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Being our own Best Friends……

Sometimes you read something in a publication that just strikes you the wrong way. I recently experienced that and want to share my thoughts with you. If those of us who are employers can accept some of the things that are in the new employment environment and truly embrace them, we are being our own best friends.

The article dealt with the issue of figuring out what it will take to retain employees—a worthy goal. The tone of a great part of the article dealt less with self-examination of our work environments and more with a great beating of the chest for the loss of company loyalty. In my opinion, there were a number of issues missing from the thesis.

First: Companies were part of the formula that led to the loss of company loyalty. Companies in the 1980s and early '90s broke this bond. Employers need to accept responsibility for those decisions and the consequences we are reaping now—a disheartened work force that learned the skill of self-protection and the art of self-promotion for the future. While massive downsizing and loss of jobs were very rare in the world of arboriculture (something company owners might want to stress with new hires), we can’t ignore the record in other industries. Many American corporations have learned that their slicing and dicing of middle management was too extreme and are reversing their decisions—if they could only find the employees.

Second: It was the current pool of new and young employees who: watched their parents lose their jobs; witnessed divorces and lifestyle changes as a result of this; watched first-hand the price that company loyalty cost; decided they were not going to be victims; and rewrote the definition of being an employee.

Third: For those who run family-owned businesses, a blood tie confers a loyalty that a non-family employee can never match. Employees come into the situation knowing that there is a difference, and there always will be. Why would we expect them to think there wasn’t? You can’t get rid of your sister, brother or uncle permanently, but you sure can get rid of an employee.

Fourth: We continue to alienate our young employees by speaking of a corporate value that they never experienced. Frustration builds for the company when it thinks it is demonstrating company loyalty and isn’t getting employee loyalty back. They expect 1970’s-style loyalty will be returned by employees in the 21st century. Guess what? The employee really does not know what that looks like.

Think about it. It was expected when you came along. They don’t expect it, and they’ve already made the decision that they work for themselves ... not for you. And, they can go down the road and command it in another industry or with another company. They’ve never experienced a company taking care of them from 21 to retirement. They’ve witnessed that it didn’t happen to their parents. Communicating with them as if they are going to respond with company loyalty is like expecting them to return a favor you did for them.

I am not saying that you will never have or develop loyal employees. I am saying it is not likely for a lifetime. We may not like the changes that have occurred in the company structure of this country, but we do have to live in it. Let me state the obvious: it is an employee’s market. As the lady in the bagel store told me the other day, “I’m competing with the retail store and the fast food chain down the street who are offering $9 per hour plus a signing bonus of $500. It’s just toasting bagels!”

For those of you whose emotions have been pricked by this editorial, let me say that this is exactly how I felt when I read the article. So think about those employees who are 15 to 20 years younger. If they saw that article, they’re either hopping mad, or they’re totally bewildered by the topic.

We can be our own best friend and retain employees. We have to let go of making employees feel guilty by expecting them to return a former business value that is not going to reappear. We do have control of changing our interactions with them in the current work environment. They have nothing to feel guilty for, and we have everything to gain by adapting to a work environment that is fluid.

The tree care industry is fortunate that so many of our members do have long-term employees—and are proud of it. While we will never return to the “good olde days,” there are things you can do to raise this lowered level of loyalty. More on that in future columns.

Cynthia Mills, CAE
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By Cass Turnbull

The Future of Tree Care: Educating the Next Generation
By Robert Rouse and Colleen Heraty

The 10 Worst & 10 Best Trees: From A Disease Perspective
By Dr. Paul Pecknold

Carving a Profitable Niche in a Specialized Market
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Today's workers have learned some different lessons.

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Previsouly mal-pruned trees can be pruned to help re-establish a natural form and minimize future hazards. Such rehabilitative pruning, though rarely described in arboricultural literature, still makes up a significant part of the workload for arborists in many parts of the country. And, as the public becomes more aware of improper pruning, they increasingly turn to qualified arborists to help salvage their trees.

There are three basic forms of mal-pruning: topping, (non-selective heading cuts over 2 inches or 3 inches in diameter), tipping (smaller non-selective heading) and over-thinning (taking off too many lower limbs—also known as over-skirting, or too many interior laterals—also known as lion’s tailing).

The consequences of mal-pruning predictably fall into four categories. Afflicted trees may:

1. rot out;
2. send up watersprouts;
3. be more susceptible to wind breakage;
4. suffer limb die-back or complete death due to sun scald or starvation.

But trees are masters of survival, and many can outgrow the damage and go on to lead normal, useful lives. The younger the tree, the better its chance of recovery. On the other hand, older trees, trees that have been severely mal-pruned and trees that have become dangerous will need to be removed. Here, too, the knowledgeable arborist can help make the determination.

Most deciduous trees react to mal-pruning by sending up a mass of watersprouts—those rapidly growing, straight, skinny shoots that occur as a result of damage or stress. They are the trees’ attempt to recreate the photosynthetic mass they need to survive. Watersprouts are sometimes erroneously referred to as suckers. (True suckers arise below the graft union and must all be removed to preserve the tree.)

The typical human response to the upsurge of watersprout growth is to prune them all off. This causes even more unsightly shoots to regrow! Such a pruning regimen constitutes a battle against nature that ends only when the arborist or the tree gives up. Huge amounts of effort and money are wasted in the process.

Good pruning should only make trees better, never worse, over the course of years. Over-thinning by an arborist may look nice now, but it locks the homeowner into increasing maintenance costs to remove the watersprouts every year. And ironically, it also makes the tree look awful for the other half of the year when the watersprouts prevail. Such pruning cannot be considered a service to either the tree or the homeowner. The question is how to break the vicious cycle once it has begun.

To attempt completing the rehabilitation in one session is a mistake, although the client often feels compelled to “get on top of it right away.” One simply reactivates the watersprout response if the tree has not yet regrown all the leaves it requires to self-maintain. It is better to spread the process out over several years, but not necessarily every year. Arborists of my acquaintance refer to five-year trees or ten-year trees, depending on how long it will take for the tree to recover.

The key to rehabilitative pruning is patience, slowly narrowing the number of watersprouts down over the course of several years. Only when the watersprouts have reached the height the tree was (before being topped, tipped or lion’s tailed) will they cease their speedy growth rate, begin to arch over, thicken-up, and put on lateral shoots. In short, they will turn into the new crown.

A year after the mal-pruning, you may choose to reduce the number of shoots, eliminating some of those that are obviously bad. For example, prune ones that are too crowded and may develop included bark or compete with more desirable candidates. Also, it is better to favor shoots that occur farther from the cut ends since they generally form stronger attachments. This is not an obvious choice, as those shoots near the cut end may look more pleasing and more quickly resemble the original tree. Even so, leave three to five times the number of shoots that will eventually be retained. Certainly, it is appropriate to remove deadwood early on. Taking out the stubs and cleaning up bad cuts from the previous “pruning” will assist the tree in its recovery as well as dramatically improve its aesthetics.
Rehabilitative Pruning for Trees

By Cass Turnbull

Late-stage rehabilitation results in high crown and few internal laterals.

A topped tree in stage one regrowth—minimal intervention.

A topped tree with three to four years of regrowth.

In succeeding years, more shoots are eliminated. You may choose to remove or head back a few of the longest shoots to force some framework to develop lower down, inside the crown (and to keep the homeowner calm, as well). As the tree approaches its previous size, finish up by eliminating the lesser competing branches.

At all times, reduce the number of watersprouts in each cluster by:

1. removing some of the smaller shoots—those that are losing the battle to become the dominant new limbs;
2. keeping the watersprouts that have developed into branches with good buttressing and/or collars;
3. removing the shoots in each cluster that are too crowded, hang down, or face awkwardly inward;
4. removing or heading-back some of those shoots that are growing most vigorously and may be more prone to breakage.
An especially difficult case exists when you are asked to rehab a tree (usually a small one) that has been tipped into the shape of a ball. One or two years later the watersprouts stick up and out all over, and the effect is that of moon shots leaving earth's orbit. The overwhelming inclination is to take off all the watersprouts. But as we know, this simply reactivates the problem. The trick is to get the homeowner to leave the tree alone long enough for the watersprouts to turn back into branches.

A visual illusion can be used to achieve this end. What upsets people is the contrast between the curvaceous, horizontal lower limbs and the straight, upright watersprouts of the upper or outer portion of the crown. If the pruner can reduce this aesthetic tension, then there is hope for the tree's owner to give the tree enough time to grow out of it. This is achieved in a way that is counter-intuitive. You can prune the lower or internal portion to favor straight (less pretty) branches and, in the upper part of the tree, prune the new growth to favor the more arching branches. Thus the two portions more closely resemble each other (usually more uniformly straight and ugly). Also, you can work to erase the delineation mark between new and old growth (the outline of the ball). Then time does the rest.

As the tree ages uniformly, the
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11
"straight" branches curve outward and the entire plant re-grows as a piece. Such rehabilitative pruning is extremely hard work. Forcing oneself to take only a few of the worst watersprouts (while eliminating some of the nicer original framework) does indeed take nerves of steel. The object of this stage of pruning is not aesthetic perfection, but to reduce aesthetic tension. And remember, restraint is paramount.

Another difficult situation arises when a conifer is over-skirted or lion's-tailed. All of the green growth and weight is concentrated at the branch ends, and this can make them more prone to breakage. Furthermore, considerable sun scald damage is done to the bark and internal foliage on both deciduous and coniferous trees that have been over-thinned. Branches and sometimes whole trees can die as a result of the physiological damage and decay caused by sudden exposure to the sun.

A common example of lion's tailing is the large, mature pine that the well-meaning tree pruner thins out extensively to mimic Japanese cloud pruning. Some people mistakenly call it bonsai. Such a tree impresses the owner with its beauty, but the wind stresses are no longer distributed evenly along the scaffolds. The situation worsens as the foliage continues to grow thicker and heavier at the ends. The rehab arborist may be forced to continue selectively thinning at the ends of the branches to keep the weight from causing even greater limb breakage. But this will not be done in all good conscience, as it is a Hobson's choice at best. Additional thinning continues to "starve" the tree of the photosynthesis it needs. The original heavy-handed thinning has most likely stressed the tree. It will be drawing upon stored energy to keep functioning. And continued thinning aggravates the problem. There is always the possibility that the tree's energy reserves will be so compromised that it will begin to decline—especially if other stresses such as drought, root damage or compaction are placed on the tree.

The last common situation calling for rehabilitative pruning is the topped conifer of excurrent form. The cone is an aerodynamic form, and the conifer will attempt to reestablish the leader after it is removed. Epicormic shoots will arise from the cut end, though they will be much less rapidly growing than in their deciduous tree counterparts. Also, the existing limbs located just below the topping cut may begin to grow outward and, amazingly, upward. It is from these that you must choose the one most likely to make a strong new leader. Epicormic shoots are preferable to lateral branches, but neither will be as strong as the original top. You may choose to suppress the others by heading them back so they cease to compete with the new, chosen leader. If the topping cut was small, a new leader may reestablish easily. One can see the old "doglegs" on trees where this has happened. If the topping cut is

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large and several side branches compete to be the new leader, the process is much more difficult, perhaps impossible. With large limbs overextending and radiating from the top, one needs to consider both aesthetics and safety. Exceptions exist. Western red cedars are known to re-establish enormous candelabra heads that are relatively safe because of the incredible buttressing that occurs.

Rehabilitative pruning can be as gratifying as turning a sow’s ear into a silk purse. If the tree is small, aesthetics will be your only judge of success. However, if the mal-pruned tree’s parts are large and heavy, and if there is a target, you must be concerned about safety. One should be aware of the development of weakly attached branches and the spread of decay down the trunk. The professional arborist can help by retaining the better attached new limbs, but there is no way to assist a tree in stopping the spread of decay (pruning paints and seals have been proven ineffective). One can only monitor the tree to see if the decay is successfully compartmentalized. This is the subject of other articles, and surely hazard tree evaluation is an important skill to be learned by all arborists. In the future, hazard tree evaluation will replace topping as the service provided to the fearful tree owner. And when that has become common practice, the need for rehabilitative pruning may be limited, as it should be, to trees damaged by nature and not by man.

Cass Turnbull is the founder of PlantAmnesty in Seattle, Wash.
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A successful tree care business requires many things, such as satisfied customers, innovation and the ability to deliver quality service. You must add productive employees with a healthy sense of self-esteem and a clear picture of their career goals. They allow the company to satisfy customers, deliver a high level of service and, most importantly, achieve financial success.

In today’s labor market, it is a continual battle to keep the organization staffed. What candidates see and hear about your company during the hiring process helps them decide whether or not to work for you. But it is what happens after employees report to work that determines their happiness, performance and tenure. Although the effect on retention of salary, incentives and benefits is strong, don’t count on higher salaries, better benefits or unique perks to keep people in an environment where they feel unhappy or “stuck.”

**Focus your retention efforts on building employee self-esteem.** Use communication in forums, such as career counseling or executive interviews, to keep employees informed, feeling motivated, productive and on-track. If you don’t take the time and effort, there are many employers who will. How employees feel about themselves and their accomplishments is critical in their decision as to where they work.

**Begin building “job esteem” by setting high expectations.** Many employees do not fully comprehend their capabilities or what they can accomplish. You have to lead them to see their own potential. Take time to share your vision of the employee’s worth and value to the organization. Communicate your expectations frequently. Communication is far more than just an encouraging word at performance appraisal time. The greatest gift you can give an employee is to see his or her potential as greater than he or she sees it.

Simple actions, such as providing challenging assignments and not jumping in or taking over at the first sign of trouble, communicate high expectations. Sticking with the employee, even if he or she is having difficulty, will communicate a high level of expectation. Don’t lower standards; help raise the individual’s level of performance.

**Having a high level of expectation does nothing unless it is communicated to the employee.** Many managers don’t know how or take the time. You can communicate high expectations by:
- Assigning difficult work and setting challenging goals;
- Providing detailed and accurate feedback on job performance;
- Listening to and allowing time to express ideas and suggestions;
- Assigning additional tasks and workload;
- Providing moderate praise for successful effort when success was expected;
- Offering higher levels of praise for greater accomplishments;
- Displaying confidence in the employee by allowing him or her to continue in difficult situations;
- Assigning tasks that require skill and judgment;
- Allowing the employee to make a mistake in pursuit of success.

Employees rarely over-achieve what their managers believe is possible. Expectation level is not only a way to measure performance; it is motivation and fuel for performance.
Setting high expectations is not enough. The employee must have the skill to meet these expectations. It is critical that you take the time to provide training to develop skills, coupled with performance feedback so the employee knows how he or she is doing. Performance feedback is the informal observations of the manager or supervisor communicated frequently and consistently. It allows the employee to make corrections and stay on target. An employee who knows he or she is meeting expectations will develop the confidence to strive for higher levels.

How feedback is given is critical. To reinforce the employee’s self-esteem, feedback must be accurate and candid but not judgmental. The focus of your feedback should be on the employee’s performance—not the employee.

Don’t say: “You didn’t get the job done because you just didn’t try hard enough.”

Instead say: “If more had been done in this area, it would have been more successful.”

Don’t say: “You’re not trying hard enough.”

Instead say: “This task requires more effort and time.”

Don’t say: “You are careless.”

Instead say: “To perform this task correctly, you will have to pay more attention to your work.”

Don’t say: “You messed that up.”

Instead say: “Because of your action, there is a problem with the ...”

Remember, focus the feedback on the performance and what causes the performance. Don’t focus on the individual.

It is important for employees to understand that they can progress in the company. This may be an environment where employees look forward to promotions or, in many small businesses, it may mean increasing their level of contribution in the same position. As their value as an employee increases, the profits for the company increase, and their compensation can reflect this with an increase. Their commitment to developing themselves and taking advantage of opportunities available in the company determines progress. By focusing employees’ attention on developing themselves rather than just a promotion, employees can increase their own capabilities and improve their sense of career fulfillment.

The bottom-line is simple: employee satisfaction equals long-term retention, performance and profits. Employees who feel valued and wanted—who believe there is room for personal and professional growth and development within the company—stay with the company. Retaining talented, productive employees is essential to the success of your tree care business.

Wayne Outlaw is author of “Smart Staffing: How to Hire, Reward, and Keep Top People For Your Growing Company.” He may be reached at http://outlawgroup.com.
The SOLO backpack sprayer Model 425, with its high-grade polyethylene tank, chemically-resistant parts and 90 psi high pressure piston pump, is now being manufactured in the U.S. The four-gallon sprayer is being produced in Newport News, VA by SOLO, Inc. the U.S. subsidiary of SOLO Kleinmorten GmbH, based in Sindelfingen, Germany, the world's largest producer of sprayers and mist blowers. The sprayer is ideal for pest and weed control on lawns and gardens, in viticulture, hotbeds, greenhouses and tree nurseries; for treating low growth; and for use in disinfecting storage areas, train cars, stable and livestock confinement operations. It provides high impact strength while eliminating rust and corrosion and features a molded-in, electrostatically powder coated steel tube frame and stand for added stability. For information, contact SOLO at (757) 245-4228 or visit their Web site at www.solo.usa.com.

International Lubricants, Inc. now offers LUBEGARD Biodegradable chain saw bar and chain lubricants, environmentally friendly lubricants for all chain saws. It's a seed oil-based lubricant that offers a wide viscosity range, ultimate biodegradability and low aquatic toxicity, providing extra lubricity and wear protection both winter and summer while meeting environmental specifications. The lubricants contain a unique blend of biodegradable base stocks, thickeners and wear reducers and are available fully formulated or as an additive that can be used with the customer's source of vegetable oil. For information, contact International Lubricants, Inc. at (800) 333-LUBE (5823) or visit their Web site at www.lubegard.com.

Concept Engineering Group, Inc. (CEG) introduced the Air-Spade Series 2000 supersonic air excavator. It incorporates an ergonomic design, cast aluminum handle, and non-conductive barrel, coupled to supersonic nozzles. It has been made lighter weight and has a lower-pressure drop. The new handle has a rear hose connection and larger trigger, which eliminates the compressor hose interfering with the operator and makes the tool easier to use. Weighing approximately 6.5 pounds with an optimally located center of gravity, operator fatigue is minimized. The lower air pressure drop means a savings on fuel cost, while still digging fast in even the hardest of soils without harming plants, roots or any other buried objects. It accommodates any arboricultural or industrial application with a variety of attachments and accessories. For more information, contact Concept Engineering Group, Inc., at 888-557-2339, E-mail: ceg@air-spade.com or visit their Web site at www.air-spade.com.

Corona Clipper introduced a new all-purpose saw and root cutter, Model RD 4060. It has a tapered, chrome-plated, 6 1/2-inch, high-carbon steel blade and an aggressive pattern of seven precision-machined teeth per inch for fast, clean cutting on both the push and pull stroke. It is designed for cutting medium to large roots and branches, but is also ideal for use in landscaping, camping, hunting and construction. Its ergonomic, co-molded solid Corobond handle has a flared stop and a non-slip coating to prevent slipping. A wrist strap prevents dropping and provides easy storage. For more information, contact John Reisbeck at (800) 847-7863 or visit their Web site at www.coronaclipper.com.

Line Tamer, Inc. introduced a rough-terrain mechanized tree trimmer that incorporates its proven boom and cutterheads on a rough-terrain chassis. A replacement to the traditional bucket truck, it has three 16-inch saws supported by a 75-foot boom insulated on a four-wheel drive chassis. It incorporates a limb-clamping device to safely remove tree limbs while cutting over and along power lines from the safety of the one operator cab. A 360-degree cutting plane with 52 feet of side reach offers the operator excellent visibility while cutting and driving the trimmer from the same seat. Typical cutting time along both sides of rights-of-way can be as much as three times faster than a crew of four and a bucket truck. For information or field demonstrations from the Alabama-based company, call (334) 409-0479 or visit their Web site at www.linetamer.com.
West Coast Shoe Company (WESCO), introduced the Shoemaker Safedry Shoe ‘N Boot Dryer. People mistakenly dry their boots by placing them over a heat vent or near the fireplace. Heat is detrimental to leather and rubber. Drying boots near heat removes protective oils, breaks down the collagen fiber (skin tissue) of the leather and eventually will ruin the boots. The key is to dry leather with a good fan but without a heating element. The fan in the Shoemaker Safedry, invented by a member of the Shoemaker family, circulates room temperature air through the footwear to dry it overnight or sooner. In the spirit of treating leather right, WESCO is offering the dryer at a discounted price of $35, a saving of $14 off the regular price. For information call (800) 326-2711 or visit their Web site at www.westcoastshoe.com.

The Porter-Ferguson division of Lowell Corporation designs its pruners and brush cutters for both clean cutting and efficient operation. Clean cutting helps trees and shrubs heal faster and the efficiency makes workers more productive. The Forester Model 0290F brush cutter is 27 inches long, weighs 4 5/8 pounds and has a cutting capacity of 1 ¼ inches. Model 0390F is 34 inches long, weighs 7 ¼ pounds and is designed to cut 2-inch material. They feature two cutting blades of forged alloy tool steel that is heat-treated to ensure long life. The handles are made of heat-treated spring steel. Composite grips provide cushioning while minimizing slippage. Both models have a slide power shift. With this feature, maximum leverage can be used to cut through unusually hard material or thick branches easily. The Porter Point Cut Pruner can cut right down to its tips with minimal handle spread. This makes it ideal for nipping suckers and small shoots while reducing worker fatigue. They are 24 inches long and weigh 3 pounds. Like the Forester brush cutters, these pruners have two cutting blades made of heat-treated alloy steel, heat-treated alloy steel handles and non-slip rubber grips that ensure comfort and safety. For information call (800) 456-9355 or (508) 835-2900.

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Partners to Help Ease Employee Shortage

STIHL Incorporated and ACRT, Inc. have formed a partnership to expand government-funded training of entry-level tree care and line clearance workers. This will help ease the shortage of trained workers entering the green industry. Under the agreement, STIHL will provide the tools and equipment needed to expand ACRT’s training programs. According to John G. Keeler, STIHL’s national training manager, they will contribute chain saws, power tools and related safety products to the partnership. This equipment will allow ACRT to train more skilled tree workers through government-funded programs such as Job Corps, Workforce Investment Act, Welfare to Work and Conservation Corps. “STIHL wishes to give back to the industry that has made us the leading manufacturer of outdoor power equipment. One way to help is by increasing the availability of trained, entry-level workers,” Keeler said. According to ACRT CEO, Richard E. Abbott, government-funded training dollars will now go further because it will not be necessary to purchase tools and safety equipment, and as a result, more workers can be trained. He stated, “This mutually beneficial partnership will help everyone in the field of arboriculture by improving tree worker training opportunities and putting more trained people into the field to fill the many job openings.”

Callbacks

In the March 2000 edition of TCI, there is a math error in the article “Down and Dirty.” On page 43, the fifth paragraph read: “To determine if a decayed trunk is safe, use Dr. Claus Mattheck’s formula: t divided by r should be less than...”

The word should be greater for the formula to be correct, ie; “...t divided by r should be greater than...”

We regret any confusion this might have caused.

Davey Tree Announces Sponsorship of PGA Tour Rookie

The Davey Tree Expert Company has announced its sponsorship of PGA Tour rookie, Matt Gogel. As part of that contract, Gogel’s headwear and bag bear the Davey Tree name, logo and web site. Thus far through the 2000 PGA Tour season, Gogel has enjoyed tremendous success and exposure with two top-ten finishes, including a tie for 2nd at the AT&T National Pro-Am at Pebble Beach. “I am honored to be affiliated with a company like Davey Tree,” said Gogel. “They are truly a first-class organization. Davey CEO and Chairman, R. Douglas Cowan said, “Our sponsorship and association with Matt Gogel is an important new step in increasing our presence in the golf course market. Matt is a bright new star on the Tour and we’re delighted to announce our association.”

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

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Ergonomics

The U.S. Chamber of Commerce contends that the Labor Department’s ongoing hearings on its controversial ergonomics proposal have been “purposefully constructed” to limit input from industry groups and others critical of the rule.

“Has become clear that OSHA’s ergonomics rulemaking is far more a sham than an open search for evidence,” said Willis Goldsmith, an attorney for the Chamber.

Goldsmith and other industry witnesses told the House Education and the Workforce Subcommittee on Oversight that OSHA is using the hearings, which began March 13, to amass a record to defend the rulemaking against a future court challenge. OSHA spent the entire first week of its hearings on the rule in Washington, presenting experts from OSHA, the medical community, and the National Institute for Occupational Safety and Health who favor a regulatory approach, Goldsmith said.

But the agency did not provide the names of those representatives in advance, “precluding any meaningful ability to question these experts or their conclusions,” he said.

Edward Montgomery, the Labor Department’s acting deputy secretary, countered that the agency has gone beyond congressional requirements to ensure greater public participation. It extended its public comment process and scheduled hearings outside of Washington. He added that regulatory hearings are not supposed to offer the kind of cross-examination one expects to see in a courtroom.

Policy letter controversy

House panel members also discussed the Labor Department’s handling of a recent controversy that erupted over an OSHA policy letter, issued in November, that asserted agency jurisdiction over home office workers. OSHA formally reversed that policy, but the fallout from the November letter forced OSHA to review the entire list of interpretive letters on its World Wide Web site and led to the introduction of several congressional proposals to bar OSHA from ever conducting such inspections in the future.

Rep. Pete Hoekstra (R-Mich.), the subcommittee’s chairman and a frequent OSHA critic, said it remains unclear whether the department has followed up on its pledge to ensure that future policy letters are reviewed at the highest levels before being released.

Standards writing revamp

OSHA is on the verge of shaking up its standard-setting process by reorganizing its various health, safety, and regulatory offices and implementing a team approach.

Charles N. Jeffress, OSHA’s administrator, gave the go-ahead last month to move the reorganization forward after a series of meetings with the directors of various agency offices, as well as an evaluation team that has been monitoring the effectiveness of a pilot program.

The formal implementation will require several steps, including negotiation with the union that represents OSHA workers in the national office. No one knows how long it will take to adopt the new approach, but Jeffress would like to have it done before his time is up. Traditionally, OSHA administrators have departed along with an outgoing administration.

OSHA’s standard-setting process has historically been beset by delay, with some blaming the agency’s cumbersome internal review process and others calling for a clearer, top-down prioritization of regulations already in the pipeline. Some OSHA standards have taken 10 to 15 years to promulgate.

OSHA has 10 teams up and running, each of which has around a dozen employ-ees who would have worked independently within their assigned offices reviewing and developing regulations before this initiative. Nine of the teams are focusing on three specific standards: a high priority standard that will be published in either proposed or final form by the end of 2001, a middle priority standard, and a longer term project.

The tenth team is developing OSHA’s controversial ergonomics rulemaking and is focused almost exclusively on shepherding that regulation to final publication slated for the end of 2000.

Shifting gears ...

The National Arborist Association recently released a new safety product, its NAA Pocket Guide Series.

The NAA Pocket Guides meet a burning need. Experienced arborists are aware of the accidents and even fatalities in this industry that have resulted from electrocutions, falls, struck-by injuries and tree felling. OSHA’s fatality statistics underscore the seriousness of these accident types: In the last five years, over 85 percent of all fatalities, plus countless serious accidents in the tree care industry, can be attributed to one of these four causes.

Compliance officials with OSHA and industry leaders share the conviction that these issues need to be addressed with training and outreach. To answer the challenges of employee turnover, the high costs of training and trying to make sure that training is comprehended, NAA decided that its training had to be easy to comprehend, highly visual, easy to implement and affordable.

The result of striving to meet the needs for training and respond to the challenges faced when trying to implement training are the booklets described on the facing page. Incidentally, Spanish language pocket guides will be available in four to six weeks.

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

By Robert Rouse

The 1999 national figures for employee retention in the first half of 1999 have been compiled and the news is not good for tree care companies. The first half of 1999 set a new record high for employee turnover with a rate of 1.3 percent per month, up from 1.1 percent in 1998. Although figures are not tracked for the tree care industry, we know turnover rates are substantially higher than the national average.

If you are not concerned because you have managed to find new employees despite the industry’s higher-than-average turnover rates, or perhaps because you think this is a temporary blip caused by a strong economy, you need to think again.

Although the current decrease in workforce growth was predicted in the mid-'90s by U.S. government forecasters, another potentially more challenging trend has been identified. This trend is the continued and steady decrease in popularity of blue-collar careers over the past 25 years.

The most important point here is that these trends are based on generational changes instead of economic pressures. In other words, if the economy has a downturn, there may be some temporary relief of the employee shortage, but the overall trend will continue.

Do the math:

Workforce growth:

- 2.5 percent per year 1980s
- 1.2 percent per year 1990s
- below 1 percent per year 2010?

Projected growth of green industry:

- 5 percent per year through 2005

National average turnover rate:

- 1.1 percent per month (13.2 per year) 1998
- 1.3 percent per month (15.6 per year) 1999

Shortages in technical/blue collar professions (your competition):

- All computer-related skills (no surprise here!)
- 300,000 to 400,000 truck drivers nationwide
- Shipping industry reports a shortage of “thousands” of marine-grade welders and electricians
- Many technical professions experience a turnover rate of up to 40 percent, well above the national average.

Okay, so the “doom and gloom” predictions of the experts are counted! It still doesn’t mean there is nothing you can do. Most tree care companies are thriving despite employee shortages by becoming smarter both in business practices and in employee recruitment and retention.

Recruitment

The most important task is to create a presence by inserting your company as prominent in your profession. The amount of resources and exposure needed depends on the size of your company. If you are a large company with a fair-sized geographic presence, you probably recruit nationally already.

Large companies find employees by attending college career fairs, participating in NAA Student Career Days at TCI EXPO and the SSA conferences, advertising with national trade magazines such as Tree Care Industry, creating prominent “recruitment centers” on their Web pages, creating internship programs for college students, etc.

If you are a small company, you must capitalize on your strength–knowledge of the local people—and establish contacts in local high schools, colleges and trade schools; advertise in local papers; research local-interest Web sites. Try participating in Arbor Day celebrations and Career Fairs at local schools. Participate in NAA Student Career Days and SSA conferences when they are within “striking distance” of your area. Don’t be afraid to go “national” with your higher paying positions, since more and more potential employees are willing to relocate.

The NAA has a “Careers in Arboriculture” video and brochure set available to members who need career day

Students at TCI EXPO '99 had the opportunity to meet with prospective employers and investigate career paths open to them.

Rip Tompkins from ArborMaster Training offers climbing advice to a student honing her skills.
Retention

Turnover is costly for your company. Tree care companies have been grappling with this problem for a long time. The good news is that there are a number of techniques developed by human resource professionals that can help reduce employee turnover.

Calculating “Cost of Turnover”

Knowing what turnover costs are for your company is a key component when determining how much to invest in employee training and benefit/incentive programs. Chances are you lose more money than you think every time you turn over an experienced employee. These losses are potential resources that could be used as benefits or incentives to help retain your valuable employees!

“Cost of Turnover” is being recognized as a business loss, and employers are trying to find ways to limit these losses by investing in employee-retention programs.

There are a number of formulas used by corporations to determine monetary loss due to turnover, but all must be adjusted to suit your company and its job descriptions.

The sample formula we will use calculates the cost of turnover for skilled production workers such as tree climbers, arborists, plant health care technicians, line-clearance tree trimmers, etc. The formula assumes that the replacement employee is less skilled than the lost employee, since this is the reality for most tree care companies.

First, calculate all the direct costs of hiring a new employee, such as: cost of recruiting, time lost to interviewing, paperwork, employee orientation and training costs. Subtract any benefit savings if applicable.

Second, find the cost of lost production due to the learning curve. The new employee probably has less skill than the lost employee and also has to learn your system. Usually, 50 percent of the replacement employee’s salary for the first two months plus 25 percent of the replacement employee’s salary for the next two months is used to find this figure.

You will need to customize this figure to your company. Perhaps you have an aggressive training and mentoring program that you feel cuts the learning curve in half, or maybe your crews work as very tight teams and can absorb some slack. Adjust this figure as you feel appropriate but remember most employers underestimate losses in production.

Also, you need to use the replacement employee’s salary, which, in this economy, is often higher than the lost employee’s salary!

Third, calculate the general loss to your business. This figure is the hardest to gauge. How do you calculate the loss of potential clients who simply went elsewhere when they called your office and were told there was a two-month backlog? That loss hits harder if the backlog was caused because it took six weeks to fill the vacant position.

Some companies will attempt to gauge this by tracking calls and figuring a loss based on a percentage of calls that historically lead to sales for their business.

Once you know your company’s cost of turnover, you can use the figure as a guideline. You may want to establish incentive programs or improve benefits packages to encourage employees to stick with your company. The goal here is to roll what you are losing each year due to turnover into employee incentives. After all, if you are going to spend the money one way or the other, isn’t it better to use it to retain employees?

Companies have found that when you find the right balance, employee incentives and benefits can be “paid” simply by retaining current employees.

A sample formula for Cost of Turnover:

\[
\text{Cost of Turnover} = \text{Direct costs (recruiting, training, etc.)} + \text{Loss of production (learning curve)} + \text{Direct business losses (sales, etc.)}
\]
Investing in Retention

The first key is to hire smart. Look for people who share your vision and values. If you are not sure of what your vision is and you’re not sure what characteristics you’re looking for in your employees, begin by looking at the top performers in your company. Try to identify what makes them as effective as they are, then recruit people with similar characteristics.

At some point, benefits come into play. The traditional benefits such as medical, dental and a retirement plan are still most important. There are many resources available to employers for establishing benefit packages. Start talking to local agents to see what’s out there.

Benefits are a great way to improve retention, but what happens when your company does not have the financial resources to “sweeten” the benefit package?

Some companies have used the following techniques to reward and retain employees even with limited finances:

- Give them a stake in the business, if they don’t already have one. Personal ties to company profitability may shift focus off the increased workload and onto increasing productivity.
- Communicate the financial status of the company and highlights of the plan to turn it around.
- Implement non-financial recognition awards. This is a way of telling employees “we know you have more work, and we thank you for your extra efforts during this time.”

The effectiveness of retention incentives is going to be influenced by a number of factors, such as culture and company history. Popular incentives being offered today in other fields are: greater flexibility and alternative work schedules; career development through training programs; job rotation; creating ways to have fun at work; public recognition for contributions; and increased opportunity to work closer to the top or on projects with increased bottom-line responsibility.

Some of the ideas, such as greater flexibility and alternative work schedules, are difficult to initiate in the tree care industry since production work is limited to daylight hours. With a little imagination, however, some of these popular incentives can be adapted.

For example:
- Establish incremental rewards for completing in-house training programs. The NAA’s employer-certified training program—Tree Care Specialist—is designed to meet this need for NAA members. Small raises and/or rewards can be given each time the employee completes one of the chapters.
- Being flexible might simply mean allowing employees to attend seminars for CEUs, as needed.
- A low-cost recognition could be establishing a small monthly “bonus” for the employee or crew with the best, or most improved, performance. The bonus could be monetary, tickets to a local event such as the circus, a small gift of appreciation or simply an employee/crew appreciation award.
- For those on welfare-to-work programs a major obstacle is transportation. In fact, 94 percent of those on welfare rolls do not own vehicles. A great incentive for this group would be an office carpool or looking into professional ride-share services.
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NAA Career Days

One way to find employees who share your vision and values is to participate in the fifth annual NAA Student Career Days at TCI EXPO in Charlotte, N.C., on Friday and/or Saturday, Nov. 10-11, 2000. This is a great way to present a positive image of your company to the newest members of the tree care industry—Job Corps trainees and students pursuing two-year and four-year degrees!

Student Career Days at TCI EXPO '99 in Indianapolis proved to be full of fun and learning for all the students. The Job and Internship Fair on Friday, made possible by The F.A. Bartlett Tree Expert Company, gave students a chance to meet and talk with tree care companies both large and small. The scope of jobs available was an eye-opener for the students.

The tree care skills competition on Saturday at Military Park couldn't have worked out better. The weather was gorgeous for the competitors. The large number of students who wanted to compete caused the set-up crews from Arbor Care, Inc. and ArborMaster Training, Inc. to scramble as they expertly created a second competition tree.

Richard Herforth and Joe Bones of The F.A. Bartlett Tree Expert Company congratulate the winner of the Student Career Days skills competition.

All who competed, made the effort to attend NAA Student Career Days, and helped in its set-up are winners. The tree care industry thanks all involved!

A special thanks goes to NAA Student Career Day partners:

Arbor Care
ArborMaster Training
Bartlett Tree Experts
The Bishop Company
Buckingham Manufacturing
Davey Tree Experts
Kramer Tree Specialists
Weaver Leather

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Weaver Leather
Last year’s tree climbing course was the most challenging yet, and the students rose to meet that challenge. The following is a breakdown of students, schools and awards:

**OVERALL**

The Tree Care Skills Competition – Collegiate:
- 1st Place (tie) – 1 ArborMaster Training module (2 – day training / $350 value)
- Joshua Meurer – Southern Illinois University – Carbondale (SIU-C)
- Nick Christine – Purdue

2nd Place (tie) - Award Certificate
- Jenni Smrecek – MATC
- Mark Miller – UW-SP

3rd Place – 120-foot Blue Streak from Samson Ropes
- Kelly Wiek – MATC

**INDIVIDUAL EVENTS**

Tree Care Specialist (Collegiate) Work Climb event:
- 1st Place – Award Certificate
  - Dave Otter - MATC
- 1st Place (tie) – Award Certificate
  - Quinn Pihla - MATC

Written Exam:
- 1st Place (tie) – 120-foot Blue Streak from Sherrill Arborist Supply
- Andy Sims – UW-SP

2nd Place (tie) – Award Certificate
- Mark Miller – UW-SP

3rd Place – Award Certificate
- Jenni Smrecek – MATC

List of schools with competitors:

**Collegiate:**
- Belleville Area College
  - Contact: John Groninger, Dept. of Forestry, Mailcode 4411, SIU at Carbondale, Carbondale, Illinois 62901-4411. Phone: 618-453-7462; Email: groninge@siu.edu
- Delaware Valley College
  - Advisor: Howard Eyre, Delaware Valley College, 700 East Butler Ave., Doylestown, PA 18901. Phone: 215-489-2275
- University of Wisconsin – Carbondale
  - Advisor: John Groninger, Dept. of Forestry, Mailcode 4411, SIU at Carbondale, Carbondale, IL 62901-4411. Phone: 618-453-7462; Email: groninge@siu.edu

**Vocational:**
- Milwaukee Area Technical College
  - Advisor: Mike Woldt, MATC, 5555 W. Highland Rd., Mequon, WI 53092. Phone: 414-297-6600; E-mail: wendtm@milwaukee.tec.wi.us
- Purdue University
  - Advisor: Dr. Harvey Holt, Purdue University, 1159 Forestry Bldg., West Lafayette, IN 47907. Phone: 765-494-3585; Email: hholt@fnr.purdue.edu

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Educating the Next Generation

Prepare your business for its future employees by understanding the mindset of today’s college students

By Colleen Heraty

The future leaders of the tree care industry are today’s youth. Many tree care experts agree that the industry should continue to find successful approaches to help attract young people by recruiting in high schools, talking about the great careers available and getting kids involved at a young age through Arbor Day celebrations, among other measures.

While the American economy’s unemployment rate stands at an all-time low, economists are predicting that in order to run a successful business, owners will have to compete for better employees by offering higher wages, more benefits, and other amenities to make them want to stay.

So, what are today’s college students preparing for in an arboriculture career? Several students from the University of Massachusetts have contributed their thoughts on this topic, expressing information that may help business owners better understand what they can do to keep employees happy.

Myriad benefits have been attributed to a career in arboriculture that first attract and tend to keep employees interested in this field. These include working outside, caring for trees, instant job satisfaction, aesthetics, and the ability to provide healthy trees for future generations. But these benefits may easily be outweighed within a company if the employees are not treated with respect, given room for advancement or provided other such amenities that can just as well be found in another company. It’s becoming easier for Americans to float from job to job, if their needs are not met. And, that’s not always good for business.

NAA Student Career Days 2000

If you know some students who might wish to attend NAA Student Career Days 2000 in Charlotte, North Carolina, have them contact the NAA at 800-733-2622.

This Year’s Schedule:

**November 9**
TCI-EXPO 2000 starts

**November 10**
- Tree Care Skills Competition – All day at Bartlett Tree Research Labs. Bartlett Tree Research Lab tour and demonstrations – morning session
- Stihl hands-on chain saw workshop – morning session at Bartlett Tree Research Labs
- Bartlett Tree Research Lab tour and demonstrations – afternoon session
- Stihl hands-on chain saw workshop – afternoon session at Bartlett Tree Research Labs

**November 11**
- Job and Internship Fair at TCI-EXPO
- Tree Care Skills Competition Awards ceremony on the TCI EXPO trade show floor!

Other important conferences and resources for career development in arboriculture!

- The 5th SSA (Student Society of Arboriculture) Conference is October 6-8, 2000. It is being hosted by Northeast Iowa Community College and is being held at Camp Tahigwa, a Girl Scout Camp in northeast Iowa. Kim Coder, Don Blair, Bob Philips and Sam Noonan are listed on the program so far. Call Tim Walsh, SSA, at 715-346-4211 or email: twalsh@uwsp.edu.
- ACRT, Inc. runs four Urban Forestry Job Corp programs located in Arkansas, Illinois, Ohio, and Oregon. Call Lynn Kindsvatter, ACRT, at 800-622-2562 for more details.
- NJ Cooperative Extension has a job internship program for NJ Youth Corp graduates. New Jersey tree care companies can contact Nick Polanin, RCE, at 908-526-6293 or Melanie O’Dea, NJYC, at 609-588-3167 for more details.
Business Strategy

In recent years, things have looked very good in the economy, in terms of its environment for new business development. Scott Gilbert, an assistant professor of economics at Southern Illinois University at Carbondale, says that investors have been very willing to invest in stock with companies that have very little promise, allowing for many investment opportunities and resources to build businesses. And while this trend continues, new college graduates will continue to enjoy the economy's current rosy situation.

Gilbert says that with the country's low unemployment rate good people are scarce, and it's becoming harder for employers to find workers and keep them. Two strong reasons that employees aren't staying include not being paid properly and not being treated well. Businesses need to find out what they can be doing better so these people will stick around, Gilbert suggests.

"I would hope that these businesses would entertain improved benefit packages for their employees so people will stay," says Gilbert. "It depends on the company, though. Sometimes it's a matter of public or personnel relations. A lot of times they don't feel like part of the [business] family. It can also be in the mindset and relations of how you talk to your employees and how you communicate with them overall. More communication with your employees on a more frequent basis will improve quality in the workplace."

A Full-time Career

Business owners who want to attract and keep good employees should work more on creating a positive working and learning environment for their employees, says Tom Houston, who teaches arboriculture at the University of Massachusetts. He says that the industry has to change its image from being seen as a part-time job to a full-time career. Students today are looking for a solid, steady, exciting, good-paying job with a future.

Casey Tresp, a sophomore in urban forestry, hopes that arboriculture will become recognized as a profession employing qualified workers, and he stresses that employers should work on developing good relationships with their employees and treating them like human beings.

"If the employer is able to establish a relationship with the employee, it will be a better atmosphere for people to work in," says Tresp.

David Rogers, a senior in arboriculture, adds that business owners who want to find and keep good employees should pay their employees more and provide more training instead of sticking them behind a chipper.

In a survey taken this spring, arboriculture students at the University of Massachusetts offered several different suggestions on how businesses can work to improve today's workplace. These included:

- pay more;
- offer training (such as pesticide certification and CPR/First-Aid);
- offer a competitive benefit package;
- teach and enforce safety;
- be professional;
- offer tuition reimbursement;
- show respect for all employees;
- provide room for advancement.

One student noted the importance of the initial interview. "In personal interviews, either the owners or a representative should meet with the prospective employee," stresses Nicholas Gravel, a senior in arboriculture. "Benefits and company policies should be understood. Follow-up interviews should occur a short time later to really get a feel for each of the parties involved, he says.

Who Are the Next Generation of Arborists?

Gravel suggests that the tree care industry and its organizations take on a national approach to teaching youth the importance of trees in our urban environment. "Younger people who are exposed to the benefits of this profession early on may someday become excellent arborists," he says.

Businesses today have the ability to participate in teaching youth the importance of trees by becoming involved with the community and its schools. Getting the business involved in these opportunities can have many benefits, such as establishing relationships with local schools. This will help your business to become familiar with them, especially when you are looking for help. Many schools have job placement services you can utilize.

Searching for candidates through the Internet's career Web sites and placing advertisements in local newspapers are other methods businesses are employing to really get a feel for each of the parties involved, he says.

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to find good help. Richard Grant Jr., an urban forestry major, says that business owners should give more details in placing a good ad in the newspaper and be sure to look at employees as people, not tools. Grant, who has been doing an internship for the past three years, says that although finding a business to intern for this summer that can provide good experience, he will be most interested in how much each business pays, so he can save to pay for school. He also hopes to work for a company that is well-rounded, and not only offers the basics such as tree removal but includes such services as Integrated Pest Management and Plant Health Care.

Dan Philos-Jensen, a sophomore in landscape contracting, agrees with the importance of placing a good classified ad for employment. He suggests that companies place an ad with aesthetically pleasing visuals of tree and landscape areas to attract good help.

**Important Business Qualities**

What do students hope will change by the time they are ready to work in this profession? Many are hoping to find a career that will offer such qualities as room for advancement, good benefits, good pay, respect, and at a company with a good reputation. Many of them also hope that their future career will place a greater focus on customer satisfaction, more available education and a greater focus on quality—not quantity—of work.

Another quality that was mentioned by several students as an integral part of an arboriculture career is the emphasis on both employee and environmental safety. Gravel commends the industry’s initiatives toward safer practices in pest management. "Trees are fascinating to me and their importance in our environment is a component of our society."

A well-rounded approach to tree care is also in greater demand, not just for the customers, but also for employees who want the experience of working with new techniques and products. More and more businesses are bringing their employees to participate at trade shows and other industry events to help increase their knowledge.

The new millennium is going to see many changes and advancements take place in tree care, just as it has over the last millennium. And while each generation is different in various ways, from one generation to the next, arborists have one thing keeping them on common ground: they enjoy caring for trees.

"I enjoy trees," admits Eric Ames, a senior in arboriculture. "I appreciate them for many different reasons. They are valuable aesthetically, as well as economically."

Treating employees with respect and making them feel that they are a valuable asset to the company were among the most frequent responses that students gave for what a company can do to find and keep good help. Understanding these realities may be a key component to your business’ future success.

*Special thanks to Tom Houston and all the students at the University of Massachusetts who contributed their thoughts to this article. Colleen Heraty is a freelance writer in Carbondale, Ill.*
Across industries, up to 85 percent of all theft and fraud stems from employees, not outsiders, according to Department of Commerce estimates. The categories of "theft" and "fraud" include the following, all unfortunately alive and well in the wide range of tree care and landscape businesses:
- embezzlement, large and small, ranging from felonious robbery to snitching from petty cash and postage;
- unauthorized expenses for telephone, fax, computers, company vehicles and other equipment;
- removal of equipment, parts, software and office supplies from company premises;
- fraudulent filing of expense reports and reimbursement requests;
- exaggerated or wholly fictitious accident and injury claims;
- misuse of days off for sickness or family emergencies;
use of company facilities and personnel for personal business or entertainment, including Internet play and excessive nonbusiness e-mail, voice-mail and overnight mail;
• company-paid travel, ostensibly for business but, in fact, for personal purposes.

Consider also these hazy but no-less-harmful aspects of employee theft and fraud:
• selling company products or services to clients or others “at a special discount” made possible because the employee is trafficking in stolen goods or offering professional services, including tree work, on a “moonlight” basis in direct competition with you;
• taking advantage of company clients and other contacts for personal gain. This can involve inappropriate off-the-clock business dealings with clients, sharing of information from confidential client files, and quid pro quo arrangements for favors and considerations;
• tampering with records, computer files, schedules, documents or products in such a way as to discredit a fellow employee, hide one’s own misdeeds or place the company in a bad light.

Whether your tree business involves a handful or hundreds of employees, your viability as a business enterprise depends upon your ability to prevent employee theft, fraud and abuse—in all forms. This article shows you what to watch for and what to do about it. At the same time, avoid paranoia about your employees’ actions and motives. Thieves and cheaters in your workplace probably remain the rare exception, albeit an expensive one.

Prevention of theft and fraud is where your focus and energies should be placed. Although obviously necessary, after-the-fact recovery of stolen funds or property and punishment for the guilty usually involves a net loss to the company due to executive time, legal expenses, employee turnover and rehiring/training expenses, and perhaps fees to professional investigators. In short, punishment is infinitely more expensive and legally hazardous than prevention.

Why some employees bite the hand that feeds them

The vast majority of employees are honest to the point of not taking home even pens and paperclips from the company—well, at least not boxes of pens and paperclips. But their opposites—those who in one way or another may steal half again their salary or more from you each year—have a variety of rationalizations for their misdeeds. To understand these misguided motives is to prepare and protect yourself against employee theft and fraud:

“Everyone does it.” You know, of course, that “everyone” in your workforce does not steal. But thieving employees may have a quite different perspective. They commonly organize themselves in cliques or clusters—the inner circle with whom they share their escapades and tales of “what they got away with”—then judge what “everyone” does by the low standards of this small group. Watch, therefore, for theft rings among your workforce. Only rarely does a repeat offender not involve an accomplice or at least a confidant.

“It was small potatoes.” Most thieves and cheaters downplay the seriousness of their infractions by an appeal to relative scale: what’s a $50 stolen calculator to a company that makes millions each year or to a boss who drives a Mercedes? Relative scale should never be accepted to rationalize a permissive attitude toward theft and fraud. Establish a zero tolerance policy for theft and fraud in any form or for any amount.

“They had it coming.” A significant portion of employee theft or sabotage arises from a perceived injustice of some kind. “The boss criticizes my work in front of others.” So the employee responds by sticking a $200 copy of Windows 98 in

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a briefcase or lunchbox to take home. “A foreman says something offensive to me, so I strike back at the world in general by anonymously damaging a piece of equipment.” Be alert to anger theft and abuse in the aftermath of interpersonal conflict, reprimands or other personnel problems in the workplace.

“I had it coming.” Employees who feel undercompensated or unrecognized for their work sometimes respond by developing their own “bonus” plan. They take home just enough company equipment or money to raise their total compensation to what they feel is an equitable amount. Studies have shown characteristic patterns for such thefts. They commonly occur in the days immediately before or after payday, then cease almost entirely until the next payday. Guard against this kind of equity theft or abuse, particularly after an employee has been turned down for a raise or promotion; after a company-wide wage freeze has been established; and during periods of company turmoil (restructuring, takeover, new management, etc.).

Many de facto thefts are explained away by employees as “borrowing”—one of the company’s chain saws may have been found at the employee’s home, but the employee claims to be doing some routine maintenance “on my own time. I was going to return it. What do you think I am, a thief?” Frankly, yes. Don’t accept after-the-fact rationalizations as excuses for stealing. Employees with a legitimate off-site need for company equipment request it in advance. Your policies for removal of equipment from company premises should be clear, specific, and well-known to all employees in advance of any such problems.

Spotting thieves & cheats during hiring process

Certainly, any employer would prefer to ferret out dishonest workers before they sign on to the company payroll. But how do you spot a thief? In the last two decades, one of the great success stories of predicting workplace behavior is the science of integrity testing. Foremost among the companies that offer such testing services is Reid Psychological Systems. (The author has no financial or professional connection with this firm, and no remuneration of any kind is involved in the following description of Reid’s services.)

For surprisingly inexpensive fees calculated on the number of tests administered, Reid Psychological Systems provides a paper-and-pencil Integrity Attitude Scale comprised of 83 questions. Most test-takers complete this instrument in about 15 minutes. Once processed by Reid’s computing system, the test reveals, with 85 percent classification accuracy, which of your job applicants are prone to dishonest statements and acts. This testing instrument has been widely validated, including recent approval by the American Psychological Association. Put another way, it stands up in court as a valid reason to prefer one candidate over another.

Other tests in Reid’s arsenal aimed at potential problem employees are the Safety and Substance Abuse Scale (46 questions taking about 10 minutes) and a composite instrument, the Abbreviated Reid Report, made up of questions testing integrity, social behavior, substance abuse and attitudes toward personal achievement (in all, a 15 minute test).

For further information on scientific approaches to integrity testing, see the sev-
eral white papers available on the Internet at www.reidsystems.com/index/htm, or contact the company by mail or phone:
Reid Psychological Systems
153 West Ohio St.
Chicago, IL 60610-4210
Phone: (800) 922-7343
Fax: (312) 294-0140

Competitors providing similar services can be located on the Internet using the search phrases “integrity testing” and “honesty testing.”

Of course, integrity tests can also be administered to employees at any time after hiring. Employers can use test results to plan training or counseling programs, or simply to alert supervisors and others to employees with dishonest tendencies.

Protecting the company against theft and fraud

In addition to integrity testing, measures to eliminate employee theft and fraud involve both overt and covert actions on the part of management. Three overt actions are especially crucial:

1. Establish specific policies defining fraud and theft within the context of your business, with disciplinary procedures clearly spelled out (“up to and including termination and criminal prosecution” is a common phrase in such policies).

2. Educate every employee through your training programs about these policies. These policies should not be just one more page hidden in your employee manual. Spend time going over policies and procedures involving employee integrity in pre-employment information interviews and sessions for job applicants, orientation sessions for new employees and training programs for all employees. Update policies and procedures regularly to keep them specific and timely for your business circumstances. When policies or procedures change, re-educate the workforce (don’t just send a memo!) The seriousness with which you take these policies will directly influence the seriousness with which your employees take them.

3. On a monthly or quarterly basis, let employees know about their successes in preventing losses through theft or fraud. In effect, thank them for partnering with you in maintaining a zero-tolerance policy for such acts. (For comparison, a good model for such notification to employees is the common practice of posting the number of days without a work-related accident. Employees respond positively to a successful track record and work to keep it going.)

On the flip side, make a big noise when theft or fraud is discovered. If your supply of new climbing ropes disappears from the office, the thief obviously prefers that you shrug it off and sweep the matter under the carpet. Don’t oblige the thief! Even if you do not know the perpetrator, you must show passionate outrage (but not to the point of making innocent parties feel accused) to let all employees know that honesty is the only policy in your business.

Finally, three covert policies will help uncover and eventually eliminate employee theft and abuse:

1. Consider installing video surveillance equipment in main equipment and storage rooms and other areas. A wall-mounted camera and remote monitor can be purchased and installed for well under $500, according to our phone research with several nationwide merchandise outlets, including Circuit City, Costco, Office Depot, CompUSA, and others. It’s an investment that pays dividends both in what it may reveal about theft as well as the stealing and fraud it can prevent.

The camera need not be watched at all times, of course, to be effective as a deterrent to stealing, equipment sabotage and other problems. Merely the presence of the camera in the room usually intimidates would-be thieves. The unit can easily be connected to a VCR for a continuous or sporadic visual record of site activity.

2. Contract with a professional security agency to periodically review your internal security measures. This need not be expensive. You can involve a security expert as an occasional speaker in your employee-training program. His or her visible presence will be eloquent and powerful testimony to how seriously you take the problems of theft and fraud.

To link up with this kind of assistance, contact a reputable security service in your
area and ask for a free or low-cost inventory of your security needs. Make clear that your central purpose is prevention of theft and abuse, and only secondarily apprehension after the crime. Choose the security firm with the overall plan that best suits your budget and specific security needs.

3. Investigate “lock-out” options for computers, telephones and e-mail to prevent unauthorized long-distance charges, personal business on company time and legally if not morally hazardous materials finding their way onto company hard-drives. When faced with sexual harassment charges or other work environment issues, many companies have found it hard to explain why sexually explicit files had been downloaded from the Internet onto company computers; why e-mail archives contained racist or sexist humor; and why telephone records showed calls from business telephones to adult-only numbers. Permanently erasing such records from a computer hard-drive is no easy matter; investigators have sophisticated electronic means of detecting and reconstructing supposedly deleted files.

By devoting attention and energy to eliminating theft and fraud in your company, you can protect and improve your bottomline significantly while setting the bar high for what you expect from an honest workforce.

Answer these questions for yourself, then use them to motivate discussion in management meetings and employee briefings.

1. Who inventories company property? How often? What happens when items are missing? What records are kept from year to year?

2. What are your policies about employee theft and fraud? Where can these policies be located? Are they enforced? Do employees know them well? Do these policies contain clear examples of theft and fraud to prevent any misunderstanding?

3. To what degree do you consider and/or test integrity as part of hiring and promotion procedures in your company? Have you investigated integrity testing as part of your selection process?

4. What part does reinforcement of integrity policies and procedures play in your company’s training programs? Its employee publications? In presentations by management to employees?

5. How much did losses due to employee theft and fraud cost you in recent years? How much did you spend trying to investigate or prosecute? What legal expenses did you incur in your efforts to deal with employee theft and fraud?

6. What channels of communication now exist in your company through which employees or clients can anonymously or confidentially report dishonest acts by one of your workers?

7. Are you getting full-service treatment from your present security agent, including presentations on security topics to employees and periodic review of security requirements? Or have you settled simply for someone to make sure the doors are locked and the alarms are on?

8. Do your employees give high or low priority to matters of theft and fraud? Are such acts tolerated by workers who hear about them? Do workers know what to do when they find out about such acts?

9. As part of your purchasing program, do you have a reliable system for marking and keeping track of every piece of equipment, software, furniture, chainsaw, saddle, box of supplies, computer hardware and so forth?

10. What is your own level of commitment to preventing theft and fraud in your workplace? Are you passionate about this cause or is it one more item you want to get to when you have more time?
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National Arbor Day Foundation
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May 5, 2000
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NJ Society of Certified Tree Experts
Contact: Gary Lovallo (888) 873-3034

May 8, 2000
Roadside Tree Law Right-of-Way User’s Meeting
Mid-Atlantic Chapter ISA
U.S. Fish & Wildlife Service
Laurel, MD
Contact: 703-753-0499

May 13, 2000
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Lansing, MI
Contact: Ann Ashby (517) 482-5530

May 17-18, 2000
Tree and Shrub Fertilizer Conference
Ohio Chapter of ISA
Contact: Alan Siewert (440) 632-5299

May 17-19, 2000
ISA - Pacific Northwest Chapter
PNW Community Trees Conference
Anchorage, AK
Contact: (503) 874-8263

May 25, 2000
Young Tree Pruning/Training/Maintenance
MSU Union, East Lansing, MI
Contact: Ann Ashby (517) 482-5530

May 25-26, 2000
ISA - Penn-Del Chapter
Tree Appraisal Workshop
Penn State - Mount Alto
Contact: Scott Diffenderfer (717) 264-6105

June 3, 2000
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NJ Society of Certified Tree Experts
Contact: Gary Lovallo (888) 873-3034

June 7, 2000
Hazard Trees: How to Identify, Evaluate and Manage Defective Trees
Cincinnati, OH
National Arbor Day Foundation
Contact: 888-448-7337

June 10, 2000
Pruning and Landscape Renovation Workshop
PlantAmnesty
West Side of Puget Sound
Contact: 206-783-9813 for information

June 11-13, 2000
The Ecology of Urban Soils: Designing & Managing Soils for the Living Landscape
Radisson Hotel, St. Paul, MN
Contact: Cindy Ash (651) 454-7250

June 16, 2000
ISA Certified Arborist Exam
Austin, TX
Contact: Pat Wentworth (512) 451-7363

June 22-23, 2000
Tree Autopsy and Dissection Lab
Dr. Al Shigo
Portsmouth, NH
Contact: NE Shade Tree (603) 436-4804

July 27-28, 2000
Interstate Professional Applicators Association Summer Board Meeting
Double Tree Inn
Pasco, WA
Contact: IPAA (360) 886-9076

July 28, 2000
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Michigan Turfgrass Field Day
Michigan State University
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Contact: Ann Ashby (517) 482-5530

September 22, 2000
ISA Certified Arborist Exam
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Contact: Pat Wentworth (512) 451-7363
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ISA - Pacific Northwest Chapter  
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Society of Municipal Arborists Conference  
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Stadium Exhibition Center  
Seattle, WA  
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Portsmouth, NH  
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Trees, People and the Law Conference  
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American Society of Consulting Arborists  
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The 10 Worst & 10 Best Trees:

By Dr. Paul Pecknold

Everyone has their personal list of the best and worst trees for landscape planting, myself included. However, I must admit that my list is biased with a "pathological perspective." It is a list that is largely based on my experiences and observations as a plant pathologist and tends to emphasize disease susceptibility and overlook, or at least downplay the importance of insect and/or cultural problems. Indeed I'm sure if an entomologist gave this talk both listings would be more slanted toward insect susceptibility rather than disease susceptibility. When I do place a tree on the "worst" list, I try to suggest a "substitute" tree that is similar in form or type. How appropriate my substitute "best" trees are I'll let you decide, but please keep the hissing down to a dull roar.

Table 1.

Classes of Crabapple Cultivars Based on Their Resistance to Apple Scab

<table>
<thead>
<tr>
<th>Class I</th>
<th>Class II</th>
<th>Class III</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Resistance</td>
<td>Moderate Resistance</td>
<td>High Susceptibility</td>
</tr>
<tr>
<td>Ann E.</td>
<td>Canary</td>
<td>Adams</td>
</tr>
<tr>
<td>Baskatong</td>
<td>Candymint Sargent</td>
<td>Brandywine</td>
</tr>
<tr>
<td>Bob White</td>
<td>Centurion</td>
<td>Candied Apple</td>
</tr>
<tr>
<td>Jack</td>
<td>David</td>
<td>Indian Magic</td>
</tr>
<tr>
<td>Japanese Flowering</td>
<td>Donald Wyman</td>
<td>Indian Summer</td>
</tr>
<tr>
<td>Louisa</td>
<td>Doubloons</td>
<td>Profusion</td>
</tr>
<tr>
<td>Ormiston Roy</td>
<td>Harvest Gold</td>
<td>Robinson</td>
</tr>
<tr>
<td>Prairie Maid</td>
<td>Jewelberry</td>
<td>Snowdrift</td>
</tr>
<tr>
<td>Prairiefire</td>
<td>Liset</td>
<td>Velvet Pillar</td>
</tr>
<tr>
<td>Red Jewel</td>
<td>Madonna*</td>
<td>White Candle</td>
</tr>
<tr>
<td>Sargent</td>
<td>Mary Potter</td>
<td>White Cascade</td>
</tr>
<tr>
<td>Silver Moon*</td>
<td>Molten Lava</td>
<td></td>
</tr>
<tr>
<td>Sinai Fire</td>
<td>Selkirk</td>
<td></td>
</tr>
<tr>
<td>Sugar Tyme</td>
<td>Sentinel</td>
<td></td>
</tr>
<tr>
<td>Tea</td>
<td>Silver Drift</td>
<td></td>
</tr>
<tr>
<td>White Angel</td>
<td>M. x zumi var. calocarpa</td>
<td></td>
</tr>
</tbody>
</table>

*Not recommended for planting because of susceptibility to fireblight

Apple scab ratings

Cultivars were rated for apple scab severity on a scale of 0 to 5 according to that recommended by the National Crabapple Evaluation Program. Cultivars were then placed into one of three Classes: Class I (0 - 1 rating): cultivars with high resistance to scab; Class II (>1 - 3 rating): cultivars with moderate resistance to apple scab; and Class III (>3 - 5 rating): cultivars with high susceptibility to scab (Table 1). A rating of 3 (most leaves with scab symptoms; moderate defoliation) was chosen to separate between classes II and III since it was the first rating to introduce defoliation as a primary symptom.

The groupings of cultivars into classes is intended primarily for extension purposes as a convenient aid to help nurserymen and homeowners better decide on what cultivars to plant. Cultivars in Class III are especially suspect for future planting while cultivars in both Classes I and II, in the authors' opinion, have adequate resistance to be recommended for future planting.
From A Disease Perspective

1. Worst: White Birch – Best: Heritage River Birch

One tree that will always make the worst list of both pathologist and entomologist is white or paper birch (Betula papyrifera) because of its susceptibility to the bronze birch borer. What qualifies it on the pathologist list is that borers are more attracted to a tree under stress, and as soon as you say the word stress you’re talking diseases. The shallow-rooted nature of the birch along with poor (droughty) planting sites results in plant stress that favors attack by the bronze birch borer. The substitute for paper birch is ‘Heritage’ river birch, a tree that has excellent resistance to the bronze birch borer and wonderful exfoliating bark. However, as with many of my substitute best trees, it does have a few problems that must be mentioned. It is very prone to leaf drop during the summer if planted in a dry site. I would strongly recommend that you plant this tree in a wet location. Also, it is very prone to iron chlorosis if planted in a site where the pH is above seven. However, it does not

Photos courtesy: Dr. Paul Pederson

Symptoms of apple scab are readily apparent on leaves.

Sycamores often show a ‘witches-broom’ growth habit because of the girdling action of the anthracnose fungus in the stem tissue.
show limb dieback and death, as does our second worst tree, pin oak.

2. Worst: Pin Oak – Best: Northern Red Oak

Susceptibility to iron chlorosis is the main reason I place pin oak on my worst list. Undoubtedly, it is a magnificent speci-

men tree in the proper site location; unfortunately, there are very few “proper” locations in Indiana. Even if planted in a “good” site, it is often just a matter of time before the roots grow into an area with high soil pH, resulting in small, pale, scorched leaves and stem dieback. Instead of pin oak, plant northern red oak. It has nice form, grows rapidly and has great fall color. One problem with northern red oak is blister leaf, a fungus disease. However, blister leaf is only a “cosmetic-type” disease and causes no real harm to the tree. It just looks ugly. There is always some concern for oak wilt with red oaks, however the odds of oak wilt occurring on urban-planted trees are remote at best.

3. Worst: Lombardy (Black) Poplar – Best: Austrees

I never met a poplar I like, especially the Lombardy poplar. We should put a tag on the Lombardy poplar that states: “Within ten years, this tree will die.” Admittedly they grow fast and give you a quick screening hedge, which is the reason for their appeal. However, their extreme susceptibility to fungal stem canker qualifies them for our worst list. My replacement for the Lombardy poplar is the Austree (Salix Matsudana X Alba), a hardy tree from down under (New Zealand, actually). I am a skeptic of any willow in the landscape. However, after observing Austrees for over 10 years, I’m finally putting them on my list of 10 best. I can hear the hissing now. They do not get stem canker, they appear to be hardy and maybe, just maybe, they might make a good tree where a quick-growing screen hedge is required. You can grow Austrees multi-branched or you can prune them into a single-stem shade tree. Pruning out the lower branches can opened them up to severe winter sun scald, though. My only pro-
visor: go slow, plant a few and see how you like them. The final word is not yet in on this best tree.

4. Worst: American Sycamore – Best: Sugar Maple

A fast-growing, dirty tree—probably the dirtiest tree of all—is the American sycamore. The reason the American sycamore is on my worst list is not because it drops leaves, twigs and bark all year but because of the fungus disease known as anthracnose. The fungus attacks both leaf and stem tissue resulting in sores (cankers) throughout the tree canopy. Within the stem cankers is where the fungus overwinters. During mild periods in winter and spring the fungus becomes active within the cankers, resulting in further girdling of the branches and stem dieback. Sycamores often show a “witches-broom” growth habit because of the girdling action of the fungus in the stem tissue. It’s like taking a pruner to every stem on the sycamore and making a stub-cut.

During cool weather, the fungus has the upper hand. As temperatures increase the sycamore gets the upper hand, the fungus goes dormant and the tree lays down callus tissue. The battle goes back and forth every year, with the sycamore having just enough vigor to withstand the disease. Most all disease-management recommendations include good sanitation—raking and destroying all fallen leaves and twigs. But in reality, sanitation will do little for control of sycamore anthracnose, since so much of the fungus resides within cankers in the tree. I can’t give you a really good fungicide for control of anthracanose—there aren’t any. If I were to spray for sycamore anthracnose, I would probably go back to the good old basic fixed-coppers. Sugar maple are too slow growing, their co-
Iron chlorosis on pin oak puts this tree on ten worst list.

5. Worst: American Dogwood – Best: Cornelian Cherry Dogwood

The American Dogwood now makes my list of ten worst trees. There are so many great things about the American dogwood that I kept them off the worst list in spite of the “new” anthracnose disease that jumped off the boat from Asia in the ‘70s and wiped out so many along the East and West coasts. In spite of winter hardiness problems, in spite of dogwood borer, in spite of armillaria root rot, in spite of wet feet. I kept them off the worst list. However, a new powdery mildew disease was the last straw. Powdery mildew has not been a serious problem for dogwood in the past, but over the last three to five years it has become extremely debilitating to our American dogwood. Just how and when this new powdery mildew problem came about is not yet known, but it’s here and it’s causing serious injury. Fortunately the fungicide, Banner, and other sterol inhibitor fungicides do a good job in holding both mildew and anthracnose in check. Originally I was looking to ‘Kousa’ dogwood as the replacement for American dogwood. Kousa dogwood shows good resistance to mildew and is similar in form and flower to the American dogwood. However, cold hardiness problems with a number of cultivars will not allow Kousa to make the best list. Instead, we add the Cornelian cherry dogwood to our list of best trees. I admit its appearance and flower doesn’t come close to the American dogwood or the Kousa, but if you want a tough, hardy, drought-tolerant, disease-free small tree, it does the job. I strongly recommend that you prune it to two or three multiple stems and prune it high! It can be a very attractive small tree if properly pruned when young.


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of 10 worst trees. The reason is a fungus disease known as Sphaeropsis tip blight (formerly called Diplodia tip blight). Sphaeropsis is an insidious disease in that it generally does not attack young trees. Just when that young juvenile pine is finally turning into a tree, the fungus attacks. Over the next seven to ten years, it will continue to take out the lower branches until finally you are left with just a wisp of green in the crown of the tree. Without a doubt, Austrian pine is most susceptible to this disease, but most all two-needle pines are highly susceptible. This is a difficult disease to control. Fungicide sprays must be applied early, starting at bud break, and continued on a 10-day interval as new candles emerge. A fungicide tank-mix of thiophanate-methyl and chlorothalonil is a double dose of the two most proven fungicides for this disease. Maybe tank-mixing the two fungicides is overkill, but I think not. Not with this disease. White pine is resistant to Sphaeropsis, is fast growing and makes a nice addition to our best list. White pine requires an open, sunny location with good soil drainage. If you don’t have good drainage, root rot can result. Salts, air pollutants and chlorosis from high soil pH are additional problems common to White pine, but they have enough positive qualities that keep them on the ten best list.

7. Worst: Scabby Crabapples - Best: Non-scabby Crabapples

Now we come to crabapples. I have a real love-hate relationship with crabapples. They are definitely on my ten worst list, but they also definitely make my ten best list. It depends on the cultivar in question. Those that make my worst list have high susceptibility to the fungus disease, apple scab, while those on the best list have at least moderate resistance to this extremely damaging foliar disease. Unfortunately, there has been much misinformation in regard to scab susceptibility. Most nurseries are doing a good job of weeding out most of the old scabby crabapple cultivars and propagating only the newer scab-resistant cultivars. See the listing in Table 1 for recommended crabs to plant and not to plant. Unfortunately, we all are cursed with too many older crabapples with high susceptibility to apple scab, but we can’t just cut them all down. Over the past five years we have developed a 3 X 3 (a total of three sprays applied at three-week intervals) fungicide spray program using the fungicide Banner at the high label rate. The program begins at PINK (think pink). Select a few mid-blooming crabapples to monitor each spring, and when you see the flower buds showing pink go on with your first spray. Imme-
diately mark on your calendar to spray in another three weeks and then a final spray in three more weeks. I won’t guarantee you a totally scab free crabapple come September, but I will guarantee you one that will not have yellow leaves that defoliate. And who cares about a few scab spots. Aesthetically, the tree will look great.

8. Worst: Eastern Redbud – Best: Winter King Hawthorn

Eastern redbud is on my list of ten worst trees for many reasons. To begin, it is very susceptible to Verticillium wilt, a soil-borne fungus disease that infects through root wounds and results in a plugging up of the xylem, leading to leaf wilt, yellowing and sudden tree death. There is no good control for Verticillium wilt. Once a tree is infected, it is doomed to a fairly rapid death. If this wasn’t bad enough, redbud are also very susceptible to stem canker. The fungus responsible for cankers on redbud is fortunately not an aggressive fungus and rarely causes tree death. However cankers will eventually girdle both small and large limbs, especially in older redbud. Still another problem, as we all can attest to, is redbud’s high sensitivity to 2,4-D injury. Many redbud for a good part of spring will have strap-shaped, leathery leaves in place of the normal heart-shaped leaf. Hey, if you like redbud, plant them—it helps keep me in a job. The replacement tree for redbud is Simpson’s Winter King hawthorn. Some would say this tree is over planted but I’m not one of them. This fantastic tree does not have the brush cut of most hawthorns, has wonderful bark and berries, and is tough as nails. Its one fault is susceptibility to cedar-quince and cedar-hawthorn rust. However, these are generally only problems in the most rust-prone areas.


I’m the first to admit that European mountain ash is a very pretty tree, it’s just too bad they all die within five years of planting. Their very thin bark makes them prone to both winter and summer sunscald. With sunscald injury comes the borers and after the borers you get canker. This complex of sunscald, borer and canker is at work from the time the tree is planted until its ultimate premature death. In addition, the European mountain ash is intolerant of our high summer temperatures in Indiana and does best in the cool Michigan soils. You’ll never see Skyline honeylocust or any other honeylocust on the list of an entomologist’s best tree list; just too many insect problems. However, if not planted in a monoculture, insect problems can be kept in check for this fast growing, graceful tree that makes our best tree list.

10. Worst: Siberian Elm – Best: The Ginkgo

Finally, I’ll end with elms. There is nothing good to say about Siberian elm, which
the replacement tree one of the new Dutch elm disease (DED) resistant cultivars. However, I'm not yet convinced that the new DED resistant cultivars will also resist elm yellows, a phytoplasma disease that can be just as destructive as DED, nor am I convinced they won't be stripped of leaves every summer by three to four generations of the elm leaf beetle. So, we'll end with the ginkgo—a tree for all ages, one that has proven itself time and again and with each year that passes grows more majestic.

Dr. Paul Pecknold is a professor of plant pathology at Purdue University. He joined the staff of the Botany and Plant Pathology Department of Purdue in 1973, where his focus is on diseases of ornamental trees and fruit crops. His research emphasis has been the development of an integrated, minimal spray program for apple scab and other major landscape disease problems. This article was excerpted and adapted from a lecture at TCI EXPO '99 in Indianapolis.
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however, and that is profitability is not so much a function of equipment as it is customer service and good business sense.

Chris Davison, owner of Davison Stump Removal in Accokeek, Md., has been doing tree care and stump work for 13 years, and for the past seven has been in business for himself. Here is a case where grinding stumps “was not real well known,” says Davison, a career firefighter. He recognized an opportunity when he saw one and began “subbing” stumps from friends in the business.

Now running a crew of up to five at a time, Davison says if one is trying to be a stumper on the side, it’s pretty much a one-man operation. His success lay in expanding the business into more profitable full-service tree care activities. Today, Davison’s stump cutting varies by month and season. “We do a lot of tree removal and make more on removal than on stump cutting. Together, though, the two still account for a third of the business,” he says.

The profitability key for Davison is “quality work at a reasonable price ... not gouging. And giving good advice.”

Those two commandments have held Davison in good stead. They have resulted in customer-returns and referrals on which most successful stumpers say their businesses are built. Davison admits he does a good amount of advertising but adds that “half our work comes from customers who have used our services before or new customers referred directly from satisfied ones.”

Next, we talked with Larry Gilson, owner of America’s “Northernmost Commercial Stump Grinding Operation” as he calls his mostly residential business in Fairbanks, Alaska.

He, too, sees stump grinding as an opportunity. Formerly a utility worker, Gilson noticed that virtually every backyard in the Fairbanks area was littered with stumps. At the time, no one was doing stump grinding in his area. The problem, he says, is that the big contractors have big equipment and just can’t get in to finish up in this still booming town. (Currently, Gilson, the area’s first commercial stump grinding operation, still has the market to himself.)

At just four degrees above zero with snow on the ground in late March, Gilson was anticipating the April-October tree season. Though he saw wide-open opportunity and customer need and was armed with a potent little grinder (which is still in service), “I had to educate people as to what I was offering.” He went the advertising route but found that word of mouth was the best teacher—that and trying to do a good job.

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Specialization has become a real niche in the tree care industry. Large firms have found it to be more profitable to subcontract out stump removal. Traditionally, these tree specialists would have to haul a stump cutter to every job, let it sit idle during the removal of the tree and then finally grind the stump. This costs the time involved in hauling an additional piece of equipment to the job, training an operator, increased insurance and workers' compensation expenses, as well as the cost involved with a piece of equipment that sits idle a large percentage of the time.

Galin Haaven, owner of Haaven's Stump Removal in Center City, Minn., recognized these challenges and saw an opportunity to start his own business. "I used to work for a large tree contractor," explains Haaven. "We would do everything from cutting the tree down to hauling it away. The only thing we didn't do was remove the stump. I saw this as an opportunity to pick up some work on the side and bought a used stump cutter. I started off part-time but couldn't keep up with the demand. This led me into working for myself, specializing in stump removal."

Haaven is quick to point out that starting his own business—specializing in one thing—is not as easy as it sounds. "There are so many things involved with making it profitable," he says. "The first key to success is time management."

"I have two sons who work for me. We start off each day with a meeting to determine who's going where. I'll set up a route that allows everyone to work their way to a certain place and then work their way back," says Haaven. "One of our two Vermeer SC665s stump cutters is always in Minneapolis. The city has been struck with Dutch elm disease over recent years, and we've picked up the contract to grind the stumps after the trees are removed. The other machine will do various subcontracted work. I usually take our Vermeer SC505 self-propelled unit with me to bid on residential jobs."

Haaven's company will grind between 250 to 300 stumps a week. To maintain this pace, Haaven makes sure that all of his machines get the care they need. This begins with proper maintenance each morning but doesn't stop there. "One of the most crucial parts on the stump cutter is the teeth. Take care of the teeth and that machine will make money."

"Each morning we do the usual maintenance—check fluids, grease and examine the teeth. When a tooth gets dull or breaks we have to buy new. The goal is to get the longest wear on the teeth and this is accomplished on the job."

Haaven believes recognizing the type of ground conditions that a stump is in plays a big part in maintaining tooth life. "We do a lot of work around Stillwater—it's by a river and very rocky," he explains. "We do a walk-around before we get started grinding. We'll look around the area that we are digging in and use chisel bars to remove any rocks before we start. Once we start grinding we are careful to stay on the stump in these conditions."

"We definitely feel it if we hit a rock. When the wheel hits a rock, we always back out of it," says Haaven. "The key is to not hit these rocks and if you hit one, back out of it right away. This will make the teeth last longer."

Rocks are not the only foreign objects they have found around or in a stump during their walk-arounds. "We've run into concrete, railroad spikes and fence posts that trees have grown around," explains Haaven. "I've found a lot of different things that you never would have expected to find in a tree stump. By looking at the stump before we start grinding, we can identify any foreign objects before we hit them. Avoiding these foreign objects will not only extend tooth life but is also important for the safety of the operator. Taking some extra time to find and remove these objects before you start cutting is definitely time well spent."

Haaven believes in replacing the teeth on his machines every four to five days. "Teeth are the easiest thing on the stump cutters to replace. Replacing them frequently means I can avoid having problems with other parts like bearings because a lot of wear and tear on the machine is caused by cutting with dull teeth."

Another key to avoiding costly breakdowns is replacing the whole pocket when a tooth is broken. "Most of the time when a tooth breaks, the other tooth is rounded too, so I'll go ahead and replace that one. If a pocket has a dull tooth and a sharp tooth, it just doesn't cut right. Changing the whole pocket is better on the machine."

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Haaven offers one more piece of advice to anyone thinking about getting into the business, "Do a good job, give the people a good deal and you'll make money."
Gilson says doing a good job involves “hauling off my chips. Leaving them is doing only half the job,” he maintains. He’s experimented with a leaf vac tail-mounted to his one-ton dump bed truck. It works fairly well, except for dry periods when the rig kicks up a lot of dust.

The short season, the short life cycle and the types of trees in the region dictate the business. Stumps up to 36 inches in diameter are as big as trees get thereabouts, he notes, while most are in the 12-inch to 15-inch range. Trees like birch, spruce and other local varieties with root systems at or near the surface mean homeowners need to remove not only the stump but a significant portion of the root system in order to put down a decent lawn.

Certain functions like cabling are virtually unheard of up here, yet Larry’s Stump Grinding expanded into pruning and removals. Those activities are a nice change, but grinding remains about half of the business.

With one to three employees at any given time, the biggest impediment to profit is the 30 percent of each hour consumed by non-income producing activities like travel and setup. Gilson’s objective is to cut down on travel and setup and to maximize his two Carltons, the most recent of which is a 4400-4 that he uses for multiple stump jobs like clearing areas for driveways.

Unlike his two colleagues who began cutting stumps and grew a business, Bob Raulinaitis, owner of Western Reserve Tree/Stump Service, Inc., in Troy Township, Ohio, planned to be a full-service company from the start. His goal was “not to do removals only and be incapable of completing a job.” He’s quick to note his company has worked for just about every customer there is—residential, commercial—everyone except the
This retired policeman developed an interest in the tree and stump business and had been friends with several arborists for a long time. That gave him a good look at what goes into running a business.

Ten years into it, Raulinaitis sticks to his guns. “The business had to be complete from the beginning,” he insists, and that has included stump cutters capable of handling a broad spectrum of projects. It requires two types of equipment: large ones for larger sites one can drive to (i.e. front yards or open commercial places with easy accessibility and room to dismount equipment from the back of a vehicle) and smaller, nimble cutters capable of going through narrow access ways and operating in awkward or confining spaces.

Raulinaitis opts for the Vermeer 502 on the large end of the spectrum and the Rayco Super Junior for nimble needs. With a crew of six, Raulinaitis never figured on needing both but now knows he can’t get along without the full coverage. In short, it means his company remains full service and does not have to rely on others to subcontract.

Hand in hand with the capability is the ability to do a stump right off the bat. “There’s really not much need to go back and forth with estimates,” he relates. “We make it a practice to have a guy on the job whenever and whatever it takes, even if we have to move schedules around to get the job done when the customer wants it done.”

Raulinaitis has some pretty good advice on surviving in a short-lived business and staying profitable. “Don’t undercut your fee,” he cautions. “If a job is not profitable, don’t take it. Take the time to use and schedule equipment properly and use time wisely. For example, plan a stump job into the going out and coming home schedule. It’s pretty easy to drop off one man, a cutter and shovel if you plan ahead,” he adds.

The subtext to what Raulinaitis is saying is to get a handle on the business. He knows, for example, that at the height of the season, Western Reserve Tree/Stump Service will do an average of three to four stumps per week. With a minimum charge of $35 per call and an average return of $55 to $75 per job, he knows where and when to take the profitable job and how to ensure that his profit doesn’t get eaten up by what his colleague in Fairbanks calls non-income producing activities.

He also extols the virtues of using the stump cutters to take down shrubs, explaining that homeowners and landscapers get the benefit of minor re-tilling and minimal raking prior to replanting.

If debris has to be removed from the site, Raulinaitis charges extra because of labor and dump costs. To offset that and build a value-added reputation, Raulinaitis tries to suggest ways to disperse the chips on the property. “Stumps tend to have a high acid content, so we suggest areas to spread the chips away from plants that are acid sensitive,” he explains.

Finally, he says, the true key to profitability is “not to be afraid to price a stump job for what you need to make.” First, he says, there won’t be much competition (if any). Second, someone who undercuts you just to get the job probably won’t be in business in a year or so because they are undercutting themselves, too.

Richard C. Howland is a freelance writer in Bedford, Mass.
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We want to ensure the growth of your industry!
Trees, Soils and the pH Concept

By Norm Helie

For coffee it's 5; for tomatoes it's 4;
While household ammonia's 11 or more.
It's 7 for water, if in a pure state,
But rainwater's 6, and sea water is 8.
It's basic at 10, quite acidic at 2
And well above 7 when litmus turns blue.
Some find it a puzzlement. Doubtless their fog,
Has something to do with that negative log.

Introduction

Our New England trees are declining in growth rate and vitality because of calcium deficiencies. Calcium, the fifth most abundant element in trees, is an essential component for wood formation and maintenance of cell walls. The depletion of calcium, a base cation, from the rooting zone of trees results in acidification of soil, soil water and probable growth decline and dieback. Lawrence et al. (1995) suspect that acid rain deposition, cropping and natural weathering account for the decline and dieback of red spruce. Acidifying soil has been implicated in the decline of other tree species in New England as well. The species list includes, but is not limited to, American elm, white ash, sugar maple, white pine, and American beech. These species are hypersensitive to pH of the soil water nearest the roots.

The pH concept is not always thoroughly understood and discussed by professionals in the tree care industry. Undoubtedly, we know pH affects nutrient availability, but we lack the technical information and knowledge of pH and how to make significant changes to the soil pH. This is a review of the pH concept and the technical information for pH adjustments in soils.

The pH chemistry of tree sap is directly related to the buffering capacity of the soil. Trees, like soil, also have desired pH requirements. Trees in soil with an undesirable pH are declining prematurely. The right pH is vital for tree life.

What is pH?

If pH is a measure of acidity, then how come when pH goes up the acidity goes down?

Many people find this concept confusing at first, and this is hardly surprising. Not only is the relationship between pH and acidity an inverse one, but it is also a logarithmic one. A decrease of a single pH unit corresponds to a ten-fold increase in acidity. When pH goes down by two units, acidity increases by a factor of 100. It sometimes takes a while for people to appreciate the simplicity of the pH concept and to realize how very useful it is.

The pH concept originated in 1909 with a Danish biochemist, S.P.L. Sorensen, as the result of problems connected with the brewing of beer in which the control of acidity is important. Sorensen thought it was bothersome to have to say "the concentration of hydrogen ions in this solution is one hundred-thousandth of a mole per liter, when [H+] = 0.00001. Why not simply refer to the solution as having a "pH 5"? Sorensen called the pH of a solution its "hydrogen ion exponent." Originally he wrote it as ph but simplified it later to pH, a small p and a capital H. The H stood for "hydrogen ion" and the p for "puissance" (French) "potenz" (German) or "power."

A pH is the negative exponent of the hydrogen ion concentration. When [H+] is 0.01 then the pH is 2; and when [H+] is 0.0001 then the pH is 4 (Kolb, 1979).
For most practical purposes, the pH scale extends from 0 to 14. The midpoint of the scale at pH 7 represents neutrality, with values below 7 being increasingly acidic and those above 7 increasingly basic. Values above 14 and below 0 are possible for concentrated strong bases and acids. For all intended purposes and all diluted solutions, the pH scale is most useful.

No matter how acidic or basic a solution might be, it must always contain both hydrogen [H+] ions (which are acidic) and Hydroxyl [OH-] ions (which are basic). The visual impact of Diagram 1 by Professor Hubert N. Alyea in 1964 is to emphasize the fact that all water solutions contain both [H+] and [OH-] ions and the two must be in equilibrium. In neutral solutions, [H+] and [OH-] are both equal to 0.0000001 but as one of the concentrations increases, the other must decrease accordingly.

The small p in pH can be translated "negative logarithm of," and it applies to quantities other than hydrogen ion concentration. There is a pOH scale just like the pH scale, however, the pOH values below 7 are basic and those above 7 are acidic. Usually pH is used for reporting both acidity and alkalinity (Kolb, 1979).

What is soil pH?

Soil pH is the measure of the concentration of hydrogen [H+] ions in the soil solution. This is also called active acidity. Active acidity is appreciably smaller than the cation exchange capacity for acidity, which is commonly called reserve acidity. Active and reserve acidity can be compared to bees and the bee hive. The bees flying outside the hive represent the active acidity, while the bees inside the hive represent the reserve acidity.

Reserve acidity is the soil's cation exchange capacity, which is simply the soil's most important chemical property that enables a soil to hold positively charged cations. Both acidic cations, like aluminum and hydrogen, and basic cations, like calcium, magnesium and potassium, are on the exchange sites. These acidic and basic cations are always in equilibrium with each other. When one increases, the other decreases. To explain this chemical reaction, soil scientists use a term called percent base saturation. Percent base saturation is simply the basic cations—calcium, magnesium and potassium on the soil's cation exchange sites. This makes a relationship between pH and percent base saturation simple and straightforward. It's
Acidity and high base saturation means alkalinity. A percentage base saturation reaching 100 percent results in neutrality, pH 7. (See Diagram 2).

The correlation between pH and percent base saturation is roughly 5 percent base saturation change for every 0.01 change in pH. Thus, if the percentage base saturation if 50 percent at pH 5.5, it should be 25 percent and 75 percent at pH 5.0 and 6.0 respectively. This is worth understanding. Diagram 2 reinforces this general relationship of pH and percent base saturation.

The percent base saturation is determined by the extracting calcium, magnesium and potassium in a process and series of extracting methods. The end result is a total cation exchange capacity known as the CEC. This CEC is recorded and the collected extracting solution is measured in sophisticated machines to determine their calcium, magnesium and potassium concentrations. The final step is a mathematical equation as follows:

\[
\text{Percent base saturation} = 100 \times \frac{\text{Total Extracted Calcium, Magnesium and Potassium}}{\text{Total Cation Exchange Capacity}}
\]

If the total percentage base saturation is 50 percent, the correlating pH would again be 5.5.

**What is a buffer pH?**

**Why is it different from a soil pH?**

A soil pH measures the [H+] ion concentration of the active acidity (the bees outside the hive). While it is a negligible measurement of the overall total acidity, it is useful in monitoring pH in the field after liming and fertilizing. For the task of measuring the active acidity of the soil, a pH litmus paper can give reliable data.

A buffer pH measures the active acidity and a significant portion of the reserve acidity (the bees inside the hive). Here's how it is done. Adding a buffered solution with a pH of 7.5 to a soil sample displaces acidic cations on the cation exchange sites of the soil by reaching and equilibrium. The amount of decrease in the pH of the buffer solution is proportional to the lime required to change the pH of the soil to a desired pH. This is called the lime requirement. Once the buffer pH is determined, then Table 1 can be used to find the amount of lime required to obtain a desired pH for plants.

Measuring the soil buffer pH requires a correctly calibrated pH meter and a buffer solution. Normally, it is to the advantage of the arborist, both economically and professionally, to have this laboratory work sub-contracted. Arborists should, however, be familiar with accurately collecting soil samples and interpreting the test results. Using the above table with a SMP buffer pH are vital steps in the right direction of solving many of our declining tree problems in New England.

**Why is the lime requirement of the soil important?**

The pH of soil is as important as the pH of human blood. The normal pH of blood is 7.2 at body temperature. Variations in the pH of the blood by even one-tenth (0.1) of a pH unit can mean serious health problems. A drop of several tenths of a pH unit can result in coma and even death.

When trees are in soil that has holistically an undesirable pH, the trees begin to decline. Then both soil and air borne pathogens can subtly move into the trees. Most
pathsogens are secondary and opportunis-
tically infect trees that have an unbalanced
pH in the phloem (symplast) and xylem
(apoplast). The pH imbalance in trees is di-
rectly related to the bent soil pH.
The declining process begins with:
1. diminishing soil biological life;
2. improper nutrient availability (toxic-
ity and deficiency);
3. poor soil physical properties; and
4. it ends with an unbalanced pH in both
the apoplasts and symplasts in the tree.

Justification for maintaining a balanced soil pH

It’s a fact that limestone is a staple food for earthworms. Earthworm popu-
lations are reduced in acidic soil. Only a few species of earthworms tolerate a low
pH; the majority of the species prefer a balanced pH (Brady, 1984). Earthworms
are the “litmus test” for the condition of

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* Per 2,400,000 lb. soil (8-inch furrow slice). Actual lime rate should be corrected based on characteris-
tics of specific liming material to be used and depth of tillage.

The pH of the phloem is delicat-
cely balanced by the basic
cation potassium. When the pH
of the phloem decreases, ph-
loem necrosis increases. More-
over, when the pH of the xylem exudate is unbalanced, trees are increasingly predis-
sposed to pathological infections. Calcium, a base cat-
ion, plays a vital role in balan-
cing the pH of the xylem and it suppresses fungal infec-
tions such as fusarium wilt (Marchner, 1986).

The important thing to remember here
is that each of these tissues, both the xy-
lem and the phloem, has pH balance
requirements for their survival. Each of
these individual pH requirements works
together in maintaining a delicate and
harmonious pH balance. Normally the
pH of the xylem (apoplast) is less alka-
line than the pH of the phloem (symplast). Nevertheless, the pH in the xylem is 6.8 for a tree growing in a soil with a pH of 6.5 to 7.0. The xylem helps maintain the highly buffered pH of the phloem to 7.5 or 8.0. It does this by transporting the highly mobile potassium base cation from its innate pool of mineral nutrients into the phloem. This is a unique feature of potassium. It is the only element that is not incorporated into organic structures, such as proteins, but always remains an inorganic ion. It is vital in protein synthesis and pH balance. Liming treatments should also consider potassium requirements for soil and trees.

Xylem sap is not just sugar water. Sugar is a small percentage, about 2 percent or less. Amino acids, organic acids, phenolic compounds, hormones, minerals, salts and other components allow sap to be the physiological liquid with the right pH and buffering capacity for helping initiate growth within the tree (Morselli, 1996).

Some professionals claim that trees grow in a wide range of pH. This is true; trees and shrubs do tolerate a wide range of pH. However, they prefer a narrow and specific pH. From the standpoint of the tree tolerating a wide range of pH, the only objective is the tree’s existence and a superficial physical appearance. The philosophy is simple; “if it is not dead or dying, it must be okay.” There is no consideration for the condition of the tree and its delicate and harmonious pH balance.

Conclusion

pH is the negative log of hydrogen ion concentration. pH is useful in determining the active and reserve acidity of our soils. There is a direct relationship between pH and percent base saturation of soils. When soils contain 80 percent calcium, 10 percent magnesium and 5 percent potassium, they are near pH 6.8 and at optimum conditions for maintaining the delicate pH balance in trees.

Monitoring pH after liming and fertilizing can be done easily with litmus paper. If active acidity is above average (to basic) after liming, it will only be temporary. Sometimes a foliar application of fertilizer is necessary to alleviate chlorotic symptoms from excessive liming.

The lime required to make significant changes to the soil is determined by a buffer pH and a lime requirement table. It is advisable to have the buffer pH professionally done by a sub-contracted laboratory. Liming treatments should be carefully calibrated in the field and sometimes include potassium fertilization.

Trees are the direct beneficiaries of pure soil science and the pH concept. Managing soil pH is one of the most important steps in growing healthy trees. Trees in soils with an undesirable pH are declining because the highly buffered pH of the xylem and phloem is declining.

Norm Helie is an arborist and researcher with Tree Specialists, Inc., in Holliston, Mass.

Acknowledgements

First and foremost I would like to thank Professor Doris Kolb for increasing my understanding of pH. A special thanks goes to Rolf Briggs and Tree Specialists Inc. employees for supporting this research. Last but not least, a “thank you” to Professor Dennis Ryan who planted the pH seed many years ago.

References

Have a Plan

By: Jeffrey Lee, Branch Management, Riverside, CA (909)319-7003

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The Widow Carter rocked to and fro on her creaky porch swing watching as Big Al Fontaine's number one man, Max Bunyan, wandered around aimlessly in her front yard giving directions to his crew: set up cones, fill the chain saw with gas, get the climbing equipment out, etc. Seconds went by, turning into minutes. Minutes whizzed by for what seemed like an eternity before Big Al pulled up on the job site. The Widow was on Big Al like a hobo on Big Al iflllllIt on yer boyz to git their butts to clickin' and git my trees done!"

Days that start off like this can easily turn a routine job into the ongoing job from hell. Dissatisfied customers, sloppy work, lack of profit, and let's not forget the ultimate breeding ground for an accident—are often the result of an unplanned job. What should you do?

Maintain a complete job description for the crew: Nothing looks more professional than the crew hitting the job site like a platoon of well-trained U.S. Marines hitting the beach. Each person on the crew should have a compulsory task to handle—once on the site. For example, one groundsman should be responsible for setting out signs and cones, another qualified individual preparing chain saws for action, and of course, the crew leader checking the job for hazards and other variables that can affect the "plan."

Right tools available for the job: This one is self-explanatory, however, it never seems to fail that when an extra chain for the saw is needed most, it simply isn’t there. When there are several people involved, the "I thought you took care of it" phenomenon occurs. Maybe a pre-job checklist, or have one person accountable for "tool loading" would help—so that items don’t "slip through the cracks", and find their way to the jobsite.

Emergency procedures: UH-Oh, let's say the unbelievable suddenly happens at our jobsite!! What do we do now? Do we call Big Al first? or 911? oh, or...let's see...Hmmmm. Sound familiar?? This is a biggy since when a real emergency finds its' way into our laps, it is a bad time to try and figure out how it will be handled. Most companies have cell phones or radios available to crews on the job. If not, make it a practice to locate telephones in the area. It is a good idea to develop a standard list of numbers and routine procedures that work for you and your company that can be practiced. So, if the "real thing" should happen, you can respond calmly and methodically.

After all is said and done, we all feel better about a job that was thoroughly planned out, then executed. The crew feels satisfied about a job well done, the company can taste a profit, and, without a hitch, the Widow can "git her trees done!"

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A Vancouver woman who hired a tree crew to top 24 trees got a much higher bill than she ever expected. In all, the job cost her more than $13,000 in damages and $10,000 in lawyers fees after a judge ruled she had no right to cut the trees—they were on her neighbor’s property.

According to the Vancouver Sun, the dispute began on May 28, 1998 when Lorraine Wolff came home to find tree cutters on her property who had been hired by her neighbor. Wolff immediately ordered them off the property before much damage was done.

A week later, another crew arrived. This time, they managed to top 24 fir, cedar, birch and yew before Wolff stopped them.

Winds claim millions of trees in France...

Versailles is considered one of the world’s residential masterpieces. But the gardens at the French countryside palace of King Louis XIV were all but destroyed by vicious windstorms that raked across Europe just before the New Year.

Some of the trees, felled by winds clocked at nearly 200 miles per hour in some locales, dated to the Sixteenth Century. Landscape planners are beginning to search for suitable replacements.

A host of news reports have focused on the cleanup at Versailles as a high-profile example of devastation wrought on the continent by the December windstorms. Some experts say it could be two years or more before the cleanup is complete.

France’s National Forest Office estimates the storms damaged between 260 and 300 million trees.

While China stands to gain...

Arborists who are fluent in Chinese and are long-term thinkers might consider moving to Beijing. Officials in the Chinese capital announced in February that they would be planting 1.2 million trees this year alone.

According to the Xinhua news agency, Beijing’s mayor is determined to double the amount of green space in the densely populated city within the next decade.

Speaking of planning ahead

Knowing that he is facing a losing battle to save many of the city’s fading roadside shade trees, the tree warden in Worcester, Mass., is proposing a novel approach to saving the city’s trees. He wants to open a nursery in an unused cemetery.

Parks Commissioner Michael O’Brien told the Worcester Telegram & Gazette newspaper that since he took office 10 years ago, more than 1,900 trees have been removed, including 437 during 1998.

O’Brien has asked for money to prepare a comprehensive plan to preserve the city’s trees, including an inventory of stock, a nursery of up to 100,000 trees and three full-time nursery workers. One cause for alarm, he said, is that as many as 90 percent of the 19,000 roadside trees in the city are of a single species: Norway maple. A single disease could devastate the stock, he noted.

Citrus canker leaves a sour taste

Southern Florida is grappling with an outbreak of citrus canker and experts say the entire lime-growing industry could be in jeopardy.

An Associated Press article says the canker has been spotted in at least 10 orchards in Miami-Dade County and farmers have been forced to bulldoze and burn trees to prevent further spread. Although the infected fruit is not harmful to humans, the bacteria does make citrus unsightly and unmarketable.

These trees survived the Y1K bug

New research indicates that eastern white cedars on cliffs overlooking Niagara Falls may be as much as 1,800 years old. A story in the Ottawa Citizen cited the work of botanist Douglas Larson, who points out that not all old trees are towering giants and, in fact, the cedars over the falls have been clinging to life in rock crevices for centuries.

“The cedars live in a sort of miniature, pathetic nirvana,” said Larson. Still, Canada’s old trees have some time to make up before they can catch the grandfather of all trees in California’s White Mountains: a bristlecone pine tree, nicknamed “Methusaleh,” that is believed to be 4,765 years old.

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Aerial Rescue

By Paul Goin

The call came on Sunday around noon, and my wife answered. The caller was upset and soon my wife was also upset. She wrote down the address and said we'd be there shortly. After she hung up, she told me the caller's cat was stuck in her tree. Now I was upset because it was Sunday and I was about to drive 30 miles to get a cat out of a tree. But my wife is an animal lover and I knew not to argue, so I started getting my gear together.

I loaded my climbing gear, my wife and my 2-year-old son into the car and drove to a nice area of Denver with a lot of mature trees. The cat had chosen one of these trees to climb. The owner said her cat had been in the tree for four days. She'd tried coaxing it down with food, but it wouldn't budge. She'd notified the fire department, but they couldn't help. Animal Control said to leave the cat alone and it would come down on its own. She couldn't stand to hear the cat crying any more, so she decided to call a tree company for help.

The tree was a 90-foot Siberian elm. Since it was Sunday, many neighbors came out to watch the spectacle. The cat was in the lower crotch of the tree about ten feet off the ground. I put on my saddle and tossed my rope into a crotch about ten feet above the cat and started body thrusting my way up. As I moved up, so did the cat. This went on until we reached the top of the tree. The cat went to the point where the 1-inch branches were too small to support me. I couldn't get to the terrified cat.

There was only one way to put an end to the situation. I asked the spectators to get a bed sheet. Soon someone came out with a king-sized sheet. I instructed them to put one person at each corner and stretch it out to catch the cat. After everyone was ready, I shook the branch to make the cat fall. To see that cat spread out completely while falling 90 feet, and to see the people on the ground successfully catch him in the sheet was a great sight. Once down, the stressed-out cat shot out of the sheet and headed under the house.

Everyone cheered and the owner asked how much she owed me. Before I could begin calculating, my wife chimed in, "We couldn't possibly accept any money. We are animal lovers too." I didn't want to dispute my wife in front of everyone, so I said, "You're welcome," packed up my gear and went home.

About a week later the same person hired my company to prune all the trees on her property—no estimate required. Other neighbors called for the same thing. My wife made a really good business decision not to charge for that particular Sunday. We earned the trust of many people and sold thousands of dollars of work as a result.

Animal Control got the idea that my company was the only one that would rescue cats in trees and consequently, I received two calls a month to perform these rescues. I have since sold my business and my former partner, who bought it, is still providing the service. Here is a letter from a local paper.

"Dear Editor: Just a note of thanks to a very fine man who, when no one else would help, 'climbed' right in there ... or up there! Ly Warren, owner/operator of Goin Tree Service, came to our rescue ... A kitten had been over 100 feet up in a tree for four days. Neighbors had squirted it with water and thrown rocks to get it to come down. Needless to say, it only climbed higher. Ly Warren roped his way up, opened a can of cat food and fed the cat a little, then put him in a towel lined bag, tied it on a rope and lowered him down. Ly Goin (the cat) is happy and clean in his new home. The kitty's full name is...Ly Goin Up!"

Paul Goin is an arborist working in the Netherlands for Pius Floris Boomverzorging. Ly Warren is an arborist and owner of Goin Tree Service Inc., Golden, Co.

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