverly division manager Leon Deutsch; and Giuffre Bros. President Dominic Giuffre. Back row: Giuffre Bros. sales team, reps Tom Wesley and Greg Liebe, and sales manager Todd Proctor.

Since 1990, Bandit has added six new manufacturing buildings to its complex, averaging about one expansion every two years. The product line has grown to include larger machines, including the Beast Recycler and Model 1900 Track Bandit.

Through the years, many things have changed in the company, but according to Jerry the basic philosophy of building quality equipment and taking care of the customers and employees endures.

Bandit executives attribute the company’s success to the employees. That philosophy has paid off in employee longevity. Of the approximately 300 employees, 84 have been with the company for ten or more years.

Rolling off the line

Representatives of Giuffre Bros. Cranes Inc., Milwaukee, Wisc., were on hand to celebrate the completion of the first boom truck crane to come off a new production line at the Terex Cranes Waverly, Iowa, plant.

As the first red Stinger boom truck emerged, Giuffre Bros. President Dominic Giuffre accepted the key from Waverly division President Leon Deutsch. Giuffre Bros. is the nation’s largest Terex dealer.

The Waverly facility, which formerly produced just the boom portion of the crane, now assembles the entire unit. The Terex Olathe plant closed in a consolidation move. Waverly plans to produce 60-65 boom truck cranes a month.

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Echo's PB-650 Power Blower offers reliable, commercial-grade power with a comfortable, easy-to-operate design. Featuring heavy-duty performance and operator-friendly features, the PB-650 Power Blower provides superior operator control for all types of commercial clean-ups. Echo's 63.3 cc engine delivers air speed up to 201 mph. Designed with a see-through, large-capacity, 68 fl. oz. fuel tank, it delivers extended run times and operators can quickly gauge fuel levels. The PB-650 features a low noise rating at 71 dB(A) per ANSI Bi 75.2-2002, weighs 24.4 pounds, and includes the choice of tube- or hip-mounted throttle positions with cruise control speed adjustments. The padded backrest provides air circulation to keep the operator cooler. Two-year commercial and 90-day rental warranty. Echo Incorporated, Lake Zurich, Ill., a subsidiary of the Kioritz Corporation of Japan. Visit them on the Web at: www.echo-usa.com.

**Soil Monitoring Station**

Onset Computer Corporation introduces the HOBO Soil Monitoring Station, a multi-channel data logger for measuring and recording soil moisture and temperature. The HOBO is ideal for applications where soil data needs to be collected in multiple locations, then analyzed on a PC, including irrigation scheduling, plant research, and soil studies. Smart sensor technology makes it easy to collect soil information. Users plug in up to four research-grade smart sensors with no complicated wiring, programming, or calibration. Compact design (3.5"W x 4.5"H x 2.125"D) for easy positioning. Runs on four AA batteries. Offloads to a handheld using Onset's Palm HandCar 1.1, or can be set up and offloaded remotely using Onset's new battery-powered Remote Modem accessory. BoxCar Pro 4.3, a Windows-based software, enables powerful graphing, analysis and file export. Typical configuration priced at $419. Quantity discounts available. You may contact Onset Computer Corporation toll-free at: 1-800-LOGGERS (1-800-564-4377) or 508-759-9500; Fax: 508-759-9100; E-mail: sales@onsetcomp.com; or on the Web at www.onsetcomp.com.

**Straight Cable Assembly**

Whitney Blake Company's Tuffline Straight Cable Assembly truck cable is an interconnect system designed to meet heavy-duty demands. The Tuffline Green truck cord meets highest power requirements of ABS and general purpose red cable assemblies to SAE. Engineered with superior abrasion resistance, extension life, sag-resistant coil memory and resistance to road salt. Cables are seven conductor cables used to carry electrical power from tractor to trailer, and resist fluids, including: battery acid, brake fluid, diesel fuel, engine coolants, power steering fluid, and other oils. Connector's unique barrel design promotes multi-contact points, eliminating pin surface treatment wear, lowering insertion force, and requiring no contact grease. Each cable features specially designed connectors and a rugged, abrasion-resistant jacket. Whitney Blake Company, 579 Industrial Drive, Bellow Falls, VT 05101. Phone: 802-463-9558; E-mail: sales@wblake.com. Information is also available on the company's Web site at www.wblake.com.

**HC 4700**

Peterson unveils the HC 4700 horizontal recycler for high-volume producers with demanding specs. The 630-horsepower HC 4700 is a mid-range model utilizing the Peterson three-stage grinding process. The first fragmentation step occurs at the up-cutting rotor. The rotor draws material into the grinding chamber efficiently and minimizes bit wear. The anvil is positioned for optimum sizing and production to provide the second stage in the sizing process. The final stage takes place at the large grate area. Quick-change multiple grate system to customize grate configurations enables a wide array of finished materials. The Peterson grinding system minimizes the need for regrinding. Patented impact release system reduces damage from contaminants in the grinding chamber. Finished materials discharge on a continuous conveyor, reducing material spillage and clean up. Contact Peterson Pacific Corp. in Eugene, OR at: (541) 689-6520; Fax: (541) 689-0804; or on the Web at www.petersonpacific.com.

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Forestry Tire

Alliance Tire has introduced a line of severe service tires designed for applications in heavy stubble or rugged terrain. The line features steel belts, rugged nylon casing, heavy under-tread construction, reinforced sidewalls and bead area, special tread compounds, and a protective mud-guard. Optimized for high-horsepower vehicles in rugged terrain, tires feature high traction and low slippage. All tires undergo rigorous testing and exhibit outstanding resistance to puncture and wear. Three tread designs are available. Alliance's tires are available through distributors and dealers throughout North America. Alliance's North American headquarters is located in Denville, NJ.

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TG400ATX Tub Grinder

Vermeer Manufacturing Company has developed the self-propelled TG400ATX tub grinder currently only available in Japan. Equipped with a radio remote control system that drives a heavy-duty undercarriage featuring steel tracks, operators can maneuver around forestry sites and land-clearing operations on challenging terrain. The TG400ATX’s D4 Triple Grouser pad-type system features a rigid steel track frame 136.7 inches in length. Using this track system, the units can be efficiently repositioned within a job site without a support/tow vehicle. A radio remote allows the operator to control most functions including track drives, tub rotation and engine speed. Powered by a 400 HP 3406C CAT engine, it features the duplex drum system, a patented cutting system offering optimum cutting performance with reduced maintenance. The duplex drum has the latest technology in hammer design and replacement procedures, and hammers and cutter blocks are reversible, doubling the life of the hammers. Designed with a standard microprocessor-controlled PT Tech hydraulic PTO clutch that maximizes drive line efficiency. Starts with the push of a button. Incorporates the patent-pending Smart Grind system featuring an electronic controller which monitors engine RPM and material feed rates and stops and/or reverses material from feeding when engine RPMs drop below efficient operating range. The exclusive Vermeer Thrown Object Restraint System (TORS) incorporates a field-tested cover and rotor deflector system that reduces the quantity and distance of thrown objects. Vermeer Manufacturing Company of Pella, Iowa, U.S.A., offers worldwide sales, support, service and parts through an independent, authorized dealer network. Contact them at 1-888-VERMEER (837-6337) or on the Web at www.vermeer.com.

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Mulch Coloring System

Bandit Industries now offers a mulch coloring system that attaches to Beast Recyclers for use at the job site using a dry colorant metered onto wood as it enters the grinder. The device is set atop the infeed conveyor just ahead of the top feed wheel. Bandit also offers a second type of colorant spreader that sets beside the infeed conveyor. Both use the diesel engine’s electrical system and are tied into the Beast’s feed. Should the feed stop, the flow of colorant will stop as well. The system uses only 10 gallons of water per minute, approximately 80 percent less than other liquid coloring systems. Colorant costs under $3.00 a cubic yard, and the 3680 540 HP Beast can produce 125 cubic yards of colored material per hour. To add a coloring system to your Beast Recycler, contact Bandit Industries of Remus, Mich. toll-free at 1-800-952-0718 or on the Web at: www.banditchippers.com

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Buying or Selling a Business

By Howard L. Eckel

The circumstances involved in buying a business versus selling a business are quite different. There is, however, one common denominator both seller and buyer seek; both want value.

The seller thinks in terms of what the business is worth. How much money will the business sell for? How much will be in the bank after the sale? A buyer is interested in what the business is worth, the value, but more importantly what makes up that value. Just what is for sale? A buyer will do everything possible to discover whether the business will make a good investment by examining the various components that comprise the business. By examining these components a buyer can determine within days if the purchase will be a good investment.

The ten key components a buyer will examine are:

1. Sales Volume
2. Sales Mix
3. Profitability
4. Equipment
5. Real Estate
6. Personnel
7. Organization/Management
8. Location/Market
9. Client base
10. Reputation

Information regarding the first five components is recorded and readily available by examining the seller's Profit & Loss Statements and Balance Sheet. The next five components: Personnel, Organization and Management, Location/Market, Client Base, and Reputation are more subjective but no less important. Some would argue that they are even more important than the first five. Many times, at the point of purchase, the buyer will assign a numerical value to these last five components and list the value as “good will.” Without value in the second five, the first five components (Sales Volume, Sales Mix, Profitability,
Equipment and Real Estate) won't have much real value. All that will be left to sell will be inventory, chippers, real estate and a client list.

A smart buyer will judge and compare the value of the first five items against the cost of starting a business from scratch. After all, chippers can be purchased or leased, a site rented, mailing lists purchased and a manager appointed. So what tips the scale to encourage the buyer to buy an existing operation rather than start a new one? It is the last five items, the ones that are not visible and do not appear as having a value in any of the financials that are key to a successful sale. And one — Personnel — is the most important.

Interestingly, over the years when I was looking at a business to purchase or in later years when called in as a consultant to solve a problem, I found quite a few firms were successful because of the last five components, not the first. In fact, many of these firms had Profit & Loss Statement formats that were disasters. They were making good money, were successful, but the success was in their complete proficiency in the second five areas. They had the ability to accumulate and manage competent people, market their company and render top of the line, quality service, they just had lousy scorekeepers.

The second five items take years to develop and a buyer knows this. These five components cannot be purchased and developed overnight. The buyer knows that the majority of the value of the business being sold does not show up directly on the financials.

Packaging a business for sale

A Profit & Loss Statement and Balance Sheet will display the first five components for a buyer to examine. Detailing information on each specific component in a professional and organized format enhances value.

I would certainly suggest you compare your P & L format with the basic format in the accounting section of the Tree Care Industry Association’s Management Guides for Members. The comparison will show the P & L statement layout in actual areas of responsibility: Sales, Variable Production Costs, Fixed or Overhead Costs and then Operating Profit. This layout enables a potential buyer to at least determine the various costs by specific groupings as a percentage of sales.

I recommend detailing sales and variable production costs by each major service performed. It is a wonderful management tool even if you are not selling the business. The separate Sales, Production and Gross Margin statements can then be combined in a consolidated format to produce a Profit & Loss Statement encom-
passing all. Why go to the effort of doing this? Even if a business is not for sale, it is simply good management practice to know where significant sales are generated and what is remaining (Gross Margin) after production costs are deducted. Knowing specifically where Gross Margin (hence profits or losses) are, is key to managing a business effectively.

In the case of selling a business, even with low levels of profitability or profit inconsistency, a buyer may still be interested in purchasing a business if it can be determined where the slippage is occurring. Detailed financials will indicate where the problem is. Profits can only be improved, regardless of the type of business, by considering one or more of the five actions available to improve profits:

1. Increase sales volume.
2. Increase sales price.
3. Change the sales mix.
4. Reduce costs.
5. Increase productivity.

If low profits are the issue, identifying areas of slippage allows one or several of these actions to be considered to effect a turn around. A perspective buyer may still be interested in purchasing a business doing poorly if specific detailed financial information—organized in a comprehensive, concise form—is available. If a buyer can see exactly what service or services being offered might need attention, a sale may still be possible.

As previously noted, the value of the second five components does not appear on the Profit and Loss Statements or the Balance Sheet. Therefore, they are subjective and less definitive than the first five. Thus it behooves a seller to accumulate and display as much detailed information as possible on each of the last five components. Profiles of each employee, outlining service time, education and training, help close the sale. Copies of company policies, staff job descriptions, profiles of the client base location, and services performed by type are essential pieces of information that can enhance the value of the business.

The most valued asset of a company in a service industry, Personnel, does not appear on a Profit and Loss Statement or Balance Sheet. I have visited companies that had poor financial statement formats but great personnel, management and client base and were making money in spite of terrible score keepers.

If you plan on retirement and a self-sustaining organization has not been built up over time, what is left to sell when you leave? Your absence deflate the potential value and thus the selling price. However, if over the years a trained, organized production and administrative group has been assembled, your absence from the business does not lessen the value as much.

What is the business worth?

This is the first question asked by everyone who thinks of selling a business.
The hard fact is that a business is only worth what someone will pay for it. Years of development add value. In the final analysis, however, a firm’s profitability or potential profitability will be the major influence shaping what a buyer will pay. This is why the second five components, especially personnel, carry such a high value. Competent personnel in an industry where skilled, reliable employees are hard to find represent the ability to create profits.

A buyer’s accountant will take into consideration such things as Cash Flow from Operations, Discounted Cash Flow, Sales per Client, and Repeat Sales per Client. In the final analysis, a buyer is making an investment and wants a fair return on his money. In the meantime the seller is thinking of all the years of hard work, all the ups and downs of owning and managing a business, and the value he has added.

Depending on which cycle we are in, the total average return on stocks since World War II has been above 8 percent per year (stock price appreciation and reinvested dividends). While the future is unknown, an investor without much effort could have experienced returns such as these in the past. One would have every right to demand this much and more (based on risk factor and a management time factor) when planning to purchase, improve and grow a business.

The benchmark value of most service businesses is somewhere between .30 cents and .50 cents on the sales dollar. The buyer may consider location, sales mix, sales generated by contract bidding, sales growth per year or other factors that may influence the offer. A profitable firm with a significant volume in high gross margin services that has a competent staff, good equipment and value in all ten key components could be worth as much as .60 to .70 cents on the sales dollar. Remember in the final analysis, however, a business is only worth what someone will pay for it.

It is almost a certainty that a buyer will want to make more on the investment in a business than could be made in the stock market or other investments. Generally, the higher the return on investment the buyer wants to earn, the lower the offering price will be.

It must be noted that if an owner has been successful over the years in adding value to the business in every one of the key components, an interested potential buyer has already been created – the employees! Are your employees interested in purchasing the business? If so, have you considered how they might finance the purchase? Perhaps through stock bonus plans or an ESOP. Contributory or non-contributory ESOP plans were created by Congress and recognized as vehicles for transferring all or part ownership of a business to employees.

Howard L. Eckel & Associates are coaches & management consultants for the green industry, located in St. Michaels, Md.
Criminal Liability for Unsafe Workplaces?

By Peter Gerstenberger

Canada

Proposed legislation introduced June 12 in the Canadian Parliament would hold corporations criminally liable for failing to provide a safe working environment for their employees and better ensure that penalties for permitting unsafe workplaces more accurately reflect the severity of the crime.

Proposed amendments to the Criminal Code contained in Bill C-45 would impose a legal duty on employers and those who direct work to take all reasonable measures to protect employees' safety, and would authorize criminal negligence charges if careless disregard for that duty leads to death or bodily harm.

The proposed measures follow on recent reforms to Part II of the Canada Labour Code to protect workers against workplace hazards. The measures provide significant new rights to be informed of hazards in the workplace, to participate in correcting those hazards, and to refuse dangerous work.

The proposals are a direct response to the May 1992 disaster at the Westray Mine in Plymouth, Nova Scotia, in which 26 coal miners died in an explosion. An investigation of the disaster concluded that the explosion was both predictable and avoidable, and blamed the mining company’s management and provincial government officials.

Under current Canadian law, corporations may be found liable for Criminal Code offenses involving workplace safety, but it has largely been left to the common law, as developed by courts, to determine the nature and scope of that liability. Also under current law, liability is assigned when the “directing minds” of the corporation commit a crime. The proposed legislation replaces the term “corporation” with “organization,” extending liability to include not only “a public body, a body corporate, a society, a company,” but also “a firm, a partnership, a trade union or an unincorporated association.”

The proposed legislation would increase the maximum fine on an organization for a summary conviction to C$100,000 from the current C$25,000, while maintaining no set limit for indictable offenses, and would identify factors that a court must consider in setting the level of fines.

The U.S.

The Occupational Safety and Health Act already makes provision for criminal prosecution of employers for egregious workplace safety violations, and proposed legislation seeks to increase the penalties.

Employers that willfully violate workplace safety laws and cause the death of an employee could face felony prosecution under legislation that was introduced June 17 by Sen. Jon Corzine (D-N.J.). A bill number has not yet been assigned.

The bill to amend the OSH Act would strengthen criminal penalties in the act by increasing from six months to 10 years the maximum criminal penalty employers could face for willfully ignoring workplace safety regulations.

Criminal penalties under the OSH Act were last revised by the Sentencing Reform Act of 1984 (P.L. 98-473) and are classified as Class B misdemeanors.

Corzine's legislation is based on a bill that had been introduced in an earlier Congressional session by the late Paul Wellstone (D-Minn.).

This is a tough Congress in which to pass any measure strengthening the OSH Act, and industry is not particularly enthusiastic about this legislation. Nonetheless, Democratic legislators in the House, including Major Owens (D-N.Y.) indicated that they are working on a similar bill.

Peter Gerstenberger is vice president of safety, standards and compliance for the Tree Care Industry Association.
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Electrical safety is in the grasp of your hand!
Getting a tree ready for winter is important to its health. Trees take advantage of the fall and early winter to build reserves for supporting life functions during winter dormancy, so a fertilization regimen can help prepare them for spring. Other practices over the next few months that help prepare a tree for winter include mulching to retain moisture and to insulate roots from the cold, as well as an application of a dormant spray to thwart overwintering insects. An antidessicant helps form a protective barrier on evergreens that also holds in moisture. Many arborists suggest that late fall is the best time to determine a tree’s pruning needs, when it is bare and its exposed branch structure allows detection and correction of problems previously hidden by foliage. Although pruning can be done any time when disease is not an issue, autumn — after the leaves have turned — or early winter, is a good time to prune.

“That’s when we do deadwood pruning, either late fall or early winter when there are fewer insects and it causes less stress on the tree,” confirms manager Ron Sloane of Tree-Tech, Inc. in Mount Freedom, N.J.

Professional arborists have the capability to make trees safer and more attractive by pruning live growth as well. Proper pruning encourages growth, increases flower and fruit production, improves plant health, repairs damage and helps add aesthetic appeal to a tree. Pruning at the right time and in the right way is critical, since it is possible to kill a tree through neglect or over-pruning.

According to Kevin Marks, vice president of Arborworks Tree Care, Inc., Fort Collins, Colo., pruning before winter storms arrive is essential to reducing tree and property damage. Branches can easily pull down gutters or cause other costly damage if they are hanging over a house.

“Arborists need to note any conflicts with utility wires or structures and check for weak branch crotches and decay,” Marks advises. “Dead limbs from the past growing season can be pruned as well as any cracked or torn limbs. Save the removals for the winter when the ground is frozen and so is your workload. Winter removals do less damage to existing landscapes and are more cost effective for the client. There are no leaves to deal with and there is better access for equipment and crew. All of this will lead to a happier client and a more stable business.”

Fertilization of trees and shrubs in the fall is very important for the growth of plants in the spring, as well as for long-term vigor. Many arborists fertilize after plants have gone dormant, following a good hard freeze. In general, slow-release fertilizers designed for fall application should be used.

Marks suggests that fall fertilization, timed with the flush of root growth, is great preventative maintenance for nutrient-deficient, high-value trees. He is also a proponent of soil samples for a proper prescription fertilization.

Dean Morris, an arborist who currently works as an outside sales representative for Arthur Clesen Inc., based in Illinois, warns against using fertilizers with a lot of available nitrogen (quick-release types) after July because it can force too much new growth at the wrong time of year. The emphasis should be on putting down roots, stresses Morris. If the proper type of fertilizer is used, applications can be made anytime in the fall, or even into early winter (depending on your location). Morris applies Cambistat, which is best known as a growth regulator. It’s also known for aiding drought tolerance and increasing the root system.

Tree-Tech’s Sloane reports that “Our customer base knows we’re fertilizing in the fall. They call for it because they know...
how important it is around here. We also do root-collar excavation in the fall, with an Air Spade. Applying 150 pounds of pressure breaks up the ground and reduces compaction.”

Because plant disease and insect pests like to linger from one season to the next, an important first step toward preparation for the coming growing season is the application of a dormant season spray. Timing is important.

“We don’t usually apply dormant sprays in the winter [for shade trees], but rather in the early spring, when the temperature is above 40 degrees and it’s going to stay that way overnight,” Sloane advises. “Evergreens, on the other hand, we do spray before winter comes. We try to kill as many insects and suffocate as many eggs as possible.”

Kevin Marks explains that low temperatures and frost can cause damage on freshly treated plant material. Before spraying, he recommends you make sure that plants are truly dormant. Spraying at a transitional time for the plant could have devastating results.

“Dormant sprays are a great idea for insect suppression but must be done with care,” he warns.

Dean Morris emphasizes that dormant sprays in very late winter can smother the eggs of overwintering scales and aphids, but for efficacy, it is important that the temperature is warm enough for the spray to dry before the sun goes down.

“Also, some are dormant almost until spring. That’s when Merit (imidacloprid) can be applied as a soil injection to help control insects. It takes awhile for it to be taken up by the plant and be distributed — approximately six weeks — before the targeted pest is going to be active. Typically, the different leaf minors can be controlled that way,” he says.

An additional precaution followed by many tree care companies is the application of antidessicants, or anti-transpirants, going into winter. Arborworks recommends antidessicant spray applications on all newly planted, specialty and stressed evergreens.

“Antidessicant is kind of like the wax on apples,” says Kevin Marks. “It is sprayed on in November to seal the plant to lock in moisture and reduce sunscald. Colorado State University reported 80 percent control of spruce gall adelgid, so there is also possibly a smothering effect, like dormant oils,” he notes.

Sloane recommends a single application of an anti-transpirant in late fall. The product Tree-Tech sells is Transfilm, which can be used with fungicides to extend snow mold protection. He says applications of Transfilm can complement good water management and can be used effectively where transplant survival is the main concern.

In the Midwest, Clesen’s Morris notes that an antitranspirant coating can protect evergreens, as well as deciduous tree buds, from damaging salt spray resulting from snowplows and passing traffic.

“It can also be used to reduce water loss on evergreens that aren’t very well established. Sometimes, if they’re planted too late, the roots can’t grab enough moisture,” he explains.

Supplemental watering of trees, going into winter, is recommended. Watering extends fall colors, and moisture in the root zone can protect the tree from the effects of winter’s harsh temperatures. Mulching with 2 to 4 inches of bark mulch will help keep the moisture in the ground.

“As an arborist, I think mulching, apart from proper plant selection, is one of the most important things you can do,” says Morris. “It mimics nature. It allows moisture to percolate better and holds it better. Mulch also protects the root zone from a severe freeze or severe heat, and it encourages mycorrhizae formation on roots,” he says.

Morris says mulching gets a bad rap for causing basal rots, but the problem is that some landscapers apply it in a "volcano" formation, piling the mulch up against the trunk rather than forming a ring out from it. Mulch should be kept at least 6 inches away from the trunk.

Arborworks Tree Care also recommends fall mulching.

“Mulching is our favorite tree care practice any time of year but particularly in the fall to help insulate root systems from the cold. Place the mulch in a ring around the tree 2 to 4 inches deep and at least 3 feet wide,” Marks suggests.

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Adding mulch also helps eliminate erosion from water or snow as it flows around the plant, he says.

"We don’t do much mulching," says Sloane. "We recommend a ring of mulch around the base of the tree, which as enough to keep mowers and weed whackers from hitting it."

Jim Cortese, arborist and owner of Cortese Tree Specialist, Inc. in Knoxville, Tenn., says “winterizing” trees is not a big issue in his neck of the woods.

“Our winters aren’t generally very harsh,” notes Cortese. “The last time we had a bad one was 1985. It was minus 29 degrees. On average, we only have five or six days in the winter that fall below zero, and usually, sometime within that period, the temperatures rise above freezing. So we don’t have a specific program for getting trees ready for dormancy. We kind of hold the philosophy that you leave well enough alone.”

Cortese does do a lot of fertilization in the fall — not so much to withstand the winter, but because it’s a good time to apply slow-release fertilizer.

“Root-collar excavation can help reduce compaction and remove overly deep mulch piled against a tree’s trunk.”

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Albany Takes Its Trees Seriously

By Rick Howland

As you read this, crews will be putting the finishing touches on the reconstruction of what was once and is now again a tree-lined Lark Street, not far from the Empire Capital complex, in Albany, N.Y. It is being called the region’s only major urban promenade.

This thoroughfare leads past some of Albany’s residential neighborhoods, skirts the college district and terminates in a vibrant nightlife neighborhood reminiscent of Harvard Square, especially on the weekends.

Including the final sweepings, the cost of the local project—which was scaled back from over $6 million because of concerns over anticipated delays involved in federally funded projects—comes to $2.6 million dollars and 69 well-established trees.

Whether those trees were the stately reminders of what the neighborhood was a century before, or whether they were the problematic symbols of a neighborhood past its time remain moot points. Though beaten up at the street level, their healthy tops were tangling in the overhead wires. They had to go to make way for a more practicable gentrification if the neighborhood was to be resuscitated with projects like this.

The last sentinel in place for the day, this tree will soon be joined by others—weather permitting—as work progresses up Lark Street. New trees were spaced differently from those taken down to make way for the project, mostly to accommodate business and residential entryways and to make spacing more aesthetically pleasing.

The Case for Structural Topsoil

To ensure the initial survivability and ultimately the longevity of the Lark Street trees, the use of “structural topsoil” was specified. The term structural topsoil refers to manmade soil mixes developed to promote the health and welfare of the root systems of urban street trees.

Often used in conjunction with urban trees, structural topsoil has gained popularity since Cornell University’s Urban Horticulture Institute patented its CU-Soil in 1998.

Structural soils are a highly compactable arbor-planting medium that features and maintains high levels of porosity, which in turn provides for better infiltration of water and significantly higher levels of oxygen, much more so than materials typically used under urban pavements.

According to current academic documents on the subject, “Structural soils consist of a controlled mixture of angular-shaped aggregate, fertilizer and soil stabilizer.” The term structural soil is interchangeable with terms like man-made soil, designed soil mix, engineered soil and air-entrained soil.

In an ongoing study noted by Lark Street’s nurseryman Joe Buono, the capabilities of structural soil are obvious. He noted a three year test now ongoing on nearby Pearl Street of the Cornell-made structural topsoil in which trees on one side of the street were planted with indigenous, natural soil, the other with structural material. “The trees planted with the structural topsoil far outperform the others,” he insists. “The difference is quite obvious.”
With the expected political crossfire from both proponents and opponents, and the lamentations of the passing of the sacrificed trees, the project now boasts new sidewalks, a wider street, better, safer, historic-period lighting, granite crosswalks, single-side parking, far fewer overhead wires, a mile of improved underground utilities and, yes, some 68 new trees selected for their install-ability, survivability and overall desirability.

The city even opted to adopt the Cornell-developed structural soil, which optimizes in-ground growing conditions for the plant and the local ground conditions. (See sidebar.)

The city’s general services manager calls it a “streetscape,” and the look, due in large measure to the tree-lined thoroughfare is several clicks north of urban renewal. The fact that the project has pushed back the graffiti frontier hasn’t hurt the neighborhood either.

After years of debate and the usual delays leading up to commencement of the project, residents literally awoke one day late this spring – mid-April, in fact – to find a contractor taking down the Lark Street arbor canopy. It took just about two and a half days for the Elliot Tree Service to disassemble and remove all 69 trees, according to Adam Hershberg, construction manager for the general contractor, Callanan Industries of Schenectady.

That was the easy part. The real challenge, as he explains it, was getting out the stumps left behind because so many roots over the years had become entangled around the underground services – a special challenge around the decades-old gas pipes. Every one of those stumps had to be removed by hand, each one excavated in turn as the sidewalks were removed.

Hershberg explained that the new trees were pre-selected and their placement carefully planned by the city, largely through the office of the city forester. Each species, its diameter and location were pre-specified, largely to ensure that the neighborhood would be returned to its previous character and that the neighborhood characters would be mollified by the selection.

A long time in the plan in and political process, the project went to bid and was won by Callanan which contracted the project design to Clough Harbor and then the tree installation to Clover-Leaf Nurseries Inc., located in the Menands section of Albany. Prophylactic replacement of the in-ground gas pipe by Niagara Mohawk was also undertaken as a cost prevention measure, since the gas provider would not have been allowed to dig up the new street for the first five years.

Owner Joe Buono has been with Clover-Leaf since 1975 and took over upon the passing of the previous owners. The company, in operation since 1963, services a 50-mile radius of Albany and ventures as far as Rochester and Long Island. The old trees weren’t simply taken down, their roots were removed and the resulting holes filled with a custom blended structural soil and then the new specimens. Buono explains that a lot of trees had to go into new spots altogether. The placement of the original trees may have made sense 100 years ago but not today. Many of the large ones were imposing themselves in front of store and apartment entries as well as basement access areas, egresses critical to population-impacted neighborhoods that have to make use of every cubic foot of space. Additionally, some trees had heaved the sidewalks, wreaked havoc with the underground utilities, and there was the issue of trees and their locus to curb cuts and driveways.

As the general contractor dug out the old stumps, some areas were filled and paved for sidewalks. For those spots that were re-used and for the newly sited
trees, the project designer opted to alternate square and domed or horseshoe-shaped planting areas.

In addition to the practical considerations of where the new trees would go, spacing was also intended to please the eye and accommodate the mixed residential-commercial-retail neighborhood as it has evolved.

Because of the utilities, large, mature trees could never be put back in, as so many of the neighbors had demanded, and the contractor had wanted. So the city specified species like the Cleveland pear, locust, zeokova (to replace the elm) and hedge maple with either two- or four-inch stems.

The objective was to replace the lost trees with geographically correct specimens that would grow nicely into base-shape trees, re-establishing but not overpowering the neighborhood.

In terms of size, as Buono notes, “There isn’t much you can do with a hole that has a 23-inch maximum depth.” The big trees, he explains, just wouldn’t make it in the small holes and the cost of moving utilities was prohibitively expensive.

“It would be nice to be able to save the big ones, but it’s just not practical. In a city environment, the trees need to be renewed, anyway,” Buono concludes. He observed what the experts at Cornell University had reported to the city: had the street and sidewalk work been performed without taking down the old trees, their roots would have been compromised and some trees likely would have died immediately, and the rest probably within two years. “This way, the city attacked the problem and put money into the budget now. In two years, they may have been none to fix the situation,” says Buono.

While the locals complained that the wet spring weather had continued too long — in fact right up to the third week of June — it was a near-prefect cool and rainy spring for the installation. Just as the crews had to pull stumps by hand, installation was also all done by hand.

“You just can’t do machine work under these conditions,” Buono maintains.

The original contract called for a total of 68 trees, 37 in the 2.5-inch class, the remainder in the 3.5- to 4-inch class. As the project progressed into summer, pressure brought to bear by the Lark Street irregulars resulted in shifting to larger trees for 12 of the new plantings, as the city decided it could afford the $200 charge per specimen. That also meant removing some of the smaller ones in favor of those more politically correct. Translation: as affordable and practicable, the city is acceding to neighborhood demands for the largest possible specimen.

“Even given all the challenges, the biggest one will be the tough city environment for trees,” Buono says. Although he has guaranteed each tree for a year, he expects all of them to do the job for the next 30 to 50.
Forensic science has been referred to as "the product of an uneasy and unholy mating of Science, the objective seeker of truth and knowledge, and Forensics, the argumentative persuader of courtroom advocacy." The full concept of forensic science is to take facts discovered by the application of science and apply them, in a courtroom or legal situation, to the process of proving a case.

When arborists are involved in litigation cases of any type, forensics comes into play. We serve the role of scientist, the investigator, seeking truth and knowledge. But we must also recognize the continuation of that role once we leave the field and the laboratory and walk into the courtroom.

Forensic science has become the realm of the detective shows on television. Here you can watch a criminal case unfold as clues are sought and discovered, and deductive logic leads through a series of theories and tests to establish facts. While the average tree appraisal case will not likely make it to "Court TV" or "CSI," the process of investigation is very much the same.

The common thread throughout any forensic investigation is the process of starting with limited facts, finding more information through observation and testing, and careful and logical analysis to establish the pattern of facts. In many cases information may be missing. Part of the investigator's assignment is to fill in the missing facts, not with guesses but with verifiable data. When information is missing, the arborist must seek that information, or find comparable information that can be reliably used in its stead.

One example of this would be the case of a tree already removed. The diameter at standard height can't be measured directly on that tree, but reliable comparisons can be made by measuring the stump diameters and standard height diameters of similar trees of the same species nearby, and applying that information to the stump measurement of the removed tree. Another example might be measuring and comparing photographs of the removed tree to estimate its size. Forensic science does not always entail new, expensive or cutting edge technology. Sometimes it is as simple as a tape measure. The key to successful application is to use logic and deductive reasoning, combined with a bit of insight and imagination, to find ways to discover and validate the facts.

The other part of forensic science in tree care occurs in the preparation of reports to communicate the findings of the arborist, and in the courtroom where the case is presented. This is where advocacy can sneak in if the appraiser isn't careful. It is too easy to fall prey to pressures to produce a desired result, or to take the client's side when the facts show otherwise. The appraiser must remain unbiased and impartial in determining values of plants and landscapes, as stated in the American Society of Consulting Arborists Standards of Professional Practice.

Forensics in arboriculture, and in tree appraisal, are not a special activity used only on special occasions or high-profile cases. Forensics are applied every time you conduct an investigation based on scientific fact and present those facts in a logical and coherent way.

Russ Carlson is a registered consulting arborist with Tree Tech Consulting in Bear, Del.
Believe it or not, most people, including some arborists and tree researchers, get trees and humans mixed up! Impossible, you say. Then why do so many specific human terms continue to be used for trees? Here I will try to discuss only a few of the major ones.

**Living systems**

Trees and humans are living systems. In general terms the systems are alike. Yet, in specific terms, they are very different. If this were not so, we would not have trees and humans, but only one type of living system.

Have you ever thought about why the term *species* is used for organisms? It is a term that indicates that groups of organisms having specific characteristics are similar enough to reproduce their own kind. No tree species will ever produce a human as a species.

Trees are *generating* systems. This means that as cells die, the dead cell parts, and cells, remain in place. As growth continues, new cells with new parts form in new spatial positions. Every leaf or needle that develops in the next growth period will be in a spatial position different from those that formed in previous growth periods.

Humans are *regenerating* systems. As cell death repeats, new cells and cell parts develop in the same spatial positions as those that died.

Cells only live so long, in trees and in humans. If you as a human live to be 70 or more, over 300 billion cell parts and cells will die. However, when new parts continue to replace the dead parts at the same rate, you will continue to stay alive. Further, when cell death exceeds development of new parts, or when new parts start to form faster than old parts are dying, problems will start.

It was a "brilliant move" of nature to find a way to connect living cells in ways that the complete organism could survive for long periods. Single-celled organisms live for a short time. Some reproduce every 20 minutes. The connection of many single cells had to be a great moment for life. In theory, trees as generating systems can continue to live forever. The same could be said for humans. Then why don’t they?

**Move**

In humans, in time, a law of physics called friction begins to take its toll. Humans move. Anything that moves will eventually wear out. And, we do just that. We wear out.

Trees move as they sway, but they do not move from place to place. Yet, they still do not live forever either. Again, why? Do they "wear out?" Trees must "obey" another law of physics called the mass-energy ratio. As the mass of any system increases, the amount of energy required to maintain order in the mass follows a parabolic curve. This means that as the tree increases in mass, the amount of energy increases and increases. Then, why don’t trees die sooner than they do? Again, trees have "found ways" to "live" with physics.

Trees keep shedding parts that could take more energy than they give. Not a nice thought for us, but that’s the way it is. When a branch no longer produces enough energy to supply roots, trunk, and itself, the branch dies. As trees age, the apical buds abort and side buds grow. This reduces mass, and the tree begins to have a flat top. Trees also reduce mass as protection wood forms and as infections are walled off.

One more very important action is that as more and more twigs and branches die, the tree “kicks in” its reserves — sprouts.

As trees get older and cannot move, they suffer more wounds. Trees cannot stop infections. Every wound will be infected; but again trees have “come up with” a way to deal with infections. Boundaries surround infected tissues. As new cells form in new positions, infected tissues are buried deeper and deeper in the tree.

**Defense**

Humans and trees are similar in that they both have genetically controlled ways to defend themselves in order to survive. Humans and other animals move as a first response to threats against their survival. Humans mount moving chemical substances that cluster about a wound, and the substances usually, but not always, prevent infections. Note the importance of movement. Humans move, and their first chemical defense processes have substances that move to the site of injury.

Trees sway but do not move away from their problems. Yet most trees far outlive humans. How do they do it?
I believe that because they cannot move from place to place, individuals adapted or mutated to have superior defensive processes. The boundaries surrounding infections are an example. The generating system is another example. And, consider the tough bark as a protection feature, and the anatomy or construction of a tree. There is more, much more.

Humans and trees are similar in that they are both made up of cells. A cell is the basic unit of life. Cells contain many working bodies within them. Each body is surrounded by a boundary that “gives” each body a chance to exercise its own activities. Again, these features are similar for trees and humans.

Humans have boundaries about their cells that are very flexible. The boundaries are called membranes. The membranes are made up of lipids mostly. Lipids are made up of carbon and hydrogen atoms that connect in long strands.

Trees also have cell boundaries. The boundary is made up of cellulose with some hemicelluloses, and the “magic natural cement” – lignin. Lignin gives the cells the strength to support themselves.

Humans require a bone skeleton to support their cells. Tree cells are self-supporting. The cell wall feature makes it possible for trees to grow upright over 100 meters. Some plants, such as brown algae, may grow longer but they do not support themselves.

Energy

Trees and humans must have an energy source. The laws of physics are there again for both. The 2nd law of thermodynamics states that no system will remain orderly unless it receives a continuous supply of energy. Trees and humans must obey the laws of physics, or else.

Humans must get their energy source prepared in compounds that can release glucose. The most common group of compounds are those made up of carbon, hydrogen and oxygen, known as carbohydrates. Carbohydrates are much more thanCHO. The C, and H, and O must be connected in very special ways. Humans also take in compounds that contain CHO and N, or nitrogen. These compounds are called proteins.

Trees and humans are made up of four major types of compounds: carbohydrates, proteins, lipids, and nucleic acids. Nucleic acids are similar to proteins plus phosphate groups. The differences are that humans are proteins, mostly. Trees are carbohydrates, mostly.

Remember, it is not the atoms but how they are connected that counts. H, C, and N are important, but in some connected compounds (cyanide) they will kill you, and C.H.O (formaldehyde) will embalm you!

Humans and trees are very similar in general and specifics when it comes to another natural law; the law of 80 +/- 10. This means that 70 percent to 90 percent of individuals will be similar in their genetic make up. But, there will always be some extremes. Think of the bell-shaped curve. Most fit the middle, but some individuals will “hang” to the left and some to the right. This law seems to be one that favors life on earth. For example, if some abiotic or even biotic catastrophe strikes...
the middle, or most of the individuals, the extremes from the left or right will reproduce. After this situation goes on several times, it will be difficult to identify those that were in the middle several rounds back.

Natural living systems have many safety features. Individuals have the capacity to adapt, and some individuals have mutant genes. Note: The aboriginal people in Australia call all other humans, mutants!

Some people say humans may kill all things on earth. This is the most arrogant statement I have ever heard. Humans may be able to kill and torture other humans (and other living things), but humans do not have the power to destroy life. That is not only silly, it is a stupid statement. Simply because it is repeated often does not make it so.

Trees and humans have genetic codes. Some codes may have slight differences that could be very important for survival.

When trees are planted in nurseries, they are treated as individuals, and when they are planted in an urban setting, again they are treated as individuals. When you treat a tree as an individual, you take away its group defense and group protection. Take the American elm, for example. The pathogens “helped” the species by “pruning” some trees from a thicket. However, when the trees were planted as individuals, and with asphalt or concrete at their bases, the trees’ defense systems were destroyed. In time, some people will begin to understand. Maybe!

Pathogens: good or bad

Humans think of infection and pathogens as bad. Are they? When you think of individuals, the answer for pathogens is yes, they can be very bad. But, natural systems did not come as individuals, they came in groups. If every individual of a group stayed alive, there would soon be no space for anyone, and all would die. Use any word you like, but there must be some design or absolute force behind all of this.

Infection is a connecting process between two species, where substances move between the two. When one individual takes more than it gives, the taker will live and the giver will die. With plants, there are types of infections where both give and take at equal rates. This is called mutualism, a type of symbiosis, which means two species living together in harmony.

Another type of infection in trees and in many other plants is the infection of a fungus with a non-woody root. The result is a different structure that is an organ. The organs are called mycorrhizae. Here infection benefits both and the result is called synergy. Synergy is another way that many organisms work effectively with the laws of physics.

Pathogens are detrimental to individuals, but to groups they may be beneficial. I believe that humans have not been around long enough to really exist as individuals. Maybe in time the genetic codes will make it happen.

Heal and compartmentalize

Back to trees as generating systems and
humans as regenerating systems. When an individual human is injured and infected, processes start that may or may not lead to continual survival. Because humans are regenerating systems, they survive as long as injured and infected tissues are restored to their previous healthy state. This process is called healing.

Trees are not regenerating systems. They cannot restore injured and infected tissues to their previous healthy state because trees can only grow parts in new spatial places. Instead of healing, trees have boundaries, and the boundary forming process is called compartmentalization. The process has two parts:

1. Boundaries surrounding infections in tissues present at the time of infection – reaction zones;
2. Boundaries that separate the tissues present at the time of infection form new tissues that will continue to form during the present or next growing period. This boundary is the barrier zone.

I do not understand how a generating system can grow a regenerated root! When I hear a person say or write about regenerating roots, I know there is confusion.

Food and tubes

Trees “make” their food by a process called photosynthesis. Humans must get their food already made. This is very well understood. The part that is poorly understood is that humans absorb essential substances from the inside outward, while trees absorb from the outside inward.

Trees, and humans are really tubes. In humans, appendages called legs take the tube to food while other appendages called hands put the food into the tube. A brain tells the appendages where to go for food. I know it sounds silly, but think about it. Humans have two types of tubes. The main tube receives the food, and the smaller tubes move the food energy to the cells.

Trees also have two types of tubes. One group of tubes moves liquids with dissolved essentials from roots toward tips. (Never say up or down.) Other tubes move essentials from tips toward roots.

My main point here is that absorption in humans goes from the inside outward, while in trees absorption goes from the outside inward. With humans the absorbing boundaries are membranes made up of lipids, while with trees the absorbing boundaries can be cellulose as in root hairs, or boundaries containing chitin as with the hyphae in the fungi that form the organs called mycorrhizae.

Sex and compatibility

Sex is a morphological distinction between individuals of a species that produce haploid gametes of different types that can produce a diploid when connected. Compatibility is different in that there is no morphological distinction between the two haploid forming individuals.

You cannot draw A Human. We come in morphologically distinct pairs – males look different from females. With trees, you can have male and female parts in the same flower, or male flowers and female flowers on the same tree, or on separate trees.
The living and the dead

Humans are made up of living cells almost entirely. They are one big "symplast" with a small bone "apoplast."

Trees are made up of living, dying and dead cells. The cells have walls. Wood is a highly ordered arrangement of living, dying and dead cells with walls of cellulose, hemicellulose and lignin. Not only are trees unique in that wood has living, dying and dead cells, but in many cases the living cells maintain some control over the dead cells. The vessels function as transport tubes only after they die. The vessels are surrounded by living cells that squeeze or release the diameter of the vessels and in this way avoid embolisms, and maintain a steady flow. The fibers act as support features only after they die and they die as they use their cell contents to form a thick secondary wall.

Trees as a group of species are different in many ways from humans. Until correct terms are used for specifics, confusion will continue.

Remember the song – "He is dan—ger—ous!"? People who think are dangerous. Even more dangerous are people who stimulate others to think. History tells us in gruesome terms what happened to people who stimulated others to think. Think about it: fire, crucifixion and torture.

The subject that is making some thinking arborists angry is the use of sloppy terms – especially when the terms are used by people who should know better. The usual response is that everybody uses the terms in that way.

The list of sloppy terms is very long. Here I will try, again, to clarify only a few: nutrient, fertilizer and food.

Please, do something Shigo

In one day I got four requests by mail and phone to please try to do something. As I said, I will try. No guarantees.

Humpty Dumpty said a word means only what

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he wants it to mean.
Socrates said; please just tell us what you want your words to mean.
Voltaire said, once we know what your words mean, arguments and confusion will cease.

Further, Socrates said, know the person by the words he uses. When you hear a person say “He don’t” and “irregardless” it tells you something.

The problem

The problem is that many people really do not know the specific differences between plants and animals. Animal specifics are commonly used for plant specifics, and, believe it or not, some plant specifics are used for animals. Yes, in basic ways all living forms are similar. They all require energy, water, elements, and space. They all respond to threats against their survival. However, every living form is different in its specific ways.

Terms defined

Nutrients are substances that contain an energy source (hence just energy), elements, and other compounds in types and amounts that are essential for a healthy life. We speak about a nutritious food or meal.

Foods are substances that contain energy mostly, and in some cases elements. Foods may or may not contain other substances essential for life. (Think; if this were not so, why all the diet books about junk foods, fatty foods, and the “right foods?”)

Fertilizers are substances that contain elements. The elements are in forms, mostly, and in some cases elements. Foods added some “magic” ingredients a form began to grow. The keyword here is grow. If certain substances stimulates plants to grow, then if some substances stimulates a baby to grow, then both substances must be a type of fertilizer. Right? So even today we say the male fertilizes the female and a new living form results. Here we have a plant term that has made its way into animal territory!

Good arborists do not use sloppy terms

A person who called said that he did ask an author why he used the terms nutrients and “tree food”. The author answered, “everybody does it and I just wanted to be like everybody.” I know that there are many people, myself included, that resent being put into the “everybody” class. To me it says that it is best to remain with the problem because everybody else has one. When you think about it, it should make you angry. It makes me very angry.

A thinking arborists asked me why are we told to “deep feed” and then told that all tree roots are shallow? He is dangerous.

From plants to animals

Here is an added note about fertilizers. Farmers knew that certain substances they put in soil stimulated plant growth. The plants were usually those used for food. Consider that it was not long ago when people really did not know where babies cam from (Don’t laugh). The belief was that females were born with very small, incomplete forms. Further, when a male added some “magic” ingredients a form began to grow. The keyword here is grow. If certain substances stimulates plants to grow, then if some substances stimulates a baby to grow, then both substances must be a type of fertilizer. Right? So even today we say the male fertilizes the female and a new living form results. Here we have a plant term that has made its way into animal territory!

Sad ending

Let me end with a true story. After a long day on stage I shared a cab to the airport with another person. We talked, and he said his company had just lost a big case in court. A large manufacturing business wanted to give employees who could not speak much English a chance to learn better English. The man in the cab said the workers agreed they were ignorant of proper English and they felt they had a right to stay that way. They won!

The theme repeats for balance of nature, heartrot, regenerating roots, healing wounds, root flares, callus, and many more. Get really angry. Let’s stop the use of sloppy terms.

Dr. Alex L. Shigo is the owner of Shigo & Trees, Associates in Durham, N.H.
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Growing Your Snow Business

By John Allin

Often snow removal contractors have ambitions to take on bigger projects than they have been accustomed to doing. The residential plowing contractor that wants to take on bank sites. The contractor doing bank sites that wants to move up to larger retail strip malls. The contractor that specializes in plazas but longs to do a mall project where the "big money" is. All of these desires are natural for the aggressive entrepreneur, and growth.

Do you have the right attitude for winter work?

One question often asked at this time of year is "how can we make a profit at this type of work"? Other reflective thoughts often include: "Snow work is blood money" ... "it's a pain in the butt to do this work" ... "it's hard work for the money we generate" ... "climbers don't push snow" ... "my guys want to just stay home in winter anyway, so why bother."

Often it's just a matter of attitude. Think about it a moment. Isn't attitude just a matter of how we think about anything we do or say? If you address your marriage with the right attitude, things often go well. If you approach your employees with the proper internal motivation (and a positive attitude), they will generally work harder and be more productive. If you approach the landscape maintenance, tree care, or chemical portion of your business in the right manner, it may become your "core business." Can you imagine treating this core business as if it could never be profitable, and was just something that "had to be done" instead of what you needed to do to support your family? Attitude has everything to do with success. It's the underlying foundation of every successful entrepreneur. Contractors who treat the snow business as a profit center generally report gross profit margins in the 55 percent to 65 percent range. De-icing profit margins often top 70 percent amongst those that view this as a profit center. These contractors are convinced that they can make a profit at snow work, and they do. Those who are convinced that they cannot, who only do it to keep people around during winter, usually do not.

It is imperative to bring a businesslike attitude to the snow side of your business if you're going to have any chance at being successful. One of the biggest problems with those of us in the snow business is that we

Attitude continued on page 46...
is necessary if a company is going to survive. Stagnant companies often fail simply because of lack of initiative in the quality of work produced over time.

Snowplowing larger sites is not all that different from plowing small sites. Of course, it often involves more equipment. And, it often calls for larger equipment so that smaller plow trucks are not overtaxed by the increased volume of snow that must be plowed, stacked up or relocated. This can also mean using equipment one is not experienced with. The move up can involve using rubber-tired loaders with containment plows, more commonly known as box plows. These are mounted on the front of loaders and can increase efficiencies by as much as 5 times. There are several different manufacturers of containment plows, and all will assist with the transition to new equipment.

There are now estimating packages that can assist with quoting larger projects. In the past, knowing how much work could be produced with specific equipment (i.e., with containment plows attached) was a matter of guesswork and experience. This made it difficult for the inexperienced contractor to make the move up. Now, with the help of a recently completed, multi-year in-depth study of such specifications, it's considerably easier to develop a proposal that can be competitive in the marketplace. While nothing can match experience, the introduction of formalized estimating packages make it possible to virtually eliminate the guesswork.

Once the decision has been made to solicit those larger, more desirable projects the contractor must be prepared to manage. Someone has to oversee the project. If that person does not have experience working a large site during a snowstorm, being pre-

John Allin is the author of Managing Snow & Ice, published in 2002 along with a CD of forms for use in a snowplowing operation. To purchase the book or CD, call 1-800-733-2622, or order online at www.treecareindustry.org.
Attitude continued from page 44 ...

don't have enough respect for ourselves and the service we provide. So, that is job one. Self respect. Anyone who provides a necessary service to a paying customer by putting in long hours, spending $40,000 or more on equipment, and working in horrendous conditions is known in my book as a professional. Customers who don't treat us as the professionals we are should not have the privilege of being our customers. Think of yourself as a professional. You are. If you think you are, or you think you are not - you're right.

You have to project a professional image. Customers need to be able to communicate with you. You must have a phone in the name of your business so customers can find you. Perhaps you will have a separate phone line - or even a separate name - for your snow removal business. Have business cards and pass them out to everyone you see. This “networking” can garner all kinds of attention, leads, and inevitably more business. Signs on your truck help tremendously. Have them professionally made. It is worth the expense to project professionalism for your business. If you think you are a professional, or you think you are not - you're right.

You have to project a professional image. Customers need to be able to communicate with you. You must have a phone in the name of your business so customers can find you. Perhaps you will have a separate phone line - or even a separate name - for your snow removal business. Have business cards and pass them out to everyone you see. This “networking” can garner all kinds of attention, leads, and inevitably more business. Signs on your truck help tremendously. Have them professionally made. It is worth the expense to project professionalism for your business. If you think you are a professional, or you think you are not - you're right.

When meeting potential customers, always view take the opportunity to show off your professionalism. The old days of handwritten quotes on slips of paper are long gone. Printed quotation forms are a must. A positive attitude toward the service you will provide to the customer also shows confidence and professionalism. Be understanding of a customer's inability to understand what it is we actually do during all-night snowstorms. Explain what you will do and what the price will be. Set yourself apart by treating the business like a profit center - and project the professionalism you have within you. It works.

Remember, you cannot alter how people treat you. But you do have control over how you react to how you are treated and perceived. My company secured the snowplowing contract for the 2002 Winter Olympic Games in Salt Lake City, Utah. People are always saying to me, “I don't see how you could do a contract like that, from so far away from home.” My response usually is

I can see it. You alone control your attitude and how you react.

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of equipment in their service fleet in order to operate their core businesses. In winter this equipment can be left standing idle and often these contractors will jump at the chance to keep their people working moving snow.

In addition to reducing your investment in equipment, using properly classified subcontractors will eliminate the burden of keeping track of and paying the standard employment taxes normally associated with an employee.

There are a few myths that permeate our society about who is and who is not a true subcontractor. The first one is that simply “saying” a worker is a subcontractor will make it so. Don’t get caught in this trap. The mere fact that you call a subcontractor a subcontractor will not by itself convince the IRS or state agency that the worker really is one. Government auditors look at the substance of the relationship between the hiring company (you) and the person doing the work. A well-crafted and truthful subcontractor agreement can be helpful in the classification process, but it is not enough to satisfy auditors. Auditors will make sure the parties actually behave the way the agreement indicates they should behave.

The second myth is that people who work for more than one company are considered subcontractors. If you have the right to control the worker on the job, the worker may be considered an employee. If you specifically state that the worker (even if an owner/operator of an articulating loader) must work for your company and no other, you will most definitely have a problem with classification.

The third myth is the assumption that part-time and short-term workers are subcontractors. Don’t think because you are only hiring the owner/operator for a couple of weeks that this individual is a subcontractor. If you retain the right to control the person’s actions, most governmental agencies will classify these people as employees.

If you truly desire to grow into larger plowing accounts and wish to increase your customer base to include those high-profile, high-revenue, and high-margin jobs, you must keep in mind one very important fact. If you think you can, or you think you can’t — you’re right. It’s all about attitude — but that’s a topic for another article.

John Allin is president of Snow Management Group in Erie, Penn. His company manages snow on over 6,500 sites in 29 states and Canada. He recently completed the aforementioned Containment Plow Production Study. He can be reached by e-mail at john@allinco.com.
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Here is this month’s OSHA report: “An employee had finished grinding a stump with a self-propelled stump grinder. He was turning the machine around so that he could back it up the slope he had been working on and load it onto a truck. The employee forgot to disengage the grinder clutch while he was moving the machine. This model machine had one clutch for the drive wheels and another clutch for the grinder.”

“As he turned the machine on the sloped surface, which was covered with loose dirt and chips of stump, the machine bucked, and the employee lost his footing. The grinding head came down, with the back of the machine, just as the employee’s right foot went under the grinding head. The grinding head shredded the employee’s shoe and sock. His foot was severely lacerated and his metatarsal was nicked. He was hospitalized for his injuries.”

This incident reveals the need to have a good understanding of the machine you are operating. Safety standards state that arborists must follow instructions provided by the manufacturer. In addition, you must maintain the warnings, instructions, safety devices, and/or safety guards provided by the manufacturer. You cannot tamper with these devices or remove warning labels (based on ANSI Z133.1 6.1.1). If your machine does not have the proper labels or operators manuals, or they are not legible, you can contact the manufacturer to get a replacement.

The TreeWorker electronic newsletter is written by arborists for field employees in arboriculture. Each issue gives employees “How to ...” pointers on subjects such as improving client relations, rigging, and avoiding vehicular accidents. Tech Notes, Knot of the Month features and Safety and Pest Alerts make this monthly publication “must” reading for company owners and field employees alike. Consider providing the TreeWorker newsletter as an employee benefit. Free to TCIA members. To order a subscription, call 1-800-733-2622 or go to www.treecareindustry.org/Publications/TreeWorker.
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We need your insurance information

We have grave concerns about the affordability and availability of insurance for the tree care industry, as we know you do. That’s why, over a year ago, TCIA partnered with a well-respected insurance brokerage, called Willis Insurance Agency, to investigate a new TCIA insurance program.

Over the last several months, Willis and TCIA have accomplished a lot, but we’ve hit some obstacles and need your help. First, insurance carriers are extremely hesitant to assume any new risk unless there is credible historical premium and loss data to support their decision. Second, there is no program in place that we can access to extract the required data. This information is critical to start a new program.

With TCIA’s assistance, Willis is compiling five years of premium and loss data from the membership. In short, we need your help and your agent’s help in completing and returning an insurance questionnaire.

There are no guarantees, except this one: if we cannot get this survey information from you and your fellow members, this program will not go forward.

There are still challenges ahead, even if we are successful in securing this data. By executing a successful campaign, we will have demonstrated a strong desire to make a new TCIA insurance program a reality. That will be an extremely powerful tool as we return to the market.

In mid August, you will receive a package of information from TCIA. Please fill out the insurance questionnaire with your agent and either fax your response to TCIA or mail it back in the enclosed business reply envelope.

Your response requested ...

A number of important programs and surveys require your attention and response by the following deadlines:
- Insurance Survey – ASAP
- Award of Merit – September 15
- Tailgate Safety Discount – September 15
- Freeman Parr Awards – November 3
- Safety Awards – November 15

Don’t delay!
Know the value of tree care ... and be able to communicate with others

A tree care company called TCIA with a zoning issue. A disgruntled employee filed a number of complaints with the local township regarding the fact that the company — operated from the owner’s home — was on residential-zoned land. In all, the company had to answer inquiries from the health department, zoning board, and OSHA. The company hired a lawyer and was able to satisfy questions from OSHA immediately, since the company followed sound safety training practices. The company asked TCIA for whatever assistance we could provide with the other issues. Since zoning issues vary from town to town, the Tree Care Industry Association does not specialize in zoning issues. However, we were able to provide the company with a letter of support. The letter detailed the value of tree care to the local community on the basis of property valuation, erosion/drainage control, and general environmental benefits. The letter also addressed any unfounded fears about wood chip, mulch, or brush piles attracting pests. See the letter at www.treecareindustry.org/default.asp?main=content/consumers/pressreleases.htm.

The company later informed us that they were able to come to a settlement with the town. Health concerns were dismissed and the zoning settlement required the company to make some changes. An equitable compromise was reached, allowing some operations to remain at the site.

Zoning laws vary from town-to-town and state-to-state. If you have zoning problems, you will probably need to hire a lawyer. Avoid these types of problems by knowing your local zoning ordinances and following them. Avoid complaints by having a clean and orderly business site. Keep piles to a minimum, wood stacked, equipment in a garage or neatly parked, and install a fence to screen operations.

Keep in mind that most zoning boards do not concern themselves with small service businesses operating from a residential zone as long as neighbors do not complain. Avoid early morning show-up time at your residence, limit truck parking, and keep large log or brush piles hidden.

Welcome to the Tree Care Academy!

The Tree Care Academy offers courses that can be administered at your company and/or taken online for credentialing of employees according to industry standards. Each course teaches and tests for critical skills and core knowledge that tree care employees need in order to work safely and professionally.

Employees:
Holding tree care industry credentials will help you show your skill and value to your employer.

Employers:
Lower insurance premiums are offered to companies with low injury rates. Established training programs such as Tree Care Academy ensure this insurance savings. Training programs lower injuries, increase productivity and save money. It’s really that simple. In addition, having employees credentialed according to industry standards gives you a way to verify that OSHA-required training has been performed. It is also a great way to identify motivated employees for promotions. The current available credentials include:

- Tree Care Apprentice
- Ground Operations Specialist
- Tree Climber Specialist
- Tree Care Specialist

We also offer the following advanced course, How to Write Pruning Specifications, which is available only online. In this new course, you will learn how to write a basic pruning spec in a step-by-step process. This course includes many examples and illustrations. You will also receive:

- ANSI A300 Part 1 - Pruning standard (downloadable .pdf)
- Pruning spec sheet (downloadable .pdf)

You can customize for your company
- How to Write Pruning Specs training sheet (downloadable PDF) so you can teach other arborists how to write pruning specs.

For more information or to enroll, fill out the form on the next page or go directly to www.treecareacademy.org.
Friday's the night to honor Excellence

Excellence in the industry will be on display for its largest audience ever, as the TCIA Excellence in Arboriculture Awards Ceremony moves to Friday night, Nov. 14, at TCI EXPO.

Don't miss this inspirational exhibition of the best examples commercial tree care has to offer. In addition to mounted displays – with detailed descriptions of projects large and small – a multimedia presentation of before-and-after pictures will give the audience a true appreciation of commercial tree care practiced at the highest levels.

The Excellence in Arboriculture Awards are presented in partnership with The Hartford.

WORD FROM WASHINGTON

Your voice in Washington

Whether you like it or not, decisions are made in Washington that directly affect your business. Issues concerning taxation, work rules, safety requirements, drug testing, pesticide and fertilizer application, rules for drivers, employee benefits, advertising your services, and hiring and firing – decisions touching on the survival of your business – are open for debate by elected officials in Washington.

Commercial arboriculture can no longer afford to be absent from the table.

A new political action committee (PAC) – founded, supported and directed by the membership – will channel contributions to serve as the political voice of the tree care industry.

The ultimate purpose of a PAC is to amplify our members' voices so we can improve the legislative and regulatory climate for our industry. By registering and sustaining an effective PAC, we can ensure that Congress will give far greater consideration to TCIA concerns.

Through the concentration of the collective economic power of our industry, we can have a greater impact on the issues of concern than we could if members were to contribute to candidates on an individual basis.

In the weeks and months to come, you will be asked to volunteer your time, share your political contacts and commit your financial resources to amplify The Voice of the Tree Care Industry in Washington. We hope you will answer the call for your business and your profession.

TCIA Europe

Jo Ryan joins TCIA UK

TCIA UK members now have a technical advisor, Jo Ryan, who will be responsible for handling technical enquiries from her office near York. She will also collate and report on members' activities, news and common problems. (Administration-related enquiries should be directed to TCIA European Office, Southampton.)

Jo came into arboriculture from a horticultural background, taking a National Diploma in arboriculture in the early '90s. She went on to gain one of the first Honours Degrees in Amenity Forestry and Arboriculture from the University of Aberdeen. Jo has professional experience in information provision, having worked for a number of years as advisor with the Arboricultural Advisory and Information Service. Together with her part-time appointment at TCIA, Jo manages her own business, Treesource, a specialist bookshop and information service.

Jo will be on the trade stands at the forthcoming National Arboriculture Conference at University College Northampton (Sept. 15-17), where she looks forward to meeting members. E-mail her at: ryan@treecareindustry.org

Highclere

The 5th Arborist’s Trade Show took place on the grounds of Highclere Castle, Berkshire on June 13 & 14. This annual event is the only trade show in the UK dedicated to arboriculture.

While the Arboricultural Association has to make final calculations of visitor numbers, there is no doubt that this year was a record breaker with around 2000 visitors and over 50 exhibitors. The vast majority of visitors were professional arborists researching and buying equipment.

Many existing and potential members visited the TCIA stand, which was staffed by UK Committee Chairman Chris Frankland, along with Committee Members Nick Beardmore and Gordon Malt and TCIA UK Technical Advisor Jo Ryan.
Mingle with the experts at TCI EXPO

Learn to keep your trucks on the road

Few things can sideline a tree care or landscaping business as readily as a DOT "Out of Service" order. Are you confident that your drivers, vehicles and administrative procedures conform to requirements?

With over 25 years of compliance knowledge stemming from experience as a driver, dispatcher, instructor, safety officer and consultant with J. J. Keller & Associates, EXPO presenter Stephen M. Frisch can put your firm on the road to full compliance. Join him later in the day on the trade show floor as he conducts mock vehicle walk-around inspections.

Learn what your peers do to succeed

It's show time - TCI EXPO time! TCI EXPO is more than education sessions and hundreds of booths with the latest equipment. EXPO is a chance to talk to vendors face-to-face, to discuss with other owners the problems confronting your company.

To make the best business use of off-hours, be sure you arrive in time for the free Welcome Reception on Thursday, Nov. 13. Every morning, stop by the foyer outside the trade show entrance for a cup of coffee before you take in the education sessions. There is time to network informally and obtain information about your industry or trends in the market.

Registration coffee breaks are compliments of Morbark, Inc. The TCI EXPO Welcome Reception is presented in partnership with Vermeer Manufacturing and Husqvarna.

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**Eating Machines**

Inside birch leaves around Anchorage, Alaska gobs of tiny green worms crawl, packing the voids they make with waste and discarded skins in an orgy of leaf eating. On some 30,000 acres, birch leaves, which should be green this time of year, are splotched brown. The culprit: a tiny black fly called *Profenusa thomsoni*, commonly known as the *leaf miner* or *sawfly*, whose larvae subsist by chomping the chlorophyll-producing leaves.

Chris MacQuarrie, an entomology doctoral candidate from the Univ. of Alberta at Edmonton said in a recent *Anchorage Daily News* article; “They get going, and they’re just eating machines.”

The leaf miner probably arrived on nursery stock from Europe a decade ago. They grow inside the leaf, shed their skins five times, then fall to the ground and find a small hole or crack to spin a cocoon in for the winter. In summer, the all-female adults emerge and fly to the nearest birch tree. With the serrated stinger-like ovipositor, they slice open a leaf and deposit eggs, starting the cycle over again.

But the sawflies’ days may be numbered. A parasitic wasp that lays eggs inside the *sawfly’s* larvae is being gathered in the Northwest Territories by scientists. This wasp is just waiting for federal and state permits to determine the most effective timing before they join the banquet.

**Thirsty, Old Salt?**

What drinks 200 gallons of water a day, makes large bodies of fresh water salty and can potentially replicate itself 500,000 times a year? The salt cedar, aka: *tamarisk*.

According to a recent article in the *Abilene Reporter-News*, all along Texas’ Colorado River watershed levels are down and experts are realizing that drought isn’t the only culprit.

“The main reason we’re running out of water is not the drought,” said Alan McGinty of the Texas Extension Service. He maintains that salt cedar are destroying the state’s river system.

The salt cedar was brought here in the 1800s as an ornamental. The thirsty tree has been used by the U.S. Army Corps of Engineers to control erosion on river banks. Over the last half-century, the salt cedars (not to be confused with cedars, which are junipers) have strangled water supplies in Texas, as abundant seeds float downstream.

Thousands of acres along the Colorado and its tributaries are home to the growing population.

The Texas Soil and Water Conservation Board is applying for a $3.6 million grant from the EPA to eradicate the trees. Cost is $200 per acre to spray by helicopter.

**Recipe for Apple Jam, Texas Style**

When Texas millionaire Charles Butt decided to give new life to a 50-year-old, 20-foot tall apple tree by moving it from Ellsworth, Maine to his waterfront estate in Northeast Harbor, he had no idea how much local ire he would raise along with the telephone, utility and cable wires that had to be lifted for the tree to pass.

Accompanied by a caravan consisting of two state police escorts, four private escorts, and crews from three local utilities, the 18-wheel flatbed crawled along at two miles per hour. The 30-foot wide load took ten hours to travel the 20 mile route, virtually halting traffic on both sides of the two-lane highway and effectively sealing off the west side of Mt. Desert Island.

Thousands of people were late or missed work entirely. Tourists sat for hours unaware of what caused the stoppage.

The *Bangor Daily News* reported the next day (June 20) that the move purportedly cost the Texan in the neighborhood of $60,000 and that all the proper permits were in place. That price tag doesn’t account for the cost of the shellacking his reputation took, nor the cost of ads he took out in local newspapers: apologies to his mostly working class neighbors.

Judging from the letters to the editor of the *Bangor Daily News*, the printed apologies aren’t enough. But other locals, including Steven O’Halloran of O’Halloran’s Machinery Transport in Ellsworth, (the firm hired to transport the tree), think that Mr. Butt has been unduly demonized. According to O’Halloran, the grocery magnate didn’t realize the impact a move like this would have.

“He’s a real gentleman,” O’Halloran told the *Bangor Daily News*. He also called the move a success, since no property or personnel were harmed.

(Editor’s note: We’d like to thank Tree Care Industry subscriber Peter Lammert, a licensed landscape arborist and Forest Tree Warden for the Town of Thomaston, Maine for bringing this news to our attention. Peter commented in his letter to TCI Editors, “I would hate to be the next person who tries to get a wide load permit from the Maine State Police to move a tree!”)
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<table>
<thead>
<tr>
<th>Reader Service No. *</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerial Lift, Inc. .......</td>
<td>Back Cover</td>
</tr>
<tr>
<td>Air-Spade / Concept Engineering ..</td>
<td>53</td>
</tr>
<tr>
<td>Almstead Tree Company, Inc. ...</td>
<td>53</td>
</tr>
<tr>
<td>Altec Industries, Inc. ......</td>
<td>11</td>
</tr>
<tr>
<td>Altlanamat, Inc. ..........</td>
<td>21</td>
</tr>
<tr>
<td>American Arborist Supplies ..</td>
<td>28</td>
</tr>
<tr>
<td>Arborsystem, LLC ...........</td>
<td>63</td>
</tr>
<tr>
<td>Arborwear LLC ..............</td>
<td>39</td>
</tr>
<tr>
<td>Bailey's ......................</td>
<td>19</td>
</tr>
<tr>
<td>Bandit Industries, Inc. .....</td>
<td>29</td>
</tr>
<tr>
<td>The F.A. Bartlett Tree Expert Co.</td>
<td>58</td>
</tr>
<tr>
<td>Bishop Company ..............</td>
<td>10</td>
</tr>
<tr>
<td>Border City Tool &amp; Manufacturing Co.</td>
<td>48</td>
</tr>
<tr>
<td>The Care of Trees, Inc. ......</td>
<td>55</td>
</tr>
<tr>
<td>J.P. Carlton Company ..........</td>
<td>51</td>
</tr>
<tr>
<td>CEI ..........................</td>
<td>38</td>
</tr>
<tr>
<td>CEI Alternamats ..........</td>
<td>68</td>
</tr>
<tr>
<td>Chuck Smith Mauler ..........</td>
<td>65</td>
</tr>
<tr>
<td>Cutter's Choice .............</td>
<td>22</td>
</tr>
<tr>
<td>The Davey Tree Expert Company</td>
<td>54</td>
</tr>
<tr>
<td>DICA Marketing Co. ...........</td>
<td>42</td>
</tr>
<tr>
<td>Doggett Corporation ...........</td>
<td>27</td>
</tr>
<tr>
<td>Fanno Saw Works .............</td>
<td>46</td>
</tr>
<tr>
<td>Fecon, Inc. ..................</td>
<td>37</td>
</tr>
<tr>
<td>Forestry Equipment of Virginia</td>
<td>56</td>
</tr>
<tr>
<td>G&amp;A Equipment, Inc. ..........</td>
<td>45</td>
</tr>
<tr>
<td>Giuffre Brothers Cranes ........</td>
<td>55</td>
</tr>
<tr>
<td>Good Tree Care Company ......</td>
<td>46</td>
</tr>
<tr>
<td>The Hartford ................</td>
<td>17</td>
</tr>
<tr>
<td>IML - Instrument Mechanic Labor, Inc.</td>
<td>14</td>
</tr>
<tr>
<td>Implemax Equipment Co., Inc.</td>
<td>23</td>
</tr>
<tr>
<td>Independent Protection Company</td>
<td>16</td>
</tr>
<tr>
<td>International Society of Arboriculture</td>
<td>41</td>
</tr>
<tr>
<td>Leonardo Manufacturing ......</td>
<td>40</td>
</tr>
<tr>
<td>Lewis Utility Truck Sales, Inc. ..</td>
<td>58</td>
</tr>
<tr>
<td>Mickey's Truck &amp; Equipment Sales Inc.</td>
<td>22</td>
</tr>
<tr>
<td>Miller Machine Works ...........</td>
<td>66</td>
</tr>
<tr>
<td>Morbark, Inc. ................</td>
<td>3</td>
</tr>
<tr>
<td>TCIA - E.H.A.P. ..............</td>
<td>25</td>
</tr>
<tr>
<td>TCIA - Model Company Safety Program</td>
<td>43</td>
</tr>
<tr>
<td>TCIA - Tailgate Safety Program ........</td>
<td>61</td>
</tr>
<tr>
<td>Nelson Tree Service, Inc. ......</td>
<td>52</td>
</tr>
<tr>
<td>Northeastern Associates ......</td>
<td>38</td>
</tr>
<tr>
<td>Opdyke, Inc. .................</td>
<td>15</td>
</tr>
<tr>
<td>Pete Mainka Enterprises, Inc.</td>
<td>42</td>
</tr>
<tr>
<td>Plant Health Care, Inc. ........</td>
<td>12</td>
</tr>
<tr>
<td>Rapco Industries, Inc. ........</td>
<td>39</td>
</tr>
<tr>
<td>Rayco Manufacturing, Inc. ........</td>
<td>5</td>
</tr>
<tr>
<td>Redmax-Komatsu Zenoh Inc. Inside Back Cover</td>
<td>43</td>
</tr>
<tr>
<td>Rotochopper, Inc. ..........</td>
<td>1</td>
</tr>
<tr>
<td>Royal Truck &amp; Equipment, Inc.</td>
<td>47</td>
</tr>
<tr>
<td>SavATree .....................</td>
<td>56</td>
</tr>
<tr>
<td>Schodorf Truck Body &amp; Equipment Company</td>
<td>54</td>
</tr>
<tr>
<td>The Sharp Tool Company Inc.</td>
<td>34</td>
</tr>
<tr>
<td>Sherrill Arborist Supply .......</td>
<td>7</td>
</tr>
<tr>
<td>Southco Industries Inc. ....</td>
<td>60</td>
</tr>
<tr>
<td>Swinger Loaders Div. NMC-Wolland Inc.</td>
<td>34</td>
</tr>
<tr>
<td>TCI EXPO ......................</td>
<td>59</td>
</tr>
<tr>
<td>TCI EXPO Spring ..............</td>
<td>49</td>
</tr>
<tr>
<td>Tilton Equipment Company Inside Front Cover</td>
<td>43</td>
</tr>
<tr>
<td>Timberwolf Manufacturing Corporation</td>
<td>33</td>
</tr>
<tr>
<td>UPM Corporation .................</td>
<td>24</td>
</tr>
<tr>
<td>Vermeer Manufacturing Company</td>
<td>57</td>
</tr>
<tr>
<td>Weaver Leather, Inc. ..........</td>
<td>12</td>
</tr>
<tr>
<td>Western Tree Equipment &amp; Repairs</td>
<td>48</td>
</tr>
<tr>
<td>Zenith Cutter Co. .............</td>
<td>31</td>
</tr>
</tbody>
</table>

* Please circle this number on the Reader Service Card for more information.

**What's coming in...**

- Staying warm this winter
- Safe driving saves
- Writing pruning specs
- Techniques to improve quality

TREE CARE INDUSTRY - SEPTEMBER 2003
When Was the Last Time You Walked Away From a Job?

By Edward Kennedy

I thought about that question a few short months ago as I priced the removal of a 30-inch DBH sugar maple some 60 feet high located on a backyard property fence line.

It was a high target area backed by close buildings and fronted by neighboring yards with trees and landscapes. There were three large fruiting bodies on the trunk base, evident decay columns running into and up the main trunk a distance of 16-feet, holes, and a dead crown.

My choice was to utilize a 46-ton crane with a double bucket and a boom length of 150 feet to reach from the lane’s end to the tree in question. This was quashed by the owner’s refusal to allow crane access to the last 20 feet of the lane due to the presence of a concrete slab laid for a proposed garage. He insisted on a written contract and I had complied. The arrow of stupidity pointed directly at me.

When a tree deteriorates to this extent, it is the owner’s responsibility alone. Property owners have no excuse for allowing trees to reach such unsafe states. My best recourse would have been to insist on the crane option, taking the tree down in sections. All responsibility for slab cracking or property damage should have rested with the homeowner, since he had allowed the tree to reach this state. Nobody can predict to any acceptable degree how work will progress on structurally unsafe specimens.

I could easily have written about the thousands of dollars in damage caused by a dangerous tree and my consequential skyrocketing insurance liability premiums. Things worked out fine this time, but how often can one tempt fate successfully?

Learning is a voyage, not a harbor, and I will leave you with my opening question: “When was the last time you walked away from a job?”

Edward Kennedy is with Meadow Green Tree Experts in Harrowsmith, Ontario.

Do you have a story From the Field?

TCI will pay $100 for published articles. Submissions become the property of TCI and are subject to editing for grammar, style and length. Entries must include the name of a company and a contact person. Send to: Tree Care Industry, 3 Perimeter Rd., Unit 1, Manchester, NH 03103, or Garvin@treecareindustry.org.
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IT'S THE 14TH ANNUAL TREE CARE INDUSTRY EXPO!

TCIA, "The Voice of Tree Care" is excited to once again produce the largest, most respected EXPO and seminar series in commercial tree care!

THE NATIONAL ARBORIST ASSOCIATION (NAA) IS NOW TCIA, THE TREE CARE INDUSTRY ASSOCIATION

"The Voice of Tree Care"

Baltimore Convention Center • Baltimore, Maryland

NOVEMBER 13–15, 2003

NEW TCIA! NEW OPPORTUNITIES!

WHY SHOULD YOU ATTEND?

TCI EXPO offers you two distinctive seminar tracks. One is designed for field personnel and one for management.

EXPERT PRACTITIONER seminar track series offers several sessions yielding ISA CEUs. SMART MANAGER track is customizable to meet your unique business management needs. Find all course details inside and start now defining your individual TCI EXPO seminar education experience!

Take advantage TCI EXPO's "golden opportunity" in educational seminars. If you are attending 5 or more seminars you can BUY GOLD! You SAVE, and those savings are returned to YOUR bottom line.

The show floor provides the best of the industry's new and exciting products and services... presenting leading-edge suppliers to you, their shoppers and buyers!

You don't want to miss this valuable networking opportunity... with ALL the right people coming together at TCI EXPO 2003!

SPECIAL NOTE TO SAVE MORE MONEY

Make your decision now and register before the Early Bird deadline of October 10. You will receive discounts on BOTH trade show admission and educational seminars!

REGISTRATION PROCEDURE

Register online at www.treecareindustry.org or complete a separate registration for each conference attendee.
ACRT, Inc.
ADI Pruning Tools
Aerial Equipment, LLC
Aerial Lift, Inc.
Agape Designs
Air Spade®/Concept Engineering Group, Inc.
All Gear, Inc.
Alliance Equipment Company, Inc.
Altec Industries, Inc.
Altunamats, Inc.
American Arborist Supplies, Inc.
Amerisafe
Amigos Labor Solutions
Arborjet, Inc.
Arborscape Pro
ArborSoftWorx
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Bahco Pruning Tools
Bai ley's
Bandit Industries, Inc.
BBA Nonwovens/Reemay, Inc./Bio Barrier
Bartlett Manufacturing Company
Bayer Environmental Science
Ben Meadows Company
Blue Ridge Arborist Supply
Forestry Equipment of Virginia
Forestry Suppliers, Inc.
Fred Marvin Associates
Future Forestry Products, Inc.
G & A Equipment
Giuffre Brothers Cranes
Good Tree Care Company
Green Manufacturing, Inc.
Growtech, Inc.
The Hartford
Hol-Mac Corporations
Horticultural Alliance, Inc.
Husqvarna
IML – Instrument Mechanic Labor, Inc.
Independent Protection Company
International Society of Arboriculture
J. J. Keller & Associates
J. J. Mauget Company
J. P. Carlton Company, Div. DAF Inc.
J. P. Fuller, Inc.
Jameson, LLC
Jarraff Industries, Inc.
John Bean Sprayers
The Knifesource, LLC
Karl Kuenmerling, Inc.
Kershaw
Practical Solutions, Inc.
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Doggett Corporation
Don Dubbs Stump Cutter
Dynamic Manufacturing, Inc.
Easy Use Air Tools
ECHO Incorporated
Electronic Solutions of Harrison, LLC
Enineigna
Engine Power Source
Environmetrics Systems, Inc.
The F.A. Bartlett Tree Expert Co.
FAE-USA, Inc.
Fanno Saw Works
Fecon, Inc.
Fehr Bros. Industries, Inc.
Labonville, Inc.
Leonardi Manufacturing
Lewis Tree Service, Inc.
Liberty Financial Group, Inc.
The Loader Div. of NMC-Wellard
Loftness Specialized Equipment
MAT-3, Inc.
McDonald Equipment Company
Mickey's Truck & Equipment Sales
Midwest Arborist Supplies
Miller Machine
Mills Truck Sales
Minnesota Wanner Company
Monterey Lawn & Garden Products
Morbark, Inc.
N. L. Financial Services
NiftyLift, Inc.
Northeastern Arborist Supply
NSW, LLC
Opdyke, Inc.
OSHA
Payeur Distributions, Inc.
Petzl America
Plant Health Care, Inc.
Plastic Composites Corporation
Practical Solutions, Inc.
Preferred Processors Company, LLC
Preformed Line Products
PYGAR, Inc.
Rainbow Treecare Scientific Advancements
Rayco Manufacturing, Inc.
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Rotochopper, Inc.
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Samson Rope Technologies
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Schodorf Truck Body & Equipment Co.

REGISTER ONLINE AT: www.treecareindustry.org
WIN ARBORBUCKS!
There will be two drawings each day on the trade show floor for at least $200 in ARBORBUCKS.

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, November 13, 12 noon & 2 pm
Friday, November 14, 12 noon & 2 pm
Saturday, November 15, 11 am & 1 pm

ARBORBUCKS PARTICIPANTS
- Aerial Equipment, LLC
- Agape Design
- Air Spade/Concept Engineering Group, Inc.
- Altumamat, Inc.
- American Arborist Supplies
- Amerisafe
- ArborSoftWorx
- Arborwear, LLC
- Bandit Industries, Inc.
- Blue Ridge Arborist Supply
- DICA Marketing Co.
- Fehr Bros. Industries, Inc.
- Fresco Arborist Supplies, Inc.
- Growtech, Inc.
- Karl Kuemmerling, Inc.
- Loftness Specialized Equipment
- Monterey Lawn & Garden Products
- Northeastern Arborist Supply
- Plant Health Care, Inc.
- RedMax/Komatsu Zenoah America
- Sandvik
- Samson Rope Technologies
- Sherrill Arborist Supply
- Tree Management Systems/Arbor Gold Software
- Tree Care Industry Association, Inc.
- Vermeer Manufacturing Company
- Weaver Leather, Inc.
- Yale Cordage, Inc.
- Zenith Cutter Co.

And More – See Final List at Registration!

TREE DEMONSTRATION AREA
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.

Spanish Translators Available

TWO SPECIAL WORKSHOPS
WEDNESDAY, NOVEMBER 12

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

Limited enrollment. Early registration is encouraged.

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

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

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

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

BUSINESS MANAGERS' WORKSHOP
Estimating Workshop for Tree Care/Landscaping Contractors
Jim Huston, J. R. Huston Enterprises, Inc.
9:00 am - 12:00 pm
1:00 pm - 4:00 pm
Room 318, Baltimore Convention Center
This full day workshop will assist tree care and landscape contractors and other key staff in how to:

> Prepare a General & Administrative (G & A) office overhead and field-labor hour budget
> Calculate labor burden, average wage, and equipment costs
> Price a lump sum bid
> Measure, allocate and control G & A office overhead costs
> Calculate time & materials (T & M) rates
> Understand the five most common methods of estimating used in the market today
> And more!

James Huston is the principal in J. R. Huston Enterprises, Inc. a full service and industry-specific management consulting company, created to serve the needs of landscape and irrigation contractors, vendors and related associations.
**DAY 1**

**THURSDAY, NOVEMBER 13**

7:00 am  
REGISTRATION OPENS

8:00 to 9:15 am  
OPENING SESSION

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

9:15 to 9:45 am  
TCIA — Today’s Business and a Look Ahead

9:57 am  
TRADE SHOW OPENS

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

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

12:00 Noon  
ARBORBUCKS DRAWING — Tree Demonstration Area

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

2:00 pm  
ARBORBUCKS DRAWING — Tree Demonstration Area

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

4:00 pm  
TRADE SHOW CLOSES

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

Dr. Jim Clark

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

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

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

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

6:00 pm  
WELCOME RECEPTION — Baltimore Convention Center

for all Attendees and Exhibitors • Ballroom I

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

**DAY 2**

**FRIDAY, NOVEMBER 14**

7:30 am  
REGISTRATION OPENS

8:00 to 9:00 am  
FORCES, PHYSICS, TREES & ARBORISTS

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

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

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

Mauricio Velasquez

How is the influx of Hispanic-Latino immigrant workers affecting our industry? What will we have to do differently? What are the successful strategies that are producing results and what are the minefields we must avoid? Our un-addressed diversity issues are like that ugly couch in the living room, people think you’re talking about these issues, they go away. How untrue. Mauricio Velasquez is President and CEO of the Diversity Training Group in Herndon, VA and its sister firm, Spanish Translations Services, LLC. As a bilingual professional who is the son of Latino immigrant parents, this conversation is natural for him.

9:00 am  
TRADE SHOW OPENS

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

9:30 to 10:30 am  
Staying on the Road: DOT Driver/Vehicle Compliance

Stephen M. Frisch

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

9:30 to 10:30 am  
Effective Leadership Skills

Jeff Stokes

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

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

DAY 3 SATURDAY, NOVEMBER 15

7:30 am REGISTRATION OPENS

8:00 to 9:00 am Accidents in Arboriculture: What's Happening, and Why? Dr. John Ball
EXPO faithfuls may recall that Dr. Ball was with us last year to share some of his preliminary findings from his research on arborist accidents. His research continues, and the results and his analysis is information that every practicing arborist should have.

8:00 to 9:00 am Power Selling: What Makes a Top Salesperson Hal Becker
As an internationally known expert on sales and customer service, a best-selling author, and a dynamic and entertaining speaker, Hal Becker has guided some pretty impressive clients - like Disney, IBM, AT&T, and many more - to greater selling success. Becker uses his own experience as the former Number 1 Salesperson for Xerox to teach a 10-step, common sense, back to basics approach to selling.

9:00 am TRADE SHOW OPENS
This is your last day to see and learn everything you need to keep your business moving. Be sure to take advantage of all TCI EXPO 2003 has to offer!

9:30 to 10:30 am Maryland Tree Expert License Law: the Ethics Regulations, and Enforcement Case Studies Mike Galvin
Maryland is one of the few states in the nation with a tree expert licensing law. The law imposes fairly stringent ethical standards for the betterment of the profession and protection of the consumer. Come hear about how the law works, and how arborists are involved in making it even better.

9:30 to 10:30 am Managing and Scheduling Work Crews Tony Bass
After completing his studies in agricultural mechanization at the University of Georgia, Tony Bass started Bass Custom Landscapes which he grew to over 2.5 million dollars in annual sales while working in a county that has a total population of barely 100,000 people. In 1994 the Georgia Junior Chamber of Commerce named Tony one of five Outstanding Young Georgians for his work in building environmental awareness and preservation in Middle Georgia. His company has been featured in over 100 articles in local and national print publications in just the last six years. Since joining Vander Kooi & Associates in 1999, he worked with numerous companies as their personal consultant, and spoken to several leading industry organizations including CLIP, and the Lawn and Landscape School of Management.

In this session, which is geared primarily for owners/operators, team leaders, project managers, and schedulers, Tony focuses on key areas and methods of efficiently and effectively managing one crew to multiple crews, including scheduling and routing, job costing on the job, downtime, planning in advance, and motivation and people management skills.

11:00 am ARBORBUCKS DRAWING - Tree Demonstration Area
It's not too late too enter the drawing. You could be the winner!

12:30 pm ISA Certification Exam Check-in

1:00 pm ARBORBUCKS DRAWING - Tree Demonstration Area
This is your last chance to win! See you in the demo area.

1:00 to 5:00 pm ISA Certification Exam
To sit for the exam, you must call ISA to pre-register at (217)355-9411. Application and registration fee must be received at ISA 12 working days prior to exam date.

3:00 pm TCI EXPO 2003 TRADE SHOW CLOSES!

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

KEY

v ARBORBUCKS
X Expert Practitioner Series

ACORN - ISA Certified Arborist CEUs available

v Smart Manager Series
**FLYING TO THE BALTIMORE CONVENTION CENTER**

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

**SOUTHWEST AIRLINES**
Southwest Airlines has been selected as the alternate air carrier. Southwest Airlines is offering a 10% discount on most of its already low fares for air travel. You or your travel agent may call Southwest Airlines Group and Meetings reservations at 1-800-433-5368 and reference ID Code 00234. Reservation sales agents are available 7:00 am – 8:00 pm Monday – Friday, or 8:30 am – 5:30 pm Saturday and Sunday, Central Standard Time.

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

**DRIVING DIRECTIONS TO THE BALTIMORE CONVENTION CENTER**

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

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

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

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

FINDING A HOTEL ROOM

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

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

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

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

EXHIBIT HALL HOURS

THURSDAY, NOVEMBER 13, 2003
9:57AM - 4:00PM

FRIDAY, NOVEMBER 14, 2003
9:00AM - 4:00PM

SATURDAY, NOVEMBER 15, 2003
9:00AM - 3:00PM

REGISTRATION
WORLD'S LARGEST TREE CARE SHOW!

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

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

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

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

Name ____________________________
Title ____________________________
Company ____________________________
Address ____________________________
City __________________ State _______ Zip ______
Phone __________________ Fax ______
E-mail Address __________________

2. Source Request

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

3. Seminar Selections

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

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

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

TOTAL SEMINAR HOURS

4. Registration Options

☐ Gold Card - Includes all seminar selections and admission to trade show
(Wednesday Workshops are not included in Gold Card option)
BEFORE OCT. 10, 2003 $205
AFTER OCT. 10, 2003 $250

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

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

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

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

TOTAL

5. Payment Method

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

6. TCIA Membership

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

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

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

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