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OUTLOOK

Little Things Mean A Lot

Isn’t it amazing how easy it is to let things get past you when you are busy? Of course, it seems as if we’re always busy. Sometimes, we get so busy that we tend to ignore the basics, the little things, the details that make a difference. That’s a mistake in our business and personal lives.

This morning, a young arborist related an experience to me that will remind us of the importance of little details. Last summer after a wind storm, he received a call from a property owner in a middle-income area. When he arrived the next day, he found that the only tree on the property, an aged Norway maple, had a broken limb overhanging a small patio. The lady of the house, an elderly widow, told him the maple tree had been brought home from school by her son many years ago on Arbor Day. Somewhat lonely and very nervous, she took a considerable amount of the arborist’s time reminiscing about her maple tree and asking questions.

The repair was a simple matter of removing the broken limb, cutting the stub back to the trunk, removing some other hazardous limbs and fertilizing the tree in the fall—about $200 worth of work. In the interest of getting on to other calls, the arborist agreed to make the repairs the next day.

These were busy days for the young arborist. The storm had caused considerable damage and his telephone, which hadn’t been too busy lately, was ringing off the hook. He could easily have put the woman off to look at bigger jobs with more long-term potential. After all, the possibility of more work on the woman’s property was remote.

Nevertheless, the next morning he quickly ascended to avoid any undue conversation. When the lady appeared at the door, he greeted her courteously and went on with his work. When the work was completed, the lady came out with a check in one hand and a tray of iced tea in the other. As busy as he was, he took the time to spend a few minutes with the woman. After all, the arborist told me, it would have been rude to treat this small customer, for whom he would probably never work again, any differently than his largest customer. This was basic, courteous, customer relations. That was last year.

This spring, he received a call from the superintendent of a very prestigious golf course asking that he come out to discuss some work. The arborist was surprised because the many stately trees at this club had been taken care of for years by a company with an excellent reputation. He went back to his little office, curious as to why he had been called, to price the substantial job. A week later he received a purchase order for the whole project.

It turned out that the chairman of the greens committee was the son of the elderly lady, who had been so impressed with his basic courtesy and professional attitude that she had mentioned it. The previous contractor was so busy growing that basic customer service was neglected. This young man took the time, paid attention to the basics and reaped the benefits. Little things, no matter how seemingly inconsequential, mean a lot.

Robert Felix, Publisher

TCI’s Mission

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In Search Of Tomorrow's Technology
By Les Kozacze
Research at F.A. Bartlett and Davey expands the realm of arboricultural knowledge.

Blowing Up the Military Model of Leadership
By Randall Stutman
Every time you force an employee to do something, you create more resistance. It's time to learn a new method of leadership.

Honoring Your Diagnostic Techniques
By Tim Johnson
A look at the entire diagnostic process from a business and a technical standpoint.

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ON THE COVER
Left: Bartlett Plant Pathologist Dr. Tom Smiley checks an experimental sidewalk.
Right: Brian Koch of Davey Resource Group uses a global positioning system to pinpoint the exact location of utility poles.

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While Star Trek's Captain Kirk and Dr. Spock probably aren't fixing to become an inter-Galactic tree care tag team any time soon, they do have something in common with two of the world's most successful, creative and respected tree care companies: These two companies are boldly going where few others in the industry are able to follow, thanks to their commitment to research, data-gathering and technological development. It's a commitment to improvement that, ultimately, helps others in the industry succeed.

As testament to this spirit of knowledge-seeking, both Bartlett and Davey fund and operate their own tree care research laboratories, which explore, analyze and design ideas, equipment and scientific data that stretch from the deepest roots of trees, to tracking satellites orbiting the Earth.

The following is a brief overview of the groundbreaking research being conducted at The Bartlett Tree Research Laboratories in Charlotte, N.C., and The Davey Institute of Tree Science in Kent, OH.

The Bartlett Tree Research Laboratories

If it weren't for the apparently random and deafening honking of a resident gaggle of highly-strung geese, the Bartlett Tree Research Laboratories would rank among the most serenely situated facilities in the country. A renovated horse farm on the edge of 100 acres of North Carolina's greenest summer landscape, the laboratory building sits low and still next to the faint outline of a track, around which race horses once trained.

Bartlett's land also is home to a recognized arboretum with more than 2,000 species and varieties of trees and shrubs from around the world, and an Audubon area (bird sanctuary).

Inside the lab, where the air conditioning is already cranked high to beat back the humid 90-degree-in-the-shade heat, activity is constant. Lab specialists—entomologists, plant pathologists, etc.—are busy collecting, analyzing and postulating in their own particular...
language, but with a common scientific purpose: discovery. Laboratory staff tote soil, leaf and wood samples to hi-tech, video-linked microscopes. The results—is the sample infested or not—are eagerly awaited by concerned property owners, tree care specialists and others across the country. These consumers depend on Bartlett’s diagnostic expertise. They know that the results of these tests could make or break their property’s value. Bartlett Laboratories processes about 5,000 woody plant samples for diagnosis and testing each year, which is more than most state labs.

It’s a serious business. And the treatment the client chooses to beat the pest is just as important, says Dr. Bruce Fraedrich, Bartlett’s vice president of research, and the glue that bonds specialists’ data into a unified and useable whole.

“One way to deal with pest control is with Integrated Pest Management,” Fraedrich explains. This suggestion isn’t surprising. Bartlett’s lab helped pioneer Integrated Pest Management (IPM) more than a decade ago. This system minimizes the use of manufactured pesticides through improved plant selection, frequent inspections and more effective use of natural oils, soaps, pyrethrin, biological controls and beneficial insects. And it’s catching on.

“It’s a side of our business that has just exploded in popularity. I think a lot of this has to do with the generally heightened awareness among the public of the environment and the effects that some manufactured pesticides can have on it,” Fraedrich relates. The numbers bear this out. Bartlett’s revenues from its IPM programs have soared since 1985.

In fact, IPM has become such a Bartlett staple that the company is looking to increase sharply its number of trained technicians.

“Part of Bartlett’s philosophy is that everyone who works here has some experience in the field,” Fraedrich notes. That includes IPM specialists. ‘IPM is ‘easy’ to sell but hard to deliver, so our sales reps who deal with IPM really need to be proficient with the system and the philosophy. By having informed sales reps, we can ensure that we devise the best and most practical solutions for the customer.”

One way of securing a well-trained team is to encourage job applications from graduates of two-year, rather than four-year colleges. This way, Bartlett is better able to fashion and direct employees’ expertise and ambitions towards IPM-oriented goals.

“The average graduate of a relevant four-year program is generally looking to work somewhere other than in the field as a full-time IPM technician. Those enrolled in two-year programs are usually more flexible in that regard,” Fraedrich says.

The demand for specialized employees is growing as tree care techniques become more sophisticated. This need is just one indication that tree care has come a long way since Bartlett was founded by Dr. F.A. Bartlett in 1907. Back then, what little was known about tree care was often based on anecdotal evidence shared among tree care workers.

Perceiving the need for scientific study, Bartlett immediately began researching fruit and nut production. Gradually, he delved into insect and disease pests, cavity treatments, fertilization and structural habits of trees. Research was a separate department until 1927, when Bartlett for-
Bartlett is studying a new cost-efficient lightning-protection system

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Cover Story

Making the Cut and Turn Pro

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Mally established the Bartlett Tree Research Laboratories in Connecticut. Today, a 100-acre site in North Carolina is dotted with pockets of deliberately introduced disease and insect infestation, which scientists can study.

These hands-on, innovative and thorough research practices have enabled Bartlett scientists and technicians to develop many of the materials and procedures that are standard in arboriculture. They discarded other techniques that proved to be inefficient or harmful to trees or the environment, or unsafe to implement.

Bartlett, clearly, has a long-standing and positive relationship with technology. Most recently, that relationship resulted in some space-age innovations, particularly in tree inventoring.

"Accurately inventoring trees is vitally important to many clients, so we've been developing a GPS (Global Positioning System)," says Dr. Tom Smiley, the lab's plant pathologist. A GPS enables operators to hook up with Earth-orbiting satellites to pinpoint to within inches the location of a tree on a property. When linked to a handheld computer, this allows an on-site worker to walk the property and map the number and location of trees with unprecedented precision.

Smiley also supervises many of the lab's on-site research projects, which include soil compaction, cabling and bracing and lightning protection systems. Even on a sweltering spring day, Smiley is outside, directing the backfilling of the lab's new experimental sidewalk.

"We're trying to find better ways to care for trees and maintain sidewalks when they are in close proximity," he explains. The model on which this study is focused—a tree-lined and somewhat incongruous sidewalk to nowhere in the middle of a field—has a series of control and "test" concrete slabs, beneath which are layers of foam, rocks, plastic and other material. The purpose of this set-up is to determine which underlay gives the sidewalk and the trees the best shot of surviving. Smiley hopes that this 10-year project will define the best way to maintain and situate sidewalk trees.

As valuable as this experiment and information is, however, it isn't until you mention the words "lightning protection" that Smiley, the normally laid-back scientist, becomes animated. He admits to frequent doubts about the effectiveness, both in cost and safety, of current lightning protection standards.

"There's some question that the current system of lightning protection—the gauge
Education as Important as Equipment
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By Joseph A. Schneider, Pacific Tree Care, P.O. Box 34 Calistoga, Napa Valley, California 94515

Pruning trees is often a complicated procedure that requires arborists to make informed decisions. Sometimes these decisions are not based on how much to prune, but more importantly, on how much to leave on the tree.

Pruning dead branches is relatively simple. When a branch has been dead for an extended period, woundwood and a callus shoulder have formed. That branch may be pruned without injuring newly developing tissue. Woundwood has not developed around a branch that died recently, however, where a branch collar cut is appropriate. On the other hand, removing live limbs requires much more thought.

Prior to entering a tree, conduct a visual examination that includes structural and health defects, with an emphasis on the root crown. The root crown, one of the regions most susceptible to infections by pathogens, is an area where injuries to a young tree might develop into cracks when the tree matures. Additionally, grade changes may have had an impact on the root crown due to activities around its mainstem that altered soil levels.

The root crown should always be inspected for signs of infection. One way is by reviewing the bark plates to see that they are consistent as they merge into the soil, as well as by making sure that the grade is at proper level. Determine the proper level by viewing the buttress roots, or the larger portions of the roots, as well as the inserted areas. On hillsides or irregular terrain, you may find that the tree has an inconsistent root pattern. An arborist should learn what a typical root pattern is for a species, because there are differences between species.

Recognizing poor vitality of the overall leaf mass is also important, since the signs of weakness may be directly related to a root disorder. If large branches have died at the top of the canopy, it may be wise to consider a review of the supporting roots and absorbing root mass before pruning. Pruning may not be the best treatment for a tree that is being affected by pathogens in the root tissue. It is far more important to find the cause of dead branches than simply to cut them off.

Arborists must be able to correct problems within the tree's environment if we are to maintain that tree's health. A tree will only perform as well as its environment allows.

A tree worker needs a comfortable environment in which to make decisions, a process that comes from proper education. Comfortable decision-making is strengthened by having suitable tools. As employers, too often we do not take enough time to appropriately outfit the arborists that work for us. Or we may not educate an apprentice who is anxious to absorb all aspects of arboriculture. As professionals, we must be committed to providing a safe workplace for our employees and outfitting them with the correct tools. The proper tools of knowledge are just as vital and can only be obtained by reinforcing a continuing education.

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and length of wires, the depth of the trench, etc.—is the best way to go,” Smiley exclaims. He insists there are probably more efficient ways to protect trees in a storm.

One new system being studied would reduce the thickness of the lightning conductor that’s attached to the tree, run it out to a single branch and bury the conductor in a shallower trench. Rather than pay to protect the whole tree with an elaborate and often expensive trunk-protection set-up, Smiley is studying installing the more cost-efficient system, and accepting that the tree will lose a branch or two due to a strike. The consumer may simply replace the system after the strike. “There’s a good chance the tree will not get struck for years and years,” Smiley notes.

Lightning isn’t the only potentially expensive hazard to trees that confronts the property owner. Bad pruning and insect infestation rank high on the list, too. Bartlett’s on-site pruning and other regular employee training takes care of the former. The company’s laboratory technicians’ deliberately mis-pruned trees prepare students for the most likely pruning situations they will encounter in the field. “We have topped several trees on the property in order to show how they react to topping and also to find ways to possibly restore these trees to health and beauty, rather than let them die,” says Walter E. Dages, Bartlett’s vice president of public relations.

Infestation is the province of Dr. Don Booth, the lab’s resident entomologist. Booth is the major player in the lab’s IPM research and operation. Among other projects, he oversees the analysis of trees and shrubs that have been deliberately infested with common and not-so-common insects. “By reproducing the infestation, we can get a clearer picture of what’s occurring and how best to deal with it,” he explains.

Like much of the information amassed at the Bartlett Tree Research Laboratories, the data gathered by Booth will ultimately be added to the mix of industry-wide tree care knowledge and will improve the standards, practices and bottom lines of tree care companies around the world, all to the benefit of the customer.

For instance, the Bartlett Laboratories and its scientists have stretched their expertise and sphere of influence to include European arboricultural practices and growing conditions in the last couple of years, since Bartlett has become the largest tree care company in Europe. That’s a prospect that pleases Smiley enormously: “The way I see it, there’s a big picture to the tree care industry: If
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Bartlett can help improve the standard of tree care for other companies as well as itself, then it benefits in many ways. One of these ways is the improved attitude and faith of the average consumer in the need for, and positive results from, having a professional arborist maintain his or her trees. It makes sense that the more value a consumer perceives in what you have to offer, the more likely he is to commit to it.”

The Davey Institute

Advanced solutions have set The Davey Tree Expert Company apart since it was founded. In 1880, company founder John Davey began telling a disbelieving world that “sick” trees could be saved through attention and care. With the publication of “The Tree Doctor” in 1901, he established the science of tree surgery. The book gave rise to a new industry and inspired other scientists to study plants in a new light.

Today, The Davey Institute, the company’s research and development division, is helping to lead the company into the 21st century. At the Institute, plant scientists, computer specialists and communications professionals work together to provide advanced solutions for employees, customers and the arboricultural industry.

Located at Davey’s international headquarters in Kent, Ohio, The Davey Institute provides employee education, research and development, technical support to all service lines and diagnosis of plant and soil problems.

A dedication to training excellence has helped build Davey’s public image as a company of highly skilled arborists. The flagship of Davey’s training programs is the Davey Institute of Tree Sciences (DITS), a four-week course held each February at The Davey Institute. The course covers line clearance pruning, vegetation management, tree and shrub physiology, planting, maintenance, insect and disease management, safety and customer service. Attendees are eligible to receive six credit hours from nearby Kent State University.

“With 5,000 to 6,000 employees, training is a vital part of Davey’s operations,” says Roger Funk, Ph.D., vice president of human and technical resources for The Davey Tree Expert Company, who oversees The Davey Institute. “Davey employees keep up to date with standards, practices and techniques through residential and on-site training.”

Employees can also learn through various outreach tools, such as home study and Internet-based training. This includes offering information on-line and via CD-ROMs, says Ward Peterson, manager of business development for Davey Institute/Resource Group. “Our aim is to become a one-stop shopping center for training, diagnostic and other services,” Peterson says.

One of the most striking of Davey’s high-tech training tools is the 3-D animation created in-house that “re-creates” the events and circumstances leading up to a real-life tree worker fatality. “This animation always leads to much discussion on safety. It’s a very effective tool,” Peterson notes.

The Institute’s high comfort level with the world of electronic information delivery systems has enabled Davey to modify the Institute’s 5-year business plan to include significant expansion of its inventory, diagnostic and other services. This has allowed the Institute to generate its own income, and to move away from being simply a Davey overhead.

“Because of our computer upgrades, we can now establish and support our own people in the field. So, now we can look to expand from mainly the eastern United States to western Canada and the U.S. West and Southeast,” Funk says. The Institute’s marketing plan includes situating a representative in a previously untapped area and then establishing electronic “links” to information sources.

Down the road, the extra support the Institute can offer will enable it to generate more of its own customers, Funk says. “Right now, 90 percent of our customers are existing Davey customers who need the Institute’s value-added services. I guess you can say we’re Davey’s best kept secret.”

One innovation of the Institute’s research and development component is Arbor Green tree fertilizer, the first two-year, slow release fertilizer for trees and shrubs. Another is Plant Health Care, a
holistic, preventive program for keeping plants healthy. Yet another is CREWS, a utility production monitoring software program that measures productivity and tree data to help Davey and its customers become more efficient.

These are just a few of the many innovations pioneered by The Davey Institute’s research and development team. Every new development has improved the science of plant care and the company’s services.

Davey scientists conduct studies at The Davey Institute’s research site, greenhouse, laboratory and the Davey research farm in Shalersville, Ohio. Field research is conducted in conjunction with Davey offices. The Institute also participates in cooperative projects with green industry manufacturers and utilities to evaluate plant care and vegetation management methods.

Another secret that’s getting harder and harder to keep in Davey Resource Group is its technical support. Since 1991, The Davey Institute has provided arboricultural and horticultural consulting services through Davey Resource Group to municip...
The arboricultural and horticultural services that we provide at the Institute weren’t even available several years ago,” says Funk. “New computer technologies enable us to provide our customers with more complete, more timely information on their plants.”

The “services” to which Funk refers can range from tree root research to pest control to computerized tree inventory programs. You may be asking yourself “What do computers have to do with tree care?” Funk explains, “Davey employees use hand-held computers to record and track tree information—such as species, height, age, condition, and the proximity of branches to power lines—and pinpoint a tree’s exact location with the help of satellites. Then the recorded information can be transformed into extremely accurate digitized maps.”

Constant improvement and looking ahead has become a science all of its own at The Davey Institute. Funk has managed to keep the Institute’s horizons vast, but its goals in sharp focus.

**Summary**

Demand for industry-wide professionalism grows daily. The Bartlett Tree Research Laboratories and The Davey Institute are quietly providing the scientific basis upon which that professionalism can be built.

To their credit, neither facility is happy to simply find answers to tree care questions. Rather, they strive to determine the questions that need to be asked, the answers to which benefit the whole industry.

This attitude of discovery, and the commitment and energy of those involved in running and working at these two facilities, give every tree care owner, worker and customer good reason to be hopeful about the future of professional arboriculture in the United States and beyond.

Les Kozaczek is staff writer for TCI magazine
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Blowing Up the Military Model of Leadership

By Randall Stutman

When time is limited and you need results, do you force your will on your employees?
Not only is being forceful usually not effective, but think about the task. If you try to accomplish the same things over and over again, force won’t work. People will either avoid a situation where they know force is likely, or they will actively resist.

We were tremendously successful in World War II. We had the lowest casualty rate and the highest effectiveness rate in the history of warfare. In the process, we brought two million soldiers back to a reinvigorated America who were all trained in the same way: They all knew how the military style of leadership worked. They all understood rank and file and how to follow directions. They were perfectly set up for functioning in the military model, so we created organizations that followed this model.

Our economic success in the ‘40s and ‘50s was based on assumptions that don’t operate very well in 1995. In fact, they didn’t operate very well in 1980, and it was becoming clear as far back as 1960. Yet many are still wedded to those assumptions. That conflict probably had an enormous impact on you as an individual. It’s difficult for most people to point to a role model who doesn’t come from that era.

While this model was tremendously successful in waging war, it doesn’t relate well to companies that are engaged in competition and profit. The military model was never set up to make money or motivate people in different ways.

From World War II through Korea and even Vietnam, the military was mostly males 18-22 years old. Military leaders assumed these young men were inexperienced. They didn’t have the requisite skills and training to do the job. The military clearly assumes that people are basically irresponsible—especially when they are 17 or 18 years old. If given a choice, teenagers won’t do things properly. They are physically healthy and trainable, but they are resistant. Many of you think the same things about your workforce in 1996. You are dead wrong. Nothing could be further from the truth.

In the military, soldiers are trained to fight. Their leaders believe that soldiers need to be kept busy in non-combat situations or they will fight with locals, each other or anyone else with whom they come in contact. They are trained to fight and they will fight among themselves unless occupied with busy work.

Either way, you won’t achieve your desired results.
Every time you force someone to do something, you create more resistance. We have learned this particular way of dealing with each other as a culture, because we all grew up with the military or directive model of leadership. How did we arrive at the military model?

In post-World War II America, all kinds of entities, including the tree care industry, were reborn. This has had a tremendous impact on the way we still operate.
No matter how unproductive the detail, keep them busy. That's the military model, and the overwhelming majority of organizations, large and small, operate from that same assumption.

There is something grossly absent from this model. Where is profit? This is the reason the model is flawed as a business strategy. The military was never designed to make a profit. For this reason, the military model is expensive and inefficient, though highly successful. After all, in war we spend what we have to in order to get the job done.

We have set up our companies in the same way. The last question we ask is "can we make money from this?"

If you take care of trees properly, keep your customers happy, your employees busy and you don't make a profit, then you haven't been successful. On television and in books, leadership is exciting and military in orientation. The John Wayne model is about people commanding and controlling. If you are a real leader, you command and control. But what good is that in business if there is no profit in it?

A different model, generally referred to as the coaching of facilitative model, is transforming American business. Under this system, leaders don't direct, they facilitate decision making. This doesn't mean they never give orders or tell people what to do. It doesn't mean they don't ever require discipline or obedience. Rather, they presume different things about the workforce and the outcomes they desire. Then, they act accordingly.

**Facilitative model assumptions**

1. Workforce is male and female
2. Full range of ages
3. People aren't irresponsible. They are committed to providing for themselves and their families
4. People are career oriented
5. Experienced people are out there. These are not untrained young minds
6. Employees are not short-term draftees. They want a long-term relationship

You want profitability. You want people to be innovative. Try as you might, you can't order someone to talk to customers or be independent. You want a responsible partnership and to capture the employees' full potential, teamwork and crew development. If that is your wish list—but you don't think you can ever get people to that point—there might be a reason. You can never get people to that point from the military model. You can't get there by forcing people. You can get there by facilitating people instead.
Directive versus facilitative leadership

Whenever someone calls you the boss, you are in the military mode and you lose. They want you to take responsibility. I expect employees to be responsible. Technically, they may work for you because you direct their actions and sign their paychecks, but generally you work together.

Why is this shift away from the military model under way? Through history, issues such as specialization, unions and control over work have made people more productive. From 1925-65, we saw participatory management and quality circles emerge. People started contributing to the things that affected them.

In 1952, IBM instituted a policy whereby it told employees: For any policy that affects you, you can call a meeting and ask for an explanation. That doesn’t mean the policy changes, but you can at least understand why that decision was made. You can put the people who made that decision in the room and ask them why. What a boost for productivity for IBM!

Since then, there has been a focus on empowerment, total quality management, horizontal decision-making and high-performance teams. All are contemporary and all say essentially the same thing: We are constantly increasing employees’ involvement and participation and giving them more control. That doesn’t mean that your tree care company has arrived at this point, but I guarantee that if we could look at your company, or one like it, from 30 years ago, people would have more control and involvement today. That trend will continue.

I know of no organizations that are moving in the opposite direction. The whole workforce expects businesses to operate in this way, and if you want to compete for workers, you have to give them the chance to participate in decision-making.

Can you imagine a private telling his sergeant he wants more control over his training schedule and what is served in the mess hall? He would be doing pushups for a week.

Today, leaders set goals, create visions, guide and inspire. In the military model, people are inspired “because I tell them they are.”

One of the reasons the military model is so seductive is that it is easier to impose decisions rather than ask and be challenged. Whereas bosses control workers and work, leaders are more concerned with rewards and performance.

Is life a plane crash to you? If that is your justification for being in the military mode, lighten up. Not everything in your life or business is a plane crash. You only think of it that way to justify your actions.

People in highly facilitative positions are concerned with innovation. Where bosses evaluate productivity, leaders assess achievement. You are moving toward the facilitative model whether you want to or not.

If you are a leader in your organization, how would you describe your job? Many would say their job is to get the job done. Think about it: Is your job to get the job done or get the job done through others?

The military model doesn’t believe you get the job done through other people. You alone are responsible. On the other hand, if you have to get the job done through other people, you need to figure out ways to reduce resistance, enhance trust and build credibility without force.

You are operating in a boss-like manner if people come to you and ask, “What should I do?” That doesn’t mean you should never act in this way. But when you do, recognize that you are the sole responsible authority.

Facilitative leaders presume that people who work with them have to be as responsible as they are. And if they are not, the business can’t compete, be profitable and workers can’t be innovative or continue to learn. Companies that operate in this way will eat your lunch.

- Directive bosses prescribe what...
You worked with him, how did he make you feel? Don’t think about what he did, or you did, but how did that admired leader make you feel? Generally, people say that person made them feel challenged, valued, competent, empowered, responsible, confident, respected, enthusiastic, creative, essential, focused.

The military model doesn’t care how people feel, but such caring is essential for profits and collaboration. If you want your people to respond to customers better, they must feel responsible.

There are two ways to motivate people—through trust and credibility or fear. We respect military leaders, but their subordinates only do things for them out of fear. We are a nation expert at “motivating” people with fear. Fear will get people up trees, cleaning trucks and punching cards, but it doesn’t produce innovation, teamwork or profits.

Think about your day. How do you spend most of your time as a leader? In the military model, you spend time correcting mistakes. The lowest performers are the people who get the bulk of your time. You are constantly trying to get the low performer to stop making mistakes.

For a better system, consider good sports coaches. How do they spend their time? Do they spend it with players who probably won’t make the team and who sit on the bench?

Good coaches spend their time with the best performers. Coaches send the right messages. Military leaders who spend all their time with people who make mistakes are sending the message that if you want attention, you have to mess up. Successful coaches spend their time with the top performers getting them to excel. They hope everyone else will gravitate upwards. They get other people to work with those at the bottom or they get rid of them.
Who do you spend time with in your organization? Think about it. Good sergeants create obstacles. Good coaches remove obstacles for people.

Coaches provide opportunities for new experiences and skills. You should look for opportunities for your people to gain new skills. The military model presumes the opposite. If you do something really well, you will do it forever. What happens in the military system is that the people who get things done have all the work assigned to them, which demotivates them.

You have people working for you with undiscovered talents, but the military model will never let those talents be developed. You have to take people who are incompetent or low performers and give them opportunities and experiences. If they don’t use those opportunities, they should be gone.

Coaches plan and explain for the big picture. More importantly, not only do they strategize, they make it so that players understand them. The leader is responsible for the big picture, but everyone must understand it. If people don’t know why something is being done, they can’t take responsibility for it. They can’t improve upon it.

Coaches talk like coaches, which is different from how others communicate. With coaches, everything is a question. “What do you think you should do?” Coaches even answer questions with questions. The military model has taught us to give answers, give statements, issue recommendations and make demands.

If you don’t ask questions, then you are responsible. If you want your employees to be part of the business, you have to ask them what they are thinking.

The hardest part of all of this is to find the right balance. No one can instantly become a coach. You still have to direct. You have to strike a balance between forcing or demanding that employees do what you want and motivating them to do it.

And there are times when the military model works best. I fly on airplanes all the time, and I don’t want a coach in the cockpit of a plane in trouble. I want the captain barking orders.

Is life a plane crash to you? If that is your justification for being in the military mode, lighten up. Not everything in your life or business is a plane crash. You only think of it that way to justify your actions.

Randall Stutman is professor of communication at Temple University, works with Communications Research Associates and is the author of three books on persuasion and influence. An associate, Dr. Daniel Cleary, will address effective communication skills at TCI Expo ’96.
Warm sun, turquoise waters, cool breezes and good friends. The 1997 NAA Winter Management Conference in Nassau, Bahamas is sure to be one of the best in history.

This year’s meeting will be held at the Nassau Marriott Crystal Palace Resort located on Cable Beach in Nassau, Bahamas. The meeting will run Tuesday, Feb. 4, 1997 through Saturday, Feb. 8, 1997. It opens with a grand reception bursting with tropical island flair and ends with a fabulous dinner and evening of entertainment. Throughout the week, enjoy all the islands have to offer with snorkeling trips, duty-free shopping, deep sea fishing, golf, and every water sport you can imagine. Tremendous educational opportunities await, particularly the speaker program designed to help your business succeed! With all the restaurants and activities the Marriott has to offer, you don’t even have to leave the hotel.

Nassau is easily accessible by air from almost every major U.S. city. However, February is a busy travel month for the Bahamas, so make your reservations early! For assistance with your air transportation, please call Travel Worldwide Network at 1-800-631-9675. To make your reservations at the Marriott, call 800-222-7466 x 316 between 8:30 a.m. and 5:00 p.m. Monday through Friday and be sure to reference the National Arborist Association room block.

So, when the snow, sleet, ice and rain of the winter months begin to wear you down, take a break. Attend the 1997 NAA Winter Management Conference. This is the opportunity of the year to network, socialize, learn to manage your business, relax and enjoy the beauty of the tropics. TCI

For more information, call Jeanne Clark, meeting coordinator, at the NAA: 800-733-2622 or write PO Box 1094, Amherst, NH 03031-1094.

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September 24, 25
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September 25
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September 26-27
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October 8, 9
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Deregulation, regulatory reform and downsizing government have been hot Washington topics in the 1990s. While much attention has focused on major sectors of industry, such as airlines, utilities, trucking and communications, recent efforts have centered on the effects of regulation on small businesses. On March 29, President Clinton signed a bill that increased the public debt ceiling. Attached to this bill were several important provisions that should significantly assist tree care firms in regulatory matters before the federal government.


A: Regulatory Compliance Simplification
Agencies are required to publish easily understood guides to assist small businesses in complying with regulations and provide them informal, non-binding advice about regulatory compliance.

These guides may cover both federal and state requirements, and in any court review of noncompliance, the content of the guides may be considered in assessing the reasonableness of the proposed penalty.

B: Regulatory Enforcement Reforms
This creates a Small Business and Agricultural Enforcement Ombudsman at the Small Business Administration (SBA) to give small businesses a confidential means to comment on and rate the performance of agency enforcement. It also creates Regional Small Business Regulatory Fairness Boards at the SBA to coordinate with the ombudsman and provide a greater opportunity for small businesses to come together on a regional basis to assess the enforcement activities of federal agencies such as OSHA and EPA.

C. Equal Access to Justice
This act allows small businesses to recover attorneys’ fees in a wide variety of civil and administrative actions if those businesses can prove that the government was not substantially justified in pursuing a case. Fees may be paid even if the government prevails in the underlying action. If the government’s demand is unreasonable when compared to the judgement or decision, then the small business is awarded fees and other expenses related to defending against the action. Allowable attorneys’ fees were increased from $75 to $215 per hour.

D. Regulatory Flexibility Act Amendments
The new law permits judicial review of compliance with the Regulatory Flexibility Act (RFA), which was first enacted in 1980. The RFA requires agencies to consider the special needs and concerns of small businesses whenever they engage in rulemaking. Agencies are required to solicit and consider flexible regulatory proposals and explain the rationale for their actions to assure that such proposals are given serious consideration.

The agency must also prepare an initial regulatory flexibility analysis describing the impact of the rule on small businesses. The analysis must outline alternatives to the proposed rule that would accomplish the same objectives with a less significant economic impact. Whenever a small business feels adversely affected by an agency rule under the RFA, the small business may seek review in federal court.

E. Congressional Review of Regulations
The new law establishes a 60-day congressional review process for all rules. Before any new rule can take effect, each government agency or department must supply Congress with a copy of the rule, its proposed effective date and a report describing its contents. For rules deemed major (those with an annual effect on the economy of $100 million or more), Congress also must receive a separate report from the Comptroller General’s Office.

For all rules, Congress has 60 session days to pass a joint congressional resolution to disapprove a rule. The President may veto any legislation disapproving a rule, and Congress may override the veto by a two-thirds vote of each House.

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Most people use their Shigometer for checking decay. I use it for vitality. I have not been able to save a tree that had a reading over 28. If a tree has a reading between 22 and 28, it would be considered critical, if not terminal.

Most times, when I give a talk on diagnostic procedures and tools, arborists in the audience are hoping they will learn about one or two tools that will answer all their questions about creating a level of proficiency and success. That’s not the case at all. None of us have all the answers, and no tool will give us all the answers.

Many arborists think that the diagnostic gadgetry is unnecessary. They believe they can go out, simply touch a tree and do the same thing that I can do with all my sophisticated instruments. I, too, believe that most of us can do that. There is a difference, though, with the instruments as far as quantifying what we are doing. We are almost in the 21st century, and we need to meet the client’s demand that we take diagnostics to the next level. Being able to quantify processes allows us to pinpoint items of concern and then monitor the results.

My philosophy in developing my treatment plan is this: I can’t correct every situation. I can assist the plant to adjust to the new situation. If you approach a site with the goal to assist the plant rather than correct a negative situation, then the diagnosis and treatment seem more realistic and your thought process is more realistic.

In order to hone your skills, you must look at the entire diagnostic process, both from a business and a technical standpoint.

Diagnostic Steps—Business

A professional diagnosis starts from a sound business foundation. I follow six steps with my consultation business to overcome common stumbling blocks and ensure I get the proper

(L) One of the most important, and basic diagnostic tools, the soil profile probe. (R) An oxygen meter reads the free oxygen in the soil. The data it generates can tell you when aeration is needed.

Honoring Your Diagnostic Techniques

By Tim Johnson
fees for my time.

1. Engagement Process
During the engagement process, we are interviewing clients on what their needs are. What is their purpose? Why did they call us?

I have found that one of the biggest reasons a diagnosis is not considered successful is that, at this very first stage, we don’t have a clear understanding of why the client called. Often, the client is not sure either. Nine out of 10 times you can ask, “Why did you call?”

The client will answer, “Well, you are the expert. You tell me.”

We cannot really satisfy them until we know for sure what they want. “There is a dead limb in the tree.” “It doesn’t look right.” “It looks droopy.” Get anything from them that you can to use as their goal, because from that you can develop their purpose. Then repeat to them what you hope to accomplish.

This is when we establish their level of commitment, and that will tell us where we need to go with our time and how complex our inspection should be.

“When developing a treatment plan, my goal is to assist the tree in adjusting to the area it is growing in, not to correct all the problems.”

2. Inspection Level
The inspection process will involve one to three steps: visual inspection, mechanical inspection and laboratory analysis. With a clear view of the goals up front, we know to what level we need to reach.

An important point to remember is that when the client is only requesting a visual inspection and up front you think mechanical or laboratory steps are needed, go ahead and do the visual inspection. Your report can reflect your recommendations to take it to the next level.

To complete a timely and thorough inspection, I recommend you develop a basic procedure that you follow each time. Add to it when necessary, but don’t subtract. Since you are so familiar with some of the common problems, it is easy to forget very basic things when you are trying to formulate a plan under time constraints. Don’t skip from the visual inspection to the opinion. Go through the process. Following the same basic procedures each time will keep you thinking about things the way you should.

3. Evaluation of the Data
Once you have gathered all the pertinent data, there is nothing wrong with then using the “leaf method,” to develop your opinions. The leaf method is when you get the book, and leaf through it to
Diagnosis
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4. Formulation of Opinion

Even though you may consult with others, take responsibility for your opinions. You may write that, through your investigation and your consultations with peers, your conclusion is this. One of the worst things you can do is rely on the words or conclusions from others in a report with your name on it. You must report that your conclusions were reached as a result of your investigation.

Once you have evaluated the data, you must define the problem, the cause of the problem, survivability and the treatment plan. Many times, you will go directly from the visual inspection all the way to formulating an opinion. You may bypass a lot of the inspection processes because you work with the same plant so often.

5. Submission of the Report

In the report, you must identify the purpose, summarize the problems and causes, and include the survivability factor. The treatment schedule is separate. When you have identified the problem, the first thing you want to mention is what the client talked about. If the client talked about the droopy leaves, even though that really has nothing to do with the problem, mention that first in your report. That automatically satisfies their need. Then they will continue the treatment. If you start talking about root problems when they had asked you about droopy leaves, you have automatically lost them.

For every treatment plan, there is an intended result. That should be part of your report as well.

6. The Re-engagement

The last step is just as important as the very first. Follow-up is grossly overlooked. You should try to sell consulting services with a follow-up visit. Put them on your schedule and return after a treatment program has been implemented. Our success and the plant’s health depend on follow-up.

Nine times out of 10, people will not treat the plant exactly as the plan de-
2. Survivability

You need to be able to give a percentage on survivability. You can do that by measuring vigor and vitality. Vigor is the capacity to resist strain. Vitality is the ability to grow in a particular site in the present conditions.

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Diagnosis
Treatment

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You can check vitality with a Shigometer and/or through your plant profile. When you are checking the vigor of the plant or the plant’s reserves, you can use a potassium iodide I₂-KI test, then with this information you can tell the people the tree's chance of surviving.

By giving the clients quantitative information, they will have more of a desire to invest in further investigation.

3. Prognosis
The prognosis is a brief description of what’s wrong, how the disease is likely to progress and what will happen if nothing is done.

4. Treatment Plan
This schedule could last anywhere from one visit to several years—whatever you think is necessary. The plan and the recommendations should reflect the prognosis.

 Diagnostic Tools

The goal of a diagnosis is to prolong the life of that tree until it reaches maturity. On a site, you see all kinds of signs and symptoms, some more obvious than others. You might find conditions where side-by-side you find a healthy tree next to an unhealthy tree. Same species, same conditions, same watering. Why is only one tree healthy? Tools or gadgets help determine the differences.

Check the vitality, both visually and mechanically. Look at the color and size of the leaves and growth increments. This will give you an idea of the vitality and vigor. Most people use their Shigometer for checking decay. I use it for checking vitality. I have not been able to save a tree that had a reading over 28. If anything is between 22 and 28, that tree is in critical condition. The first thing I do when I go up to a tree is use my Shigometer, so I know what condition it is in.

1. Soil and Root Investigation
Your soil profile probe, shovel and trowel are the most important diagnostic tools you have. You can touch, feel and look with these instruments, answering these questions: Where are the roots? What kind of condition are they in? How deep are they?

2. Soil Conditions
A. pH and Salt
An abnormal soil pH will tie up nutritional elements, especially your minor elements. Symptoms of pH problems are chlorosis, stunted growth and rosetting. The advantage of a meter over a visual inspection is that instead of telling a client his plant has iron chlorosis, the meter will allow you to state there is iron chlorosis with a soil pH of 7.3. Then you have more of a rifle shot approach to the treatment.

Meters help with salt in the same way. Burned leaf tips are a visual sign of salt excess. A salt meter will tell how intense that salt problem is, pinpointing the amount of gypsum that you need to mitigate the situation.

Quantifying the problem is very important. When you give an estimate for your treatments, you will be able to say exactly how much you will put down. Another company that isn't going to put down as much gypsum will charge less. But if you can show the client the amount of salt in the soil and what it takes to eliminate it, the client will realize that he will be wasting his money with the ineffective and less expensive treatments. Quantifying it creates commitment.

B. Soil texture
You can feel it, you can see it, and you can measure it with sophisticated tests or with a peanut butter jar. We have a lot of problems in my area with street trees. The normal life span for street trees if seven to 10 years. Why is that? We have trees
that are growing in fields or containers that are then planted. What is the texture of the new and old soil? There could be a tremendous difference at the soil interface. It creates different water infiltration, different water drainage. How can you tell how much to adjust the water if you are not sure where it is going or how it will get there? Know the textures, they affect soil moisture.

C. Soil moisture
This is easy to tell by touching. If you are using a meter, you know what’s going on. You can test it more readily and all the way around. It is easier to use a meter and stick it in 4, 5 or 6 spots around the tree—in the root ball, in the back fill, in the site soil, up the hill, down the hill—wherever you think you need to, so you can get even water distribution. With the meters, you can say whether the tree is at 70 percent or 110 percent.

A word of caution: When you are taking tests and you know you are going to monitor the plant with a follow-up, identify where you are taking the tests. When you come back, take the tests in the same area. In this way you know whether your adjustments are creating any difference or not. If you take a soil moisture probe reading seven or eight inches away from the original spot, you will not get a comparison reading. In your records, mark where you are taking your tests.

Be fairly exact with all testing and re-testing. For example, when you are testing for pH and you are digging down six inches—because that’s where the majority of your roots are on this site—make sure you are down six inches near the same area as before. Just a few inches away could have a different pH.

Tensiometers are used to imitate a root. They are very important when you are monitoring plants because you leave them in the same spot while you treat the plant. They work on pressure. As the soil dries out, the liquid in the tube comes out of the porcelain tip, and when the soil is moist, the liquid does not come out of the tip. The meter on the top will indicate the available water content.

If a root system has a Phytophthora infestation, you want to dry that soil out to get rid of the environment that benefits the fungus. On the other hand, you don’t want to strain an already stressed plant.

If you dry that soil out too much, then that tree goes from stress to strain. You may have eliminated the environment for the fungus, but you also have put the tree over the edge. Be careful. Remember, stress is reversible. Strain is not. Meters will help quantify things.

D. Compaction
We see a lot of compaction cases where there is construction or on golf courses with lots of traffic. Compaction is one of the most important aspects affecting tree health. There are many ways to test for this. You can take a backhoe and dig a trench. Then use a little pick to see the difference in the compaction of the soil.

Most of the time, when we stick our soil profile probe into the ground and it won’t go in easily, we know we have compaction. Yet to what degree is the soil compacted? With a meter you can tell.

Anything above 300 foot pounds of pressure means you have very poor root and water penetration. When you are fertilizing or aerating with these kinds of
readings, bring your injection needles closer together, since you know lateral movement is restricted.

**E. Oxygen**

Some compacted soil can still have oxygen. The oxygen meter reads the free oxygen in the soil. Diffuse oxygen is the amount of oxygen that goes through the soil from which the plant is functioning. Yet diffuse O₂ is very difficult to measure. Measuring free oxygen is the only way of measuring oxygen content with portable equipment that I know of.

My O₂ meter is calibrated to 20.8. Any reading below 12 is critical: You will start smelling rotten eggs, and the further down it goes, the worse the smell gets. So you know that at 12-15, you had better aerate today. From 15-18, aerate in the near future and at 18-20.8, something else is the cause of the problem. This meter quantifies what the color and the smell of the soil indicates.

Leaf color can be an indicator of tree vigor and nutrient deficiency. A guide such as a Munsell color chart can make your visual inspection of the foliage more exacting.

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F. Leaves
Here you can use a Munsell color chart, or create your own color charts for the trees in your area. You can show the client a leaf, show him the chart and give a health rating of the leaves. Remember, you need the whole picture to create the final rating for that plant.

G. Temperature
Monitoring soil temperature can be very critical. You don't want to lose a root system that you have started to reclaim. In some areas, above-ground planters are the worst thing to happen to trees. In the summer, their roots can literally cook. Mulch can help mitigate soil temperature extremes.

H. Water infiltration
How much water moves through the soil? You can find out very simply with a small tube, a 55-gallon drum or an expensive infiltrometer. Put an amount of water in, then when the soil is saturated, measure the amount that percolates. A general rule of thumb is an inch an hour. If you have an inch of water, it should move 12 inches into the soil. Anything outside of that range is how you determine your adjustment in irrigation volume.

At this stage, you may need to go to the laboratory. If you start to use labs in your area, sit down with the staff. See what their recommendations will entail. Become familiar with what they are doing. This way, you can answer client questions easier, and your successes will start to increase.

Break things down. Take a look at the entire project, not random looks, then put it into the treatment plan. When all this is done, you have measurable goals to attain and results to achieve.

Tim Johnson, a consulting arborist from Phoenix, Ariz., serving the Southwest. He conducts seminars worldwide, and is chair of the A300 committee. He will discuss "The New ANSI A300 Pruning Standard: One Year Later" at TCI EXPO '96.
### Green Industry Associations

**The American Horticultural Society**  
E-mail: garde@ahs.com  
http://email.com

**American Society of Landscape Architects**  
E-mail: landnet@asl.org  
http://www.asl.org/asla/

**International Society of Arboriculture/University of Illinois**  
E-mail: isa@scorpion.ad.uiuc.edu  
http://www.ag.uiuc.edu/~isa/

**National Arborist Association**  
E-mail: 76142.463@compuserve.com  
http://newwww.com/org/naa

**National Gardening Association**  
E-mail: nga@together.org  
or: 76711.417compuserve.com

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**Corona Clipper**  
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http://www.coronaclipper.com

**Cummins Engine Company, Inc.**  
http://www.cummins.com

**Environmental Consultants, Inc.**  
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**Husqvarna Forest & Garden Company**  
http://www.husqvarna.com

**Landscape Management**  
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**Omni Leasing, Inc.**  
http://www.omnileease.com

**Wood/Chuck Chipper Corp.**  
E-Mail: woodchuck@shelby.net  
http://www.woodchuckchipper.com

### Colleges & Universities

**Cornell University** - home and garden insect fact sheets  
http://www.cce.cornell.edu

**North Dakota State University - Bottineau**  
http://165.234.78/homepage.htm

**Purdue University - general address**  
http://www.purdue.edu

**General University**  

### General Interest

**GardenNet**  
http://www.olympus.net/gardens/welcome.html

**Ohio Division of Forestry**  
http://hortwww-w-ag.ohio-state.edu/ODNR/Forestry.htm.

**Chamber of Commerce**  
http://www.uschamber.org

**Occupational Safety and Health Administration**  
http://www.osha.gov/

**Department of Transportation**  
http://www.dot.gov/

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When It's Not in the Mail

Improving the success rate for debt collections is a vexing annual problem for businesses large and small. Last year, consumers couldn't pay for $284 billion worth of purchases. Tree care firms have it somewhat easier than other companies because property owners are more stable and easier to find than faceless customers hiding behind post office boxes.

Nevertheless, knowing where a residential customer or corporate account is located doesn't always ensure success at collecting past-due bills.

While bad debt harms any business, the modest cash reserves and seasonal nature of many tree care firms make them particularly vulnerable. Although there is no guarantee against credit management or collection problems, experts offer some easy steps to maximize collection efforts.

- Work with a reliable credit reporting agency.
- Record personal references from clients.
- Obtain debtors' social security numbers.

If an account does reach the point where you are ready to give up and turn the matter over to professionals, the American Collectors Association advises you ask the following questions when selecting an agency:
- Is it bonded for clients' protection?
- Is it equipped to trace debtors who have relocated?
- Does it charge fees that are clearly stated?
- Is it able to forward accounts to collectors in other areas of the country?

A Borrower Be?

Business is picking up and equipment is nearing the end of its useful life. Perhaps it is time to consider a business loan to expand. How do you get approved and where are the best rates?

Consider the U.S. Small Business Administration. The SBA guaranteed loans for more than 52,000 businesses in 1995 and appropriations have been increased 31% for 1996. In all, $10.2 billion is available this year.

Banker Charles H. Green, president of Southeast Capital Associates, Inc., has written a book, "The Comprehensive Handbook for SBA Loans," that details the financial qualifications and documentation needed, as well as inside tips that explain the methods and rationale behind lender credit decisions. To purchase a copy, call 1-800-822-8500.

Walk This Way

With advertising dollars scarce, tree care firms need maximum exposure at minimum cost. One of the best ways has always been the Yellow Pages. Unfortunately, deregulation of public utilities has led to an explosion of business directories, leaving many small business owners confused.

Capitalizing on this are con artists who use the highly recognizable (but never trademarked) Walking Fingers logo to send misleading Yellow Pages solicitations to advertisers, who mistake them for legitimate bills.

Be on the alert for invoices related to Yellow Pages directory listings that are actually solicitations. The bills, which generally carry the Walking Fingers logo, are designed to be mistaken for legitimate Yellow Pages invoices.

Check all invoices carefully, and make sure that the person who pays the bills at your company is aware of these bogus bills. Also, keep in mind that legitimate business directories other than the Yellow Pages exist. Be sure you read the fine print first.
Consulting arborists are often called upon to confirm the diagnosis of herbicide damage to trees or shrubs. This sort of damage is common to plants situated along railroad tracks, next to utility substations, in industrial areas or along fence lines where total long-term control of vegetation is desirable. Damage is more difficult to diagnose where these same total vegetation control herbicides are applied to cracks in sidewalks, under driveways or in gravel mulch around buildings. Other common situations include drift from elsewhere on the property or from field crop applications. Additionally, herbicides may affect plantings down slope from an application.

Dr. Tom Smiley, plant pathologist with the Bartlett Tree Research Laboratories in Charlotte, N.C., says “Symptoms of total vegetation control herbicide damage include yellowing or chlorosis—either between the veins of leaves or chlorosis of the leaf veins. When concentrations of the herbicide are high enough, the chlorosis turns into a necrosis as the leaf margins, interveinal or veinal tissue is killed. Twig and branch die back often follow.”

Trees mistakenly affected by treatments such as sidewalk crack applications may die the same season or within three years. If the tree survives, symptoms of one application often will be apparent for several years.

Consulting arborists should, however, be aware that other abiotic problems induce the same or similar symptoms as herbicides, and these other problems are more common. One of these factors is water excess or deficiency. Symptoms of drought are wilting of leaves and marginal necrosis. Drought symptoms occur more commonly in new transplants and trees with root or root collar problems. Excess water suffocates roots by not allowing them to take up water and nutrients readily, and predisposes them to root rots.

Micronutrient deficiencies or toxicities can also be confused with herbicide damage. Interveinal chlorosis and necrosis are common with micronutrients. Excesses of micros such as boron will cause a marginal necrosis. Road salt taken up in the spring by trees will produce marginal necrosis, sparse foliage and reduced leaf size.

Smiley points out that winter injury often occurs when warm periods are followed by a sharp drop in temperature. These conditions can result in marginal necrosis, sparse foliage and small leaves or the total collapse of the plant when temperatures warm up in the early summer. Winter injury is also more prevalent on plants with root or root collar problems.

Before confirming the diagnosis of herbicide damage, be sure to rule out all of the other possibilities. Also, check the herbicide history of the entire property. If possible, check the pesticide storage room to find out what the property owners are really using. Laboratory analyses for individual herbicides are very expensive, often more than $150 per chemical, so be sure to narrow down the potential chemicals for analysis to only one or two. Greater care is needed in this type of diagnosis to arrive at the correct answer. A background check on previous activities and a site analysis are a priority before submitting your report. After thorough investigation, most of the so-called “herbicide damage” today proves to be abiotic in nature.

J.B. Ingram is ASCA representative to CTLA

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The Portable Power Equipment Manufacturers Association (PPEMA) has signed a Statement of Principles with the Environmental Protection Agency (EPA) and other organizations that are on the Regulatory Negotiation Committee that establishes the framework for significant reductions in exhaust emissions from small two-cycle engines sold and used in the United States.

“The significance of this agreement for the American public and the manufacturers of hand-held outdoor power products is enormous,” PPEMA President Donald E. Purcell said. “The American public benefits by having cleaner air, and the portable power equipment industry benefits because we can now proceed with confidence to build gasoline-powered products into the next century.”

The Statement of Principles was also signed by the State & Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials, State of Wisconsin Department of Natural Resources, North American Equipment Association, and the Auger and Power Equipment Manufacturers Association. It covers hand-held products such as chain saws, trimmers, brush cutters, cutoff saws, hedge trimmers, high-pressure cleaners, water pumps, generators, and other two-cycle engine products.

“For the past three years, PPEMA has participated actively in Regulatory Negotiations with EPA to arrive at a workable set of air quality regulations,” Purcell noted. “The agreement represents the most difficult and complex environmental challenge ever undertaken by this industry. Once these regulations are fully implemented, emissions from portable power products will be reduced substantially.”

The agreement will form the basis for the development of the second phase (Phase II) of the national exhaust emission regulations for small gasoline engines less than 25 hp. The first phase (Phase I) will be implemented this year for consumer products; Phase I regulations for larger, professional products take effect Jan. 1, 1998. EPA has estimated that Phase I regulations will reduce hydrocarbon emissions from small, two-cycle engines by approximately 32 percent.

The Phase II regulations outlined in the Statement of Principles will take effect beginning in 2002 and result in an additional 30 percent emissions reduction over Phase I levels. Also included are provisions for an air quality technology review, which will take place in 2001, and a voluntary environmental labeling program.

Wood/Chuck Donates Chipper

National Arborist Foundation Board Chairman Paul McFarland recently announced to the Trustees a generous gift to the Foundation. Wood/Chuck Chipper Corporation has offered a chipper worth more than $20,000. This chipper is Model 17X, which retails for $17,000, with a one-of-a-kind Dupont race car paint job worth another $3,000. The chipper is to be given away in a raffle during TCI EXPO ‘96, Nov. 7-9 in Charlotte, NC.

“By giving away this extremely valuable piece of equipment, Wood/Chuck has demonstrated a very high level of support for the future of arboriculture,” McFarland said. “We are delighted with their support.”

The entire proceeds of the raffle will go to the National Arborist Foundation for its programs with commercial arborists to protect and enhance the global environment.

“Wood/Chuck is very pleased to make this gift in support of our industry,” said Dennis A. Beam, III, vice-president of Wood/Chuck Chipper Corporation. “We want not only to make a gift but to encourage others who care about the future to support the NAF and think and act charitably.”
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TREE CARE INDUSTRY - JULY 1996
Twenty Minutes May Be All It Takes

By Robert Felix

Twenty minutes every week, if put to the right use, can save a life, prevent an injury, avert property damage, reduce your workers' compensation premiums, avoid an OSHA citation and increase crew productivity.

How? Institute a weekly tailgate safety program.

Tree service firms have successfully used the tailgate concept of training for years. A tailgate safety program can be very easy to put in place using the following guidelines:

When do you do it? Schedule a weekly tailgate safety program on payday. Tree workers are notorious for taking days off, but nobody misses payday. Have your crews come in early on pay day for a tailgate meeting before checks are distributed.

Where do you hold it? Tailgate meetings are easily held outdoors, weather permitting, or in the garage/warehouse during inclement weather. If you are operating crews out of a temporary location and no indoor facility is available, find a coffee shop and put some tables together. The cost of coffee and a Danish is well worth the opportunity.

Who conducts the program? A foreman, supervisor, you or anyone else you designate can conduct the meeting. Some companies assign crew members on a rotating basis to conduct weekly tailgate safety meetings. A properly prepared meeting with the necessary components isn't difficult for anyone to lead. The more people you involve in the process, the more likely you are to have crew members buy into the concept.

What are the component parts? You need to establish an outline of subjects to cover. These topics can be standard safety issues, such as a review of safe climbing techniques or safe use of a chipper. Any recent incidents might be discussed. Focus on what occurred, and
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more importantly, why. A critical review of a "near miss" is often a very effective safety training tool.

Regardless of the content, everyone present needs to sign a dated document that briefly summarizes the content of the session. (One sentence will do.) Documentation of training is an OSHA requirement. If you don't have records and there is an incident, the lack of documentation can be a valid basis for a citation. Also, if you can establish that an employee has been adequately trained, you can absolve yourself of liability by establishing that an incident was the result of willful employee negligence. To reinforce your position, you must keep records in employee files that you enforce compliance with the safety requirements discussed in your tailgate or other safety training programs. A simple copy of a note to an employee identifying a violation of a company safety practice and of the need to comply would be sufficient. Notice of a more serious or continuing violation should include some form of reprimand or penalty.

Where do you find the subject matter? There are several resources. Each paragraph of the ANSI Z133.1 Standard can be the specific tree care safety subject for a tailgate session. Your insurance carrier can help with material on general safety issues, including safe driving. Materials are also available from the National Safety Council as well as OSHA. The NAA has a tree care safety-related tailgate program available for purchase. For further information call 603-673-3311.

How do you make a tailgate safety program effective? Be consistent. Do it weekly. Lead by example. Give employees awards for safe practices, such as a year with no lost time to accidents or for a particular safety-related incident.

How do you measure your success? Success is measured as much by what doesn't happen as it is by what does. If your accident frequency decreases, your program is a success. If lost time due to accidents decreases, your program is a success. If the man from OSHA appears and gives you a clean bill of health, your program is a success. If your workers' compensation modification is reduced, your program is a success. If potentially hazardous situations are effectively addressed, your program is a success.

Why go through this exercise? Because when you stress safety, everybody wins!

Robert Felix is vice chairman of the ANSI Z133 committee and executive vice president of the National Arborist Association.

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TREE CARE INDUSTRY - JULY 1996

46
And now,

THE TOP 10 REASONS TO COME TO ISA CLEVELAND '96

10. Pretty popular parks. Cleveland is ringed with a fabulous 19,000-acre park district called the Emerald Necklace. Added bonus: your spouse or guest will visit the Cleveland Zoo's world-famous Rainforest.

9. Get back to your roots. In partnership with the city's Bicentennial Commission, Clean-Land, Ohio is planting 10,000 trees to celebrate Cleveland's 200th birthday.

8. Visit the Forest City. Cleveland has been named a Tree City U.S.A. 15 times by the National Arbor Day Foundation.

7. Culture & cultural attractions for everybody. Take a day trip to Sea World or Cedar Point (included in registration package for youth). Check out our very own Tree Climber's Jamboree on Sunday! Visit the Cleveland Botanical Garden, the Art, Natural History or Crawford Auto museums or Western Reserve Historical Society. And shop at The Avenue, Galleria, Old Arcade, West Side Market and Hale Farm and Village.

6. Catch fever on our newest lawn. Indians fever, that is. Our newest green space is growing in Jacobs Field, part of our famous $435 million Gateway sports and entertainment complex.

5. Entertainment & nightlife together. Your kids will light up at the Power Play video arcade in the "Flats" along the Cuyahoga River.

4. Cool Science Center. Youth spend a morning at our brand new $55 million Great Lakes Science Center, next to the Rock and Roll Hall of Fame.


2. Our best woods are woodwinds. But don't forget the strings, brass and percussion. Time magazine calls the Cleveland Orchestra "The best band in the land."

1. See Arboriculture and Cleveland rock. And roll. Don't miss the ISA Cleveland opening reception at the Rock and Roll Hall of Fame and Museum, right on the shores of our revitalized Great Lake.

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Fleet Safety: Why Bother?
Setting Up an Accident Control Program for Motor Vehicle Fleets

“H”e was the best employee I had. He knew the tree business better than anyone. Customers loved him and trusted his judgment.”

Do these words sound familiar? How many times have you hired a new employee because of his technical skills and been so happy to find “the right person” that you failed to check his driving record or just flipped that person the keys and assumed that he knew how to drive your truck?

While the trucking industry dedicates major resources to hiring, training and supervising its drivers, the service industry historically has been more lax with regard to this often-significant exposure. As an arborist/owner, just look in your storage yard or parking lot to find your largest capital investments. Would you give the keys to your house to a stranger? Why then give the keys to a piece of equipment (that may have cost more than your house!) to an employee who you are not positive is qualified and able to operate it?

Remember, that truck with your company’s name on the side can either be a good source of public relations or a dangerous weapon that tarnishes your good name. You don’t want your name associated with a vehicle that cuts off other drivers, speeds, or worse yet, causes an accident that makes the evening news!

Is this much ado about nothing? Absolutely not! For the last four years, ITT Hartford has insured hundreds of arborists through the National Arborist Association-endorsed insurance program. Consistently, the highest frequency of claims (58 percent) and the majority of the loss dollars paid (53 percent) have come from vehicular accidents!

Collectively, the tree care industry has recognized the hazards associated with pruning, fertilizing and chipping. It has developed comprehensive training programs to protect workers and the public. But an area that is much less technical that needs constant management attention is fleet operations—the vital link with the job site and specialized equipment that helps you complete the job faster and safer.

Getting Started

The first objective of management essential to the success of a fleet safety program is the issuance of a written safety policy that is supported 100 percent by senior management and all levels of supervision. This can range from a few sentences to several paragraphs. Keep it simple! For example, the old Bell Telephone System had one effective sentence that was the basis for its entire safety program for thousands of vehicles. It stated, “No job is so important and no service is so urgent that we cannot take time to perform our work safely.” A powerful statement!

Driver Qualification

The next and most critical element is selecting the right person to drive your vehicles. Thus, driver qualifications must be elevated to the same level as the technical skills required for the job. It has been said that, “You hire your own problems." This statement is particularly true with regard to vehicle operation, where training helps improve skills, but doesn’t easily change attitudes.

The driver candidate should have a valid driver’s license of the proper type. A motor vehicle record (MVR) check should be ordered and reviewed prior to allowing the individual to operate your equipment. A candidate who has multiple moving violations may not be the right person for you. Even if the violations are in a personal vehicle, bad driving habits tend to follow the employee to work.

The driver selection process should include completion of a comprehensive application, an interview to develop more detailed information, reference checks with previous employers, a written test on driving rules and regulations, and finally a road test using the type of equipment that will be assigned to the driver.

The time you invest in the selection process will far outweigh the time you have to spend later correcting a bad decision!
Driver Training

Even the best candidates don’t always have all the skills necessary to safely operate a vehicle. The training needed depends on the knowledge and experience of the employee, but proper training will reduce operational disruptions and minimize unnecessary costs due to accidents and equipment abuse.

Initial training usually involves indoctrination on specific equipment and company procedures. Refresher training is often needed for operational changes and new government regulations or equipment. Remedial training may be indicated when there is a problem of substandard performance, complaints, accidents, moving traffic violations or evidence of equipment abuse.

Training should be conducted by an individual who has an impeccable driving record and a demonstrated ability to convey knowledge in a stimulating manner.

Topics to be covered in training sessions can also include company rules and procedures; emergency procedures for accidents and breakdowns; routing to avoid restricted roads; roads with low overpasses or bridges; high accident areas; congestion; defensive driving techniques; and federal and state regulations.

Driver Supervision

Supervision does not mean enforcement, spying or threats. Effective supervision is a skill that results in positive driver attitudes. Drivers, by the nature of their jobs, are out of sight of management for the majority of the day. Proper driver/employee attitude is the basis for fleet operational safety being an integral part of every trip. Remember, no job is so important that it can’t be done safely. Supervision that reinforces this philosophy will cultivate positive attitudes.

Maintenance

Maintenance is an important part of any total fleet program. Equipment is expensive, and a good maintenance program will assure that your equipment operates reliably. Also, clean, well-maintained units are good rolling advertisements that display your attention to detail. As a side benefit, studies show that employees take better care of and are more careful with trucks that are clean and attractive.

In a maintenance program, the most critical factor is performing preventive maintenance on schedule, so that the more expensive crisis maintenance (breakdowns) is kept to a minimum.

When possible, assign vehicles to drivers, so an ownership responsibility is fostered.

Summary

When writing job descriptions for operators of trucks and other heavy equipment, remember that safe vehicle operation is a critical component. Spend the time needed to hire the most qualified person, and include driving skills as part of your evaluation. Create an environment that fosters a positive attitude toward all job aspects, including vehicle operation. If you do all this, your likelihood of suffering the consequences of accidents is greatly reduced.

Billy R. Boguski is assistant vice president of the Hartford Specialty Company, an affiliate of ITT Hartford Insurance Group, Hartford, Conn.
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Job seekers/employers - Job listings newspaper with openings in arboriculture and allied fields. Published twice monthly, $22.95 for 6 issues. Employers - post your job openings for $14.95. Ferrell’s Jobs in Horticulture, TCI, PO Box 156, Mechanicshurg, PA 17055-0156. Phone: 800-428-2474; Fax: 800-984-5198.

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Arborist—Representative: 1 hour from NYC. Sales and service to residential and corporate. Must be fully experienced and knowledgeable of the industry. Competitive package, benefits and growth opportunity. Send resume to: Box CC, TCI, PO Box 1094, Amherst, NH 03031.

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TREES CARE INDUSTRY - JULY 1996

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Classified ad rates: $50 per inch ($45 NAA members) 1-inch minimum. Payable in advance, due the 20th of the month two months prior to publication. Send ad and payment to: Tree Care Industry, P.O. Box 1094, Amherst, NH 03031
One of the requirements of professionalism is going the extra mile to provide the customer with excellent results. Often, this means putting in extra time and effort with little reward—other than the satisfaction of knowing you’ve done your best. But sometimes, extraordinary efforts deserve wider recognition.

This is true in the case of NAA member Gary Mullane, owner of Mullane Associates Low Country Tree Care, Inc., based in Hilton Head Island, S.C. Mullane supervised the protection of more than 300 mature oak, palm and other trees that were unfortunate enough to sit on the site of a major hotel demolition and reconstruction.

In recognition of professionalism, excellent tree care, expertise and commitment to the environment and his client, Marriott’s Grande Ocean Resort, Mullane Associates was presented with a Grand Award in the NAA’s first and now annual Excellence in Arboriculture Awards. The awards ceremony took place at the NAA’s 1996 Winter Management Conference, held in San Diego, Calif., in February.

Since Marriott was very concerned with preserving the trees, one of Mullane’s biggest challenges during the three-year project was communicating with contractors who were more used to tearing things down than working around them. “I really had to work hard with the crew that demolished the existing structure,” Mullane recalls. “After all, demolition crews are paid to destroy things.”

Fortunately, all the contractors on the site were responsive to Mullane’s requests, and the property is now an island showpiece. “Everyone was so careful that we were able to build an elevator shaft just a few inches from a mature oak tree,” Mullane recalls.

In addition to learning new personal communications techniques, Mullane absorbed a wealth of information about protecting trees from trenching, transplantation and compaction problems. “It was like a three-year lesson on how to protect trees on a construction site,” he observes.

Mullane is already considering entering the 1997 Excellence in Arboriculture Awards. “I might enter some work we did for the Walt Disney company, or some volunteer work we did for the state of South Carolina on a giant, 300-year-old oak tree that’s been abused by highway pollution and other problems.”

Whether he enters next year’s competition or not, Mullane’s expertise and professionalism are an example for all in the industry, and he is a fitting recipient of an Excellence in Arboriculture Grand Award.

The NAA’s Excellence in Arboriculture Awards honor member companies for outstanding performance and for preserving the health and beauty of mature trees in urban, suburban and rural settings. NAA’s recognition process strives to increase public awareness of environmental improvement through excellence in tree care. The NAA believes that such recognition promotes quality performance and fosters a greater appreciation for the benefits of trees and their need for professional care. The 1997 Excellence in Arboriculture Awards ceremony will again be funded with a generous grant from Altec Industries and will be sponsored by the National Arborist Foundation.

For more information about award recipients, the 1996 or 1997 Excellence in Arboriculture Awards, or the care of trees, please contact the National Arborist Association at PO Box 1094, Amherst, NH 03031-1094.
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"Make big plans, aim high in hope and work."
--Daniel H. Burnham

The satisfaction of a job well done helps ease the strain of sore muscles at day’s end. The pursuit of excellence is the lifeblood of the tree care industry. When attained, excellence should be acknowledged, rewarded and respected. The Excellence in Arboriculture Awards Program was specifically created to recognize those companies that have distinguished themselves with excellence in their work, as judged by their peers.

This program reflects the commitment of the members of the National Arborist Association to preserving the health and beauty of the trees in our neighborhoods, towns and cities. It rewards and recognizes commercial tree care professionals who execute tree care projects of exceptional quality. At the same time, it acknowledges the companies and citizens who underwrite such projects.

The National Arborist Association strives to increase public awareness of environmental improvement through excellence in tree care. Peer recognition promotes quality tree care and fosters a greater appreciation for the benefits of trees and the professional care of trees. In addition, this program will challenge those responsible for tree care throughout the country to achieve a higher level of excellence. Membership in the National Arborist Association is required for eligibility.

Nominations are now being accepted for 1997 in the following awards and categories:

**Awards**
Grand Award, Award of Distinction, and Honorable Mention Award are the three regular award categories for tree health management projects. More than one award of equal value may be given in each of the three categories when warranted. The Heritage Award and the Arbor Day Award are stand-alone awards and the project must be of Grand Award quality to qualify.

**Tree Health Management**
- Residential Under $5,000
- Residential Over $5,000
- Commercial Under $5,000
- Commercial Over $5,000

**Heritage**
Pro bono tree health management for trees that are of historic interest or significance.

**Arbor Day**
Pro bono tree health management for trees in connection with Arbor Day activities.

**Tree Relocation**
Unique tree-moving projects.

**Construction Site Tree Preservation**
Planning and other activities that increased the survivorship of significant trees on a construction site.

**Judges Award**
Award given at the judges’ discretion for a project consistent with the purpose of this awards program.

**Helpful Tips for Entering**
The panel of judges for the Excellence in Arboriculture Awards Program has a difficult task—evaluating and comparing the work. All projects submitted for NAA’s awards program are reviewed only through photos and the accompanying descriptions. Only the information contained on the entry form provided is made available to the judges. Since the judges cannot visit job sites, the photography must bring the job site to them. It is essential that the photos be of the highest quality, and that they clearly show the nature and scope of the work.

Entries must be received by Sept. 15, 1996. For entry forms and information, contact the NAA, P.O. Box 1094, Amherst, NH 03031-1094; Phone: 800-733-2622; E-mail: 76142.463@compuserve.com
1996
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* Please circle this number on the Reader Service Card for more information.
Aerial Rescue Training Saves a Life
By Jim Meloy

Working in trees can be dangerous, even when climbers are well trained. Our company, Arizona Tree Experts, practices safe techniques and aerial rescues over and over again. As much as we prepare, we always hope that we will never have to put our rescue training to the test.

One day last winter, however, all that training paid off when Arizona Tree Experts employee Thaddeus Coffey performed an aerial rescue and saved the life of a fellow climber. On Dec. 28, 1995, Coffey, an arborist of 20 years, miraculously helped rescue a fellow climber who had been injured while trimming a palm.

The man was throwing the palm's seed stalks over his left shoulder when one of the stalks accidentally touched a primary line, sending 7,200 volts through his body. The charge entered his left hand and exited through his left foot.

Coffey and his crew were trimming a tree across the street when his ground man heard a loud noise and turned to see the trimmer dangling as if lifeless from the palm tree. The ground man yelled to Coffey, describing the scene. Coffey told the crew to get his palm gear and he rappelled from the tree he was trimming and ran to the man's aid, not knowing if the swaying body was alive or dead.

The first thing he checked was the palm itself to see if it was still energized. He dropped a climbing spur between the palm tree and the ground to see if the palm was still hot. After learning it was neutral, he checked visually to make sure the palm was clear of wires.

Next, he climbed the palm while his crew set up his ropes. When he reached the man, he checked for vital signs and discovered the climber was still alive. The injured man was bent over backward in his saddle. Coffey could see the extent of the burns, but he noticed no bleeding.

Climbing above the still unconscious worker, he set up a false crotch to lower him to the ground. At this point, the Phoenix Fire Department arrived and helped set up the rigging to lower the man to the ground and into an awaiting ambulance.

On Feb. 17, 1996, Coffey was presented with an award from the Phoenix Fire Department for his heroic act. He was recently able to visit with the injured climber and reports the patient is doing fine.

Due to Coffey's aerial rescue training, he was instrumental in saving a fellow climber's life. This was the first time we know of that a trained arborist in this city has used his training in aerial rescue to save a fellow climber's life. I hope this will motivate other climbers and ground crews to train in aerial rescue. We salute Thaddeus Coffey for his preparedness and his efforts.

Jim Meloy is proprietor of Arizona Tree Experts

Do you have a story for From the Field? TCI will pay $100 for published articles. Submissions become the property of TCI and are subject to editing for grammar, style and length. Entries must include the name of a company and a contact person or they will not be considered for publication. Articles and photos must be received by the first day of the month for the following month's issue.
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WesSpur, Inc.
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The Sharp Tool Company
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Power & Telephone Supply Co., Inc.
Preformed Line Products
Sherrill Arborist Equipment & Supply
Tree Line Supply
WesSpur, Inc.
Western Tree & Landscape Supply

Cabling & Bracing
Aerial Equipment, Inc.
American Arborist Supplies, Inc.
American Chainsaws & 2 Cycle, Inc.
Artistic Arborists, Inc.
Bartlett Manufacturing Company
Ben Meadows Company
Bishop Company

Tree Transplanting
Environmental Design/Instant Shade

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With the rear-mount design, this compact vehicle can maneuver with ease through tight spaces and give you additional working height. From trimming to removals, you gain the extra reach by working over the rear of the truck, enabling you to set up in smaller and tighter areas. Aerial Lift, Inc., 571 Plains Road, Milford, CT 06460. Phone: in CT 800-245-5438, USA 800-446-5438; Fax: 203-878-2549.

ALTEC INDUSTRIES, INC.

Altec’s complete line of high-quality tree care products include aerial lifts with superior reach for maximum productivity and wood chippers with a proven record of durability and performance. Altec totally supports the tree care equipment it manufactures with a direct nationwide sales and service network and a warranty policy unsurpassed in the industry. For more information on Altec tree care equipment, call 1-800-958-2555.

AMERIQUIP

The Eagle 45, manufactured by AmeriQuip, is a trailer-mounted, articulated aerial lift with 25-foot side reach and 45-foot working height. It features positive bucket leveling, 360-degree continuous rotation and proportional hydraulic controls. Heavy-duty, quick-adjust outriggers are an integral part of the lift. AmeriQuip, 1480 Arrow Hwy., La Verne, CA 91750. Phone: 800-824-9776, 909-392-2033; Fax: 909-392-4651.

HOLAN/MOBILE TOOL INTERNATIONAL, INC.

Holan’s Model 829 Tree Trimmer is available in 50-foot and 55-foot working heights. Features include an over-center, 210-degree articulating upper boom and a 130-degree articulating lower boom for 40 feet of side reach in non-over-center position, and over 41 feet of side reach in over-center position. Model 829 aerial lifts with forestry bodies are mounted and ready to roll, coast to coast. Holan/Mobile Tool International, Inc., 5600 West 88th Avenue, Westminster, CO 80030. Phone toll-free: 800-521-5351 or 303-657-2590.
SIMON-TELELECT, INC.
Simon-Telelect Hi-Rangers have been used throughout the tree care industry for many years. Our latest Arborist Industry innovation is the Simon-Telelect XT-52. Providing you with 42.2 feet of side reach in the work zone and 57 feet of working height, the XT-52 also provides maximum user benefits while minimizing downtime and maintenance. Check it out! Simon-Teleject, Inc., 600 Oakwood Road, Watertown, SD 57201. Phone: 605-882-4000.

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TECO, INC.
The TECO Saturn features 46-foot side reach that reduces set-up time and allows operator to position easily in difficult areas. Articulation of the upper boom is 210 degrees and lower boom is 138 degrees for greater side reach. Side-by-side rectangular booms for strength, easy-to-operate, one-handle platform control, no chains or cables and low maintenance design. TECO, Inc., 9733 Indianapolis Road, Fort Wayne, IN 46809. Phone: 800-860-5438 or 219-747-1631; Fax: 219-747-6732.

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TIME MANUFACTURING COMPANY
Time Manufacturing Company offers Versalift aerial devices in working heights to 65 feet. Featured is our most popular tree-trimming unit, the over-center model VO-50, with 55 feet of working height. Save time and money with a Versalift! Complete specs, pricing and delivery schedules available. Time Manufacturing Company, PO Box 20368, Waco, TX 76702. Phone: 817-776-0900; Fax: 817-776-7531.

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AMERICAN ARBORIST SUPPLIES, INC.
Rated aluminum false crotch blocks, wide-check plates prevent rope abrasion, oilite bronze bushing to withstand shock loading, high-strength aluminum alloy provides light weight but high tensile strength, aluminum lanyard spacer (left) increases strength of block lanyard & block, new 1/2-inch rope size with 2000-pound working load and 10-to-1 safety factor. Other rated aluminum block sizes available—5/8 inch, 3/4 inch and 1 inch. Priced under $125. Call today and mention this ad for an introductory 10% discount. American Arborist Supplies, Inc., 882 South Matlack, Unit A, West Chester, PA 19382. Phone: 800-441-8381.

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TCI PRODUCT DIRECTORY - 12
ARBORIST SUPPLIES

BAILEY'S


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BARTLETT MANUFACTURING COMPANY

Bartlett complements their line of professional pole pruners, pole saws, hand saws, sheaths, lopping shears, climbing belts and fiberglass poles with items from other quality manufacturers, including: Buckingham Manufacturing, Corona Clipper, Council Tool, Dixie Industries, Gilmour Manufacturing, Klein Tools, New England Ropes, Samson Ropes and Weaver Leather. Bartlett Manufacturing Company, 3003 E. Grand Blvd., Detroit, MI 48202. Phone: 800-331-7101; Fax: 313-873-5454.

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BISHOP COMPANY

Bishop Company celebrates 51 years supplying the professional arborist and landscaper with quality tools, equipment and service. Our 128-page catalog represents products from over 350 manufacturers. Call toll-free for your free copy today! Whether you need climbing gear, pruning equipment or gardening tools, let Bishop be your "one-stop shopping." Bishop Company, 12519 East Putnam St., PO Box 870, Whittier, CA 90602. Phone: 800-421-4833.

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Our policy has always been safety first. That is why we never use "less desirable" imported yarn. Only top quality American-made raw materials go into our braided and twisted ropes. Add our specially formulated, environmentally friendly coating, and you have a product that's hard to beat. We specialize in finding out what YOU want, then designing and producing it to your specifications. And we do it for less. That's the Buccaneer Difference. Distributor inquiries welcome. Buccaneer Rope Company, 4711 126th Ave. N., Clearwater, FL 34622. Phone: 800-358-ROPE (7673) or 813-573-6066; Fax: 813-573-1210; E-Mail: BUC ROPE@aol.com

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TCI PRODUCT DIRECTORY - 13
**HALL'S SAFETY EQUIPMENT CORPORATION**


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**NEW ENGLAND ROPES**

New England Ropes manufactures a wide variety of the highest quality climbing and bull ropes for the professional arborist. Bull ropes are available through 1-inch diameter (38,000 pounds breaking strength) with a unique abrasion-resistant coating for enhanced durability. Our climbing lines continue to be the best overall performing ropes on the market today. Write for catalog and 9-inch sample. New England Ropes, 848 Airport Road, Fall River, MA 02720. Phone: 800-333-6679.

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**THE NIEMEYER CORPORATION**

The Niemeyer Corporation began in 1951 as a retail repair shop for mowers and chain saws. Today, Niemeyer also offers professional arborist supplies directly to the end user. The top climbers in our industry get their supplies from Niemeyer—why not you? Niemeyer’s special catalog is ready to be mailed to you. Call 800-327-2672 today. The Niemeyer Corporation, PO Box 355, Newtown Square, PA 19073. Phone: 610-356-2672; Fax: 610-353-7200.

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**THE PEAVEY MANUFACTURING COMPANY**

Peavey Manufacturing Company offers a variety of long-length handles in either white ash octagonal or fiberglass up to 16 feet long. We also carry sectional poles with light-weight aluminum couplers, pruner heads and saws, as well as a complete line of logging tools and pole line construction tools. Call or write for free brochure. The Peavey Manufacturing Company, PO Box 129, East Eddington, ME 04428. Phone: 207-843-7861.

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SAFETY TEST & EQUIPMENT COMPANY

Safety Test & Equipment Co., established in 1947, manufactures and wholesale distributes a full line of tools, supplies and safety equipment for the tree care and utility industries. Free catalog. Safety Test & Equipment Company, Highway 150 East, PO Drawer 400, Shelby, NC 28150. Phone: 800-438-0671; Fax: 704-482-7349.

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SHERRILL ARBORIST EQUIPMENT & SUPPLY

Sherrill's Arborist Supply Catalog, featuring the newest tools for the treeman’s trade: saddles, climbing gear, lowering devices, blocks and slings, pulleys and speed line, ropes, saws, pole pruners, loppers, safety gear and boots, cabling and bracing hardware, drills and fertilization, chain saws and accessories, chippers, mulchers, trailer-mounted aerial lifts, stump cutters, teeth and knives and so much more. Member and active supporter National Arborist Association (NAA) & ISA. Sherrill Arborist Equipment & Supply, 3101 Cedar Park Road, Greensboro, NC 27405-9657. Phone: 800-525-8873, 910-378-0487; Fax: 910-378-1096.

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TREE LINE SUPPLY COMPANY

The “New” Chip on the Block for Complete Arborist Supplies for the Arborist by the Arborist. Featuring: Tree Tech MicroInjection Systems, Weaver saddles, Corona pruners and saws, Buckingham climbing equipment, snaps, ropes (Samson, Wall, New England, Buccaneer), Jonsered chain saws, Swede Pro chaps, Marvin pruners, Peltor helmets, rigging systems, carabiners and much, much more. If we don’t have it, we will find it. Visa/MC/Discover Cards—Shipping. Tree Line Supply Company, 1747 Copley Rd., Akron, OH 44320. Phone: 330-864-0342; Fax: 330-864-0771. Richard Woods, manager.

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WESSPUR, INC.

Opening the boundaries of products and markets available to the tree care industry. Manufacturing chip retaining curtains and spill containment kits for brush and stump chippers. Representing machinery service parts for Rayco, Bandit, Promark and Dosko. Featuring a full line catalog of climbing and arbor related products. We look forward to the opportunity to do business with you. WesSpur, Inc., 2111 Lincoln Street, Bellingham, WA 98225. Phone: 800-845-1213.

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BANDIT INDUSTRIES, INC.


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BLU-OX BRUSH CHIPPERS

From the home of "The Blue Ox" whole tree chippers, we are proud to introduce our new line of hand-fed chippers. We have combined the durability, performance and safety of our whole tree chippers into the most productive hand-fed chipper available today. From 80 to 800 horsepower, we have chippers for everyone's needs. Blu-Ox Brush Chippers, 479 North Street, PO Box 615, Edmore, MI 48829. Phone: 517-427-5518; Fax: 517-427-5496.

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GRAVELY INTERNATIONAL

The NEW PRO Chip 495 handles the biggest jobs. Perfect for municipalities and arborists, the 495 accepts branches and limbs up to 14 inches in diameter. Powered with either a 102-hp or 81-hp Perkins diesel engine and equipped with an electronic auto feed system that automatically maintains the engine speed for maximum performance. Gravely International, 150 S. Stratford Road, Winston-Salem, NC 27104. Phone: 910-777-1122; Fax: 910-777-1594.

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TCI PRODUCT DIRECTORY - 16
KARL KUEMMERLING, INC.

Manufacturer of the Mitts & Merrill brush chippers. Takes brush up to 8-inch diameter as fast as two or three men can feed it. Makes small chips which pack together on truck, resulting in fewer loads to dump. Small chips also excellent for mulch. No hydraulic system to maintain. Choice of 12-inch or 16-inch cutterheads and either gas or diesel engines. Karl Kuemmerring, Inc., 129 Edgewater Ave., N.W., Massillon, OH 44646. Phone: 800-338-2266 or 330-477-3457; Fax: 330-477-8528.

MORBARK E-Z BEEVER SALES CO.

Morbark's Model 2500 E-Z Beever chipper offers land clearers and large volume tree services the ability to increase production rates and capabilities compared to traditional chippers. Power options available from 250 to 325 hp from Caterpillar, Cummins or John Deere. For more information or a demonstration on any one of our "2000" Series chippers, contact: Morbark E-Z Beever Sales Co., PO Box 1000, Winn, MI 48896. Phone: 800-362-9010; Fax: 517-866-2280.

WOOD/CHUCK CHIPPER CORPORATION

Quality heavy-duty chippers since 1969. Wood/Chuck combines many years of experience with new technology to produce superior chippers for the tree care industry. Including a variety of standard drum-style chippers, hydraulically-fed disc-style chippers, self-propelled chippers for accessing hard-to-get-to areas, and dual stage cutter/mulcher chippers for economically and environmentally conscious consumers. Wood/Chuck Chipper Corporation, PO Drawer 400, Shelby, NC 28150-0400. Phone: 800-269-5188; Fax: 704-482-4356. E-Mail at woodchuck@shelby.net and http://www.woodchuckchipper.com

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Turn any chain saw into a powerful portable drill with the Atom Drill Attachment. Adjustable Auger-Stop automatically shifts the gearbox to neutral if bit jams. Has automatic reverse. Simply pull back and bit reverses until it’s free. Comfortable, anti-vibration hand grip. Adapts easily to all gas chain saws. Accepts bits from 3/8 to 1.25 inches in diameter. Perfect for limb bracing and other tree care jobs. Distributed by: GB American, Inc., PO Box 514, Lancaster, NH 03584. Phone: 800-765-9357 or 603-788-2825; Fax: 603-788-4529.
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GB guide bars are engineered for demanding professionals. Made from solid alloy steel, these laser-cut bars have a precision-ground groove for uniform rail thickness, and are specially heat-treated for resistance to wear and cracking. Hard nose, replaceable sprocket nose and roller nose styles are available. Lengths from 12 to 72 inches. Specialties too, such as double-enders, carving bars and a full range of quality sprockets and rims. GB American, Inc., PO Box 514, Lancaster, NH 03584. Phone: 800-765-9357 or 603-788-2825; Fax: 603-788-4529.

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HUSQVARNA FOREST & GARDEN CO.

Husqvarna offers a powerful, lightweight, commercial chain saw featuring a unique air filtration system and generating the engine speed and power of much larger saws. Powered by a 3.5 cubic-inch (57cc) engine, the Husqvarna Model 257 is ideal for tree services, landscape contractors, farmers and heavy-duty homeowner use. Husqvarna Forest & Garden Co., 9006-J Perimeter Woods Drive, Charlotte, NC 28216. Phone: 800-GET-SAWS (438-7297), 704-597-5000. http://www.husqvarna.com

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JONSERED

Get more work done with less effort! High power, low weight and fast acceleration. Clean power without interruptions with Jonsered’s original turbo air-cleaning system. Features all-new carburetor and cylinder/piston, designed to take advantage of improved performance of clean-running turbo engine. Easy handling, high performance. Tilton Equipment Company, PO Box 68, Rye, NH 03870. Phone: 800-447-1152; Fax: 603-964-7102.

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OLYMPYK

The Olympyk Model 935 DF is specifically designed and engineered for the professional arborist. Smooth, strong anti-vibration system. Top center-mounted handle for excellent balance and handling. Fully adjustable automatic oiler. High-quality engine includes chrome-impregnated cylinder and dual counterweight crankshaft with single-piece connecting rod, supported by ball bearings. Tilton Equipment Company, PO Box 68, Rye, NH 03870. Phone: 800-447-1152; Fax: 603-964-7102.

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POULANPRO

PoulanPRO offers a full line of arborist-oriented chain saws designed to make tree handling as easy as possible. Models include the new 190 arborist, the popular S25DA, the 260, 425 and 505. Model 425 has proven itself to be a popular choice because it combines power and versatility into an easy-to-handle 14.9-pound powerhead. This pro-style saw features a 4.0 cubic-inch engine (65cc) and accepts guide bars from 16 to 36 inches. Poulan—Weed Eater, PO Box 91329, Shreveport, LA 71149-1329. Phone: 800-554-6723.

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SHINDAIWA, INC.

Shindaiwa’s latest new products: EB480 backpack blower and SP415 backpack sprayer and our 488 chain saw, like all our other products, were designed and built for comfort, durability, safety and reliability. For the independent servicing dealer nearest you, call Shindaiwa at 800-521-7733.

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STIHL INCORPORATED

STIHL’s 020T chain saw is designed for arborists and utility workers who require high power, low weight and optimum balance. The 020T’s 2.15-cubic-inch (35.2cc) engine produces 2.2 hp. The 7.7-pound saw is equipped with an attachment ring, Master Control™ lever, side access chain tensioner, lifetime warranted electronic ignition system, anti-vibration system, translucent fuel tank, Quickstop® inertia chain brake, and easy access air filter and carburetor adjustments. Call 800-GO STIHL (467-8445) for the location of your nearest authorized STIHL dealer.

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AGAPE DESIGNS

What better way to say what you mean than to wear what you believe in? Our complete TREE T-shirt product line of adult, children and infant sizes allows you to make a positive statement. We are able to customize any design with your company logo or allow us to design one especially for you. Agape Designs, 2660 W. Baseline Road, Mesa, AZ 85202. Phone: 800-990-TREE (8733); Fax: 602-820-3940.

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Introducing the Electronic Pesticide Reference for turf and ornamental products. The EPR-T&O brings together—in an easy-to-use computer program—all of the labels, MSDS’s and indexes found in our best-selling Turf & Ornamentals Chemicals Reference. With 350 products from 25 chemical manufacturers, plus the ability to print labels, MSDS’s and worker protection information, EPR-T&O is the most comprehensive and user-friendly chemical reference available. C & P Press, Inc., 888 Seventh Ave, 28th Floor, New York, NY 10106. Phone: 800-544-7377.

The International Society of Arboriculture keeps its members informed on the latest practical and scientific information through the Journal of Arboriculture and Arborist News. Members receive each publication six times per year. In addition, members are entitled to discounts on over 50 different publications, videos and other member items. To become a member, call ISA; annual membership is $85. ISA, PO Box GG, Savoy, IL 61874. Phone: 217-355-9411; Fax: 217-355-9516. E-mail: isa@scorpion.ag.uiuc.edu and http://www.ag.uiuc.edu/-isa

The NAA leads commercial arboriculture into the 21st century! Since 1938, the NAA has furthered the interests of commercial arborists. We have over 25 safety and educational programs for managers and field personnel and a complete library of technical and safety training videos. We help the small business owner with business and compliance-related issues. Call or write for information: National Arborist Association, Inc., PO Box 1094, Amherst, NH 03031-1094. Phone: 800-733-2622. http://newwww.com/org/naa NAA E-Mail: 76142.463@compuserve.com

ArborGold™ software for the hand-held and home-based PC. (Use the software in your office for 30 days RISK FREE!) Imagine converting handwritten estimates to print instantly and presenting them to your customers! Yes, it’s true! Estimates down-load to your PC, eliminating manual entry! The home-based software runs in MS Windows, tracks jobs, inventory, equipment and employees, schedules crews, invoices and much more! Call Tree Management Systems, Inc., at 800-933-1955 for details.
CUMMINS DIESEL POWER

Specifically for the tree care industry, B & C Series Cummins Engines provide a wide range of engine power—76 to 260 horsepower. Engines that are designed to meet the new and future Off-Highway Emissions Regulations. Call Cummins for details. Cummins Michigan, Inc., 41326 Vincenti Court, Novi, MI 48375. Phone: 810-473-9000; Fax: 810-473-8560.

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ARBORSYSTEMS, LLC

The Wedgle™ Tip, developed by ArborSystems, will significantly reduce the amount of time necessary to treat trees for pests, diseases or other problems. Chemicals are injected through a 1/16-inch slit in the wood, eliminating the damaging effects of drilling. The Wedgle™ Tip injection system is used exclusively with POINTER™ Insecticide (Merit®) and IRON NUTRIBOOSTERS™. ArborSystems, LLC, PO Box 34645, Omaha, NE 68134. Phone: 800-698-4641 or 402-339-4459; Fax: 402-339-5011.

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LAND PRODUCTS COMPANY

Moon’s Tree & Shrub Fertilizing Tool. Delivers from an 8-pound steel hopper 1/4 pound of dry material into a 12-inch deep hole. Unit weighs 15 pounds, constructed of heavy steel. The tool has one moving part and works easily in compacted soils. Fast, simple and economical. Industry-proven since 1990. Land Products Company, PO Box 5274, Springfield, MA 01101-5274. Phone: 413-739-4455. Call collect.

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THE DOGGETT CORPORATION

Since 1941, we have manufactured the leading brands of soluble fertilizers and kept ourselves current on tree nutrition and fertilization research. Not only do we strive for the optimum in formulating the finest product for the tree but also to make the most suitable product for the tree health professional. (Soil-applied mycorrhizal spores.) Free catalog available. The Doggett Corporation, 31 Cherry Street, Lebanon, NJ 08833. Phone: 800-448-1862.

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GROWTH PRODUCTS, LTD.


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FERTILIZERS

ROOTS, INC.

ROOTS² and iron ROOTS² provide arborists with a new approach to plant health care. Healthy trees and shrubs can now be maintained with reduced pesticide use. Trees and shrubs treated with ROOTS² are healthier and more stress tolerant than those treated with fertilizer alone. Plan now to use ROOTS² in your fertilizer program. Roots, Inc., 3120 Weatherford Road, Independence, MO 64055. Phone: 800-342-6173; Fax: 816-254-1408.

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FINANCING

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Put the power of the ArborCard™ to work growing your business. Call today and apply by phone for fast, pre-approved leasing of up to $150,000 without financial statements for new or used equipment. You select what you want from the dealer you want. We take care of all the paperwork. Call today for a free brochure or fast approval. Corporate Capital Leasing Group, Inc., 109 East Evans Street, Box 504, West Chester, PA 19381-0504. Phone: 800-537-9108; Fax: 800-344-7712.
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Now you can get lease financing up to $75,000 on new or used arborist equipment. Easy one-page application, with no tax returns. We offer financing up to 60-month terms on used equipment (call for more details). You get the best equipment to do the job more efficiently and less costly than your competition. Get the arborist equipment you need for the lowest investment today! We accept competitors’ credit cards.
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CIBA PLANT PROTECTION

Alamo® systemic fungicide, which fights oak wilt and Dutch elm disease, is now available in 10-milliliter micro-injection units that are easily inserted into a tree’s flare roots. The new application system drastically reduces application time. Alamo® is most effective when used preventively and also may be used to prolong the life of trees with as much as 20 percent crown loss. It is available in quarts for macro-injection.
Ciba Plant Protection, PO Box 18300, Greensboro, NC 27419. Phone: 800-395-TURF (5873) or 910-547-1052.

W.A. CLEARY CHEMICAL CORPORATION

Cleary’s 3336 is a systemic fungicide that prevents and controls most major diseases that infect bedding plants, bulbs, flowering crops, woody ornamentals, conifers and shade trees. Recommended for controlling pathogens and diseases such as anthracnose, ascochyta blight, black spot, botrytis, cylindrocladium, diplodia tip blight, fusarium, leaf spots and others. Cleary’s 3336 WP is available in 8 oz. water soluble bags and 1 pound jars. 3336 F comes in 2.5 and 1 gallon jugs plus quarts.
W.A. Cleary Chemical Corp., 178 Ridge Road, Suite A, Dayton, NJ 08810. Phone: 800-524-1662 or 908-329-8399 for more information.

SOURCE TECHNOLOGY BIOLOGICALS, INC.

Effective and affordable, preventive and therapeutic for Dutch elm disease, oak wilt, and fire blight control (spray) on rosaceous. Technical service support since 1984. Manufacturer of Phyton-27®.
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Property and casualty insurance specifically for the tree care industry. Coverages include workers’ compensation, property, liability and auto. Optional coverages such as business interruption, commercial umbrella, underground storage tank, commercial crime, inland marine and pesticide and herbicide applicator coverage. CNA also offers you personalized, expert service through our CNA agents. You will also receive prompt, efficient claims handling and professional loss control assistance. CNA Insurance Companies, CNA Plaza-38 South, Chicago, IL 60685. Phone: 800-CNA-6241.

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ITT HARTFORD

Comprehensive Insurance Protection. That’s what ITT HARTFORD offers arborists every day. Cost-effective and designed specifically for arborists. Workers’ Compensation, General Liability, Automobile, Property and Equipment coverage available through your local agent. ITT Hartford, Hartford Plaza, T-18 Programs Unit, Hartford, CT 06115. Phone: 800-533-7824 or 860-547-4277; Fax: 860-547-6649. Helpful people include Lorna Verrastro, Billy Boguski, Joe Brophy, Mike Rook and Jenny Mortell.

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BORDER CITY TOOL & MANUFACTURING COMPANY

Established in 1954, Border City Tool is the original manufacturer of carbide tipped stump cutter teeth. After 42 years, our commitment to quality products, prompt service and reasonable prices is still our goal. We have a full line of products for your stump cutter needs. Call our toll-free number for information on our products or to place an order. Border City Tool & Manufacturing Company, 23325 Blackstone Avenue, Warren, MI 48089. Phone: 800-421-5985; Fax: 810-758-7829.

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LEONARDI MANUFACTURING CO., INC.

Leonardi Manufacturing is celebrating its 51st anniversary—1945 to 1996. Each year we try to bring our customers better service along with more items from which to choose. As the picture shows, our product line continues to grow. Leonardi Manufacturing Co., Inc., 2728 Erie Drive, Weedsport, NY 13166-9505. Phone: 800-537-2552; Fax: 315-834-9220, 24-hours a day.

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SIMONDS INDUSTRIES, INC.

Eliminate your knife concerns and maximize your chipping time with Simonds Limb-inator knives. All Limb-inator knives are made with high-quality chipper knife steel and heat-treated to exacting tolerances. Simonds has been manufacturing chipper knives for over 115 years and pioneered the tough center brush chipper knife design. We have years of experience over our competition—perfect practice makes a perfect product! Simonds Industries, Inc., P.O. Box 500, Intervale Road, Fitchburg, MA 01420. Phone: 800-343-1616.

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Prevent ivy and oak poisoning. A few drops of Oral Ivy® daily in water or juice stimulates the body’s natural defenses. Safe and effective. Cut lost time and reduce compensation claims for just 7 cents a day. Oral Ivy, Inc., 104 Guy’s Lane, Bloomsburg, PA 17815. Toll-free order line: 800-553-6778, Phone: 717-389-1814; Fax: 717-389-0126.

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CREATIVE SALES, INC. (CSI)

ACECAP® and MEDICAP® tree implants provide the tree care industry the world’s only micro-encapsulated Implant Systemic. Unique application technique reduces time and labor, and there are no container disposal worries. The industry’s lowest unit cost for prepared dosage systemics. We offer a complete product line, including insecticide, fertilizer and micro-nutrients. ACECAP® and MEDICAP® implants are available from an independent distributor network. Creative Sales, Inc. (CSI), PO Box 501, Fremont, NE 68025-0501. Phone: 800-759-7739.

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J.J. MAUGET COMPANY

Mauget’s newest entry, IMICIDE insecticide containing Imidacloprid, the same active ingredient in MERIT, is now registered. Encapsulated, premeasured materials are injected through the smallest wound in the industry directly into xylem tissues. Mauget Micro Injection is the time proven, environmentally sound way to correct elemental deficiencies, control chewing, sucking or boring insects and stop pathogenic diseases. J.J. Mauget Company, 2810 N. Figueroa Street, Los Angeles, CA 90065. Phone: 800-TREES-RX (873-3779); Fax: 213-225-3810.

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MONTEREY LAWN & GARDEN PRODUCTS, INC.

Florel Fruit Eliminator, long used to control nuisance fruits (olives, carobs, crabapples and apples) is now registered to control both leafy mistletoe on deciduous trees and dwarf mistletoe on conifers as well as nuisance fruits on cottonwood, elm, pear, maple, oak, pine, sour orange, sweet gum and sycamore. Odorless, non-staining, fast acting. Monterey Lawn & Garden Products, Inc., PO Box 5317, Fresno, CA 93755. Phone: 209-225-4770; Fax: 209-225-1319.

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CORONA CLIPPER

Corona's new line of aluminum-handled loppers cut so clean, so fast, so easy and are so strong and simple to maintain, that virtually everyone who has tested them says they're the best loppers they've ever used. Three models: a 21-inch version (AL 6621) with a 1 1/2-inch diameter cutting capacity suitable for vines and shrubs; 26-inch (AL 6642) and 32-inch models (shown, AL 6663) with a 2 1/2-inch diameter cutting capacity for tree pruning. Lifetime warranty. Corona Clipper, 1540 E. Sixth Street, Corona, CA 91719. Toll-free order line: 1-800-234-2547; Fax: 909-737-8657. E-Mail at sales@coronaclipper.com and http://www.coronaclipper.com

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FANNO SAW WORKS

The Fanno Saw Works continues its reputation of offering tree care professionals quality and unique tools through the Fanno International name. The FI-1311 Tri-Edge hand saw offers its user the most durable saw of its type on the market. Fanno Saw Works, PO Box 628, Chico, CA 95927. Phone: 916-895-1762; Fax: 916-895-0302.

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Stick with the best. Jameson fiberglass pruner poles are more versatile, durable, safer, lighter and more cost effective to use. Choose from a full line of interchangeable pruning and sawing heads, each featuring our unique adapter system, which enables all accessories to lock easily into any handle. Available in foam core and hollow varieties, in sectional and fixed lengths, all Jameson pruner poles meet OSHA regulations. Jameson Corporation, PO Box 240277, Charlotte, NC 28224. Phone: 800-346-1956; Fax: 704-522-6161.

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TCI PRODUCT DIRECTORY - 26