Tree Installation Controversies: Manufacturers vs. Practitioners

A Growing Concern: Invasive Species

Adapting Crane Standards for Tree Workers

Pest Management Update: Merit vs. Mites
Oregon® builds the world’s best saw chain. We invented it. We refined it. We constantly find ways to improve on it.

Others try to copy, but they simply cannot match the original. Oregon sets the standard for performance, stay-sharp, reliability, innovation and long service life.

When the cut is important and you want value for your dollar, you have only one clear choice. Insist on genuine Oregon® brand saw chain.

Advanced Cutting Technology

www.oregonchain.com

Please circle 43 on Reader Service Card
FROM RIGHT-OF-WAY REMOVALS TO BACKYARD CLEANUP

POWERFUL, LIGHTWEIGHT, VERSATILE.

The Vermeer® SC352 is a lightweight stump cutter that delivers the cutting power needed for right-of-way clearing jobs, and is compact to reach backyard stumps. The highly maneuverable SC352 also features a two-speed ground drive system that allows it to travel and turn easily around obstacles. Plus, with differential lock engagement and spring-applied hydraulically released brakes, you can improve efficiency on the job site. Known for powerful equipment, the entire line of Vermeer tree-care products is backed by a worldwide dealer network. For more information, contact your local Vermeer dealer or call 1-888-VERMEER.

Vermeer®
www.vermeer.com

Please circle 67 on Reader Service Card
Encouragement as the Season Begins ...

As May kicks in, things seem to be looking up for the tree care industry. The economy is improving. Companies are spending money on capital improvements. The last Gallup poll showed that while fewer people spent money on tree care, the spending was higher than in previous years. I’m hearing great things from members in terms of backlogs and a general sense that 2004 might be the first year in which people feel comfortable about a real recovery.

As this season begins, I want to thank those within the community who are continuing a long line of providing great service and great product, running with good business ethics and treating your people well. There are a lot of you out there who believe in doing it right, feel great about it and just wish others would work as hard the right way. Accreditation is going to help take this to a whole new level for everyone.

I’m lucky. I get to spend my time with the choir most of the time. I get to talk to the arborists who are trying to run great safety programs while they’re also personally running a couple of crews. I hear how much it means to get to go to TCI EXPOs and participate in the best educational programming in the nation. I work with members who are hiring consultants to help them raise the bar in growing their businesses. I receive constant reinforcement from the community to keep raising the bar and the standards.

We all know there are those out there who are not taking things as seriously as they should. However, we need to recognize that a lot of things about working in arboriculture have significantly improved. Research and information on running quality safety programs and the opportunities for better training have proliferated. New technologies are out there that are allowing us to take care of trees more effectively and to do our work more safely. Your association is taking steps to make sure that your voice is heard at the state and federal level. Never has your visibility been growing as quickly as it is right now.

And, so, as we begin another season, let’s take the time to celebrate the things that we have gotten right as a profession and an industry, recognizing that we still have a long way to go but that we’re on the right path. Together, we can build an industry and a profession that can be proud of and that the consumer will have confidence engaging on a regular basis.

The road ahead has curves, hills and a few potholes, but I know some people who are more than up to the task. Thank you for putting quality tree care and running a quality business at the forefront of your “to do” list in 2004. If you can help me encourage those who aren’t as strong believers as you are to do the same, we can really get somewhere. It’s going to take all of us working hard together to take this industry and profession to the next level.

Invite your competitor to a TCIA meeting – EXPO or Winter Management. Encourage them to join. We need to raise all ships. As you deal with insurance issues and wonder why your rates go up when you haven’t had a serious accident, realize that it’s because of the entire group. Helping your competitor and the businesses that drive you crazy will help all of us in the end. So here’s a nudge …

Keep up the great work and bring those along who can become additional converts.

Cynthia Mills, CAE
Publisher
NEED SOLUTIONS?

JUST FOLLOW THE ORANGE LINE...

Brush Chippers
Colorant Systems
Multibagger®
Tub Grinders
Horizontal Grinders

TO THE SOURCE FOR ALL YOUR CHIPPING & WOOD PROCESSING EQUIPMENT ANSWERS.

Market-leading brush chippers in both drum and disc-style from the pioneer in brush chipping...heavy duty, quality machines designed for professional arborists. Also, tub and horizontal grinders, coloring systems, bagging systems and more...it’s all here. Morbark...a trusted brand since 1957.

800-831-0042 • 989-866-2381 / www.morbark.com • inquire@morbark.com

Please circle 41 on Reader Service Card
May

Features

8 Installation Controversies: Manufacturers vs. Practitioners
By Bonnie Lee Appleton

14 Healthy Soil Leads to Healthy Trees
By Elaine Ingham

28 Updated Rules Could Restrict Crane Use in Tree Work
By Mark Garvin

34 Controlling Disease on Ornamental Crabapple Trees
By Lakshmi Sridharan

44 Pest Management Update - Merit vs. Mites
By Dr. Michael Raupp

50 A Growing Concern: Invasive Non-Native Species
By Lana Robinson

Departments

2 Outlook
By Cynthia Mills, CAE
Encouragement as the season begins … With the economy improving and business picking up, the tree care industry has an opportunity to raise the bar for business practices?

20 Cutting Edge
New products and services, and news in the tree care industry.

(Continued on page 6)

TCI's mission is to engage and enlighten readers with the latest industry news and information on regulations, standards, practices, safety, innovations, products and equipment. We strive to serve as the definitive resource for commercial, residential, municipal and utility arborists, as well as for others involved in the care and maintenance of trees. The official publication of the non-profit Tree Care Industry Association, we vow to sustain the same uncompromising standards of excellence as our members in the field, who adhere to the highest professional practices worldwide.
Experience the versatility and value of the Rayco C87 Series Compact Crawlers

C87L Turbo Diesel Loader

The only compact track loader available from the factory with your choice of high strength steel or rubber tracks.

Special Features
- Joystick controls, comfortable seating, and excellent operator visibility.
- The C87L accepts virtually any universal skid steer attachment.
- The heavy-duty, dozer-style undercarriage stands up to mud, rocks, snow, and sand.
- The Deutz 87 HP turbo diesel is oil cooled and provides 199 ft-lbs of torque.
- Air conditioned/heated cab standard equipment.
May

Departments

**Washington in Review**
*By Peter Gerstenberger*
New, stronger background checks are on tap for DOT-regulated drivers.

**Industry Almanac**
Important regional and national meetings and activities.

**Branch Office**
*By Dave Rattigan*
Are credit cards good for business? The pros and cons of accepting credit for a budding tree care business.

**Services**
Insurance: Operations control results in loss control.

**Business of Tree Care**
*By Jim Huston*
Calculating time and materials pricing.

**Classified Advertising**

**TCIA Reporter**
Safety and training products, news, commentary and benefits of membership with the Tree Care Industry Association.

**Management Exchange**
*By Scott Weston*
Firing with finesse.

**Tree News**
*By David T. McMaster and David G. Marren*
Green Point of New York lobbies for green legislative issues.

**Advertiser Listing**

**From the Field**
*By Eric L. Graefen*
Tree Word Search – Find the ANSI Standard.
The best deals you ever saw.

Fanno F1311
use item # 15910 - Simply put, it's the most popular 13" saw on the market. Features Fanno's trademark marine-grade, varnished plywood grip.

Corona RS7120
use item # 15906 - The 13" blade's razor tooth design provides awesome cutting power and a clean, smooth cut every time.

Silky Zübat
use item # 20680 - This heavy duty, professional curved saw has a 330mm long blade, suitable for cutting large branches. A soft, molded rubber handle completes this fast cutting saw.

Fanno ProTooth
use item # 25864 - Fanno's 22" saw has the ProTooth blade, which is an updated version of conventional blades. The ProTooth is designed to effectively remove chips from the kerf.

Silky Ibuki
use item # 20798 - This 390mm hand saw has the biggest and largest toothed blade of the Silky family. Combine that with the sure-grip handle, and you've got yourself a winner.

Call for your free catalog!

Please circle 56 on Reader Service Card
By Bonnie Lee Appleton

Remove all or part of the wire basket, or none? Stake all trees at transplanting and, if so, with what and for how long?

Because of such questions, in 2002 Virginia Tech launched an inquiry into these aspects of tree transplanting. In conjunction with that effort, readers of TCI magazine were asked to respond to two surveys – concerning wire basket manipulation and tree stabilization practices – that accompanied an article (Dynamic Tree Installation Specifications) in the April 2003 issue. At the same time, two Virginia Tech graduate students, Carolyn Beatty and Scharlene Floyd, surveyed manufacturers of both wire baskets and tree stabilization products. The findings of both surveys are combined here.

Wire basket manufacture & installation

Six of the eight wire basket manufacturers identified in the United States and Canada responded to the survey, which asked for specifics about their products. Four of the companies primarily make cone-shaped baskets while two make more truncated or flat-bottomed baskets. A majority, but not all, of the baskets currently manufactured are welded (vs. made from a single strand of wire), and a majority are galvanized. Galvanizing is usually done so that nurseries can stockpile wire baskets outside and not have to handle rusty product at harvest.

Did these manufacturing details matter to you, the practitioner? Generally, no. Most of you expressed no preference relative to basket shape or configuration, or type of construction, although a preference relative to wire treatment was that the wire not be galvanized.

When asked if they make recommendations relative to treatment of their baskets at installation, three manufacturers recommended removing or bending back the top basket loops, one recommended removing
the bottom, and two make no recommendations. A majority of practitioners said they remove, or recommend removal of, at least the top loops (also called ears by the nursery industry).

The major short-term goal of manufacturers when designing their baskets is ease of harvest for nurseries, whereas their major long-term goals are root ball protection and root ball stabilization. Two of the manufacturers of galvanized baskets had persistence in the soil as a long-term goal. Nearly half of you said you felt you’ve seen tree damage directly attributable to wire baskets.

**Tree stabilization**

Relative to tree stabilization, when practitioners were asked what criteria they use in determining the type of stabilization products/systems to use, the major responses were trunk or canopy/crown size, site conditions and location. Short-term goals are stabilization for immediate root growth, rapid and easy installation, and cost effectiveness, whereas long-term goals are development of trunk caliper and taper, trunk protection, safety and ease of removal. From a manufacturing standpoint, short-term goals in product design are rapid and easy installation, cost effectiveness and immediate stabilization for root growth. Long-term design goals are ease of removal, safety, trunk protection, and allowing for trunk taper development. (All responses listed in descending order of response.)

Of the products we identified at the time of the surveys, 83 percent were for above-ground trunk attachment vs. 17 percent for underground root ball anchoring. Aboveground systems mainly consisted of wooden stakes with guy wire ranging from the traditional hose-covered wire to a variety of other materials. Of the underground systems, two-thirds consisted of a metal spike-like anchor whereas one-third were metal anchors. In the time since the surveys were conducted, we’ve identified additional products for both above- and belowground stabilization.

When practitioners feel some form of stabilization is necessary, 81 percent use aboveground systems, the majority of which are wooden stakes with hose-covered wire or nylon strapping. Of those using underground systems, no one type of system predominated. Manufacturers and practitioners alike generally agree that if a system is needed it should allow for some degree of trunk flex.

When asked how long they recommend that products/systems be left installed, 40 percent of manufacturers (12 of 16 manufacturers returned the survey) responded one to two years, 30 percent said six months to one year, and 30 percent felt the time should vary. Practitioner responses were more varied with 41 percent recommending six months to one year, 30 percent felt the time should vary, 4 percent less than six months, and 2 percent more than two years.
All practitioners responded that they had seen some form of damage they felt could be attributed to the stabilization product/system used. The overwhelming response (65 percent) was girdling damage due to guying being left attached too long. The second most frequent response (16 percent) was some form of trunk or bark damage, including stabilization material embedded in the trunk.

Relative to wire persistence, last year we excavated several sites where wire baskets known to have been in the ground for at least 15 years were identified. Several baskets had wire sections protruding above ground, representing hazards to both people and equipment. Many baskets were fully intact, with wire embedded in root tissue to varying degrees. We did not try to make any assessment of possible tree damage due to wire persistence. We did crudely assess wire strength, which ranged from wire that could be wigged and broken by hand to wire that could only be removed with considerable strength using wire cutters. Along with the wire there was also often intact burlap and balling rope.

Current research projects

In March 2003, Virginia Tech began two research projects – one to address the effect of wire basket manipulation on roots relative to tree establishment, and the second to trial tree-stabilization methods and products. For the first, finely-rooted river birch (*Betula nigra*) and more coarsely-rooted pears (*Pyrus calleryana*, ‘Bradford’) were installed, with four wire basket treatments – no removal (the control); top loops and top horizontal wire removed; basket vertically split and the halves laid down into the planting hole; and the basket totally removed. Starting in April 2004, and continuing each April thereafter, i.e. one year of growth between excavations, the wire basket area of the roots of all trees were to be excavated to examine both root growth and wire degradation. The roots were then to be recovered with soil and mulch for another year of growth.

One potential problem with vertically splitting and burying the basket halves, and total basket removal, was apparent within one week of planting the tall river birch. Winds had hit the trunk and canopy enough to crow bar (wiggle) the trunks loose in their soil root balls, leaving holes in the soil around the trunks. Since the trunks of the trees in those two treatments were leaning too much to be left uncorrected, all trees in the study had to be staked to give adequate stabilization for root establishment without biasing the study by only staking the trees in those two treatments.

In the tree stabilization trial, again installed in March 2004, nine aboveground and three underground products/systems, and one control (no stabilization) treatment, were installed on Bradford pears at Virginia Tech’s Hampton Roads Agricultural Research and Extension Center in Virginia Beach. A similar trial was installed at Riverview Farm Park in Newport News, Va., using only below-ground stabilization products applied to roots of Chinese pistache (*Pistacia chinensis*), and above- and below-ground products/methods applied to lacebark elms (*Ulmus parvifolia*).
Helping Crews Work SAFER and SMARTER For 75 Years.

In the real world, one requirement that never changes is finding ways to help your crews work more safely. That’s why Altec tree care equipment is built rugged, reliable and designed with integral safety features. Our complete line of aerial devices and wood chippers is highlighted by our newest machine - the Altec LRV60-E70. It will help your crews work smarter and more efficiently. This unit combines 75 feet of working height and smooth maneuverability with the lowest cost of equipment ownership in the industry and unmatched financing options. For tree care units that help you work safer and smarter, call the company that builds them - Altec.

Altec Standard Safety Features
Altec ISO-Grid™ with Interlock Guard • Standard Outrigger Interlocks
Altec Electronic Side Load Protection • Altec SENTRY® Operator Safety Training • Altec Rota-Float™
Standard Five-Function HDP • Altec Opti-View™ Control Seat • Altec LMAP

For more Information, call 1.800.358.2555 or visit www.altec.com
Both stabilization trial sites were selected because they were open and windy. Following hurricane Isabel, which passed through the trial areas six months after installation, all trees at the Virginia Beach site were still standing as installed, but many trees at the Newport News site had been pushed over to varying degrees. This pointed out the need to assess individual tree installation jobs relative to exposure, soil conditions, type and size of tree, and other site features and constraints when selecting stabilization methods and products.

Trees at both sites were to be measured for trunk caliper increase in April 2004, and their roots excavated to evaluate root establishment. All stabilization products were to be removed, the product itself assessed for wear, and all trees evaluated for any possible damage as a result of the product or product installation method. All trees will be measured again in April 2005 to determine any longer-term effect of the stabilization method or product.

Trees at both sites were to be measured for trunk caliper increase in April 2004, and their roots excavated to evaluate root establishment. All stabilization products were to be removed, the product itself assessed for wear, and all trees evaluated for any possible damage as a result of the product or product installation method. All trees will be measured again in April 2005 to determine any longer-term effect of the stabilization method or product.

As a result of these trials, it is hoped that more options will be available for tree stabilization, and more knowledge will be gained about how and which products and methods should be selected if and when stabilization is needed.

Bonnie Lee Appleton is associate professor of horticulture at Virginia Tech University, and extension nursery specialist at the Hampton Roads Agricultural Research & Extension Center.

Virginia Tech graduate student Carolyn Beatty using a nylon strapping system attached to metal edgewise anchors to stabilize a tree by root ball anchoring (Foresight Products).

Both stabilization trial sites were selected because they were open and windy. Following hurricane Isabel, which passed through the trial areas six months after installation, all trees at the Virginia Beach site were still standing as installed, but many trees at the Newport News site had been pushed over to varying degrees. This pointed out the need to assess individual tree installation jobs relative to exposure, soil conditions, type and size of tree, and other site features and constraints when selecting stabilization methods and products.

Trees at both sites were to be measured for trunk caliper increase in April 2004, and their roots excavated to evaluate root establishment. All stabilization products were to be removed, the product itself assessed for wear, and all trees evaluated for any possible damage as a result of the product or product installation method. All trees will be measured again in April 2005 to determine any longer-term effect of the stabilization method or product.

All of the trees used in the above stabilization trials were 2-inch caliper, balled-in-burlap trees. Because so many 2-inch and larger caliper trees are now being grown in containers in soilless substrates, a new stabilization trial, using container-grown trees, was to be installed in April 2004. While some of the same stabilization products and methods used with the trees with field-soil root balls were to be used, others may not be as appropriate due to the difference in the root ball. The trees in this new trial will likewise be permitted to grow for one year and similar measurements taken and observations made.
When it comes to buying a hand-fed wood chipper you have two options: a disc-style or a drum-style. Which do you choose? Which is right for you? Consider the following characteristics of each before you decide.

**Disc-Style Chippers**
- Better all-around machines
- Chips easier because of their fixed 45° angle feed
- Requires less energy
- Uses less fuel
- Chips with less vibration
- Throws chips farther
- Produces a uniform chip
- Increased longevity
- High resale value
- Available in 6”, 9”, 12”, 14” and 18” diameter capacities

**Drum-Style Chippers**
- An excellent alternative
- A Brush Bandit™ chips easier than the competition because of its oversized drum
- Larger opening
- Collapses limbs easier
- Chip more material at one time, but generally not as fast as a disc-style
- Process most fibrous materials common in warmer climates better than a disc
- Available in 12”, 15” and 18” diameter capacities
- The 1290H, our newest hydraulic feed drum style chipper, is a compact, rugged, high capacity 12” chipper

Bandit offers the best of both styles. All our chippers are rugged, tried and true performers that hold up under the toughest conditions and are amply equipped with the power needed to do the job. Our units are easy to feed thanks to powerful feed systems, unique infeed designs and large openings. Operators can expect maximum production with limited trimming.

So, whichever you prefer, Bandit delivers with quality machines and a vast array of options and functions to make your job easier. Still unsure which type is right for you? Contact your nearest Brush Bandit™ Dealer or the factory to speak with a representative who can point you in the right direction.

---

BANDIT INDUSTRIES, INC.
6750 Millbrook Road • Remus, MI 49340
Phone: (800) 952-0178 or (989) 561-2270
E-Mail: sales@banditchippers.com
Website: www.banditchippers.com

Please circle 8 on Reader Service Card
When a tree germinates and takes root, or is transplanted and begins to explore the new territory around its roots, it will look for certain things that have inhabited soil for the last two to three billion years.

Plants anticipate a whole herd of beneficial organisms in the soil to greet their roots as they move out and explore. There should be microbial protectors present that surround fragile root tips protecting them from unwanted invaders. In order to keep these protective organisms present around the roots, plants are more than happy to release some of the sugars they fix from sunlight and carbon dioxide aboveground to feed these protective organisms below.

Like plant roots, our bodies put out exudates to feed organisms that are normally present on our skin. We all maintain a layer of protective organisms on our skin that prevent disease organisms from being able to colonize our skin surface.

Root surface organisms are the same. Beneficial organisms protect surfaces, and are fed by the plant. This symbiotic relationship has been going on for the past two billion years. The problem is that in our urban landscapes many of these organisms are missing because we mix together plants unnaturally and remove plant parts that are shed and usually recycled by microbes. It is beneficial to inoculate urban soils with these missing microbes. Yet, should we have to register them as bio-pesticides because they prevent disease from getting to the plant surface?

Healthy plants have biological organisms established on leaf, root and blossom surfaces. Factors such as air pollution, chlorine in water, pesticides and powerful ultra violet rays limit biological organism colonization. As arborists and plant professionals, we are challenged to replenish these biological organisms and help them colonize plant surfaces to provide protec-

By Elaine Ingham

Healthy Soil Leads to Healthy Trees

Roses, turf and trees grow healthy together by managing each system biologically.
ation. One way to accomplish this goal is to add these beneficial organisms consistently by utilizing well composted material. People have used compost and compost tea to help establish these organisms on agricultural plants for the last 5,000 plus years.

Effective compost tea begins with high-quality compost rich in microbes: bacteria, fungi, protozoa and nematodes. The compost is put into a large “tea bag” and is brewed in a special “compost tea brewer” that is heated and aerated. The tea brews for 24 hours during which all microbes become suspended in water, and bacteria and fungi multiply. Compost tea can be applied to soil and plant surfaces, and appropriate microbial food sources can be added to tank mixes to feed the fungi or bacteria in the tea. Compost tea is becoming more and more popular as tree care and agriculture professionals begin to learn the importance of beneficial microbes. Environmental laws are also beginning to steer us toward organic solutions.
There are other benefits to microbial establishment in soil. Roots are in the ground to take up nitrogen, phosphorus, calcium, iron, sodium, potassium, zinc, cadmium, water and a host of other minor nutrient elements that plant tissues need. The roots are on a shopping spree, especially early in the season, for all the nutrients the plant will need to grow. Later in the season, the roots will look mainly for water. All these helpful organisms that plants need around their root systems increase the root’s ability to obtain nutrients, such as mycorrhizal fungi.

Unfortunately, roots discover that not all the creatures they encounter in soil are there to help them. There are “snake oil” fungi and slimy bacteria that will use exudates to attack and harm roots instead of helping them. These disease organisms cause the roots to exude additional foods, causing stress to the aboveground part of plants making them more susceptible to powerful disease and insect opportunists. Maintaining proper beneficial organism populations prevent the “bad guys” from being able to win.

Another thing roots expect from beneficial bacteria, fungi, protozoa, nematodes and micro-arthropods in the soil is their ability to prevent nutrients from being lost when plants need them. These organisms act like filters and prevent leaching. Beneficial bacteria and fungi are just holders of the nutrients. Larger predator organisms such as protozoa, nematodes to do? There is no one to help the roots, and the roots may well become infected by disease organisms such as Phytophthora, verticillium wilt or fusarium.
200+ SPECIALIZED TRUCKS AT WWW.OPDYKES.COM

91 FORD F800: 7.8L diesel, 215 hp, Allison 4 spd auto, 34,700 lb GVW, 6½ ton IMT 8025 knuckleboom, 2,900 lb at 25½ ft max side reach, 14 ft wood flatbed. $22,500.

98 INT 4700: DT466E, 210 hp, 6 spd +lo, 33,000 lb GVW, with 14 ton TEREX TC2863 crane, 73 ft hook height, cap alert / shutdown, 18 ft wood flatbed. $46,900.

90 FORD LT8000: 7.8L diesel, 240 hp, 8 spd +lo, +lo/lo, 50,000 lb GVW, with 12½ ton NATIONAL 900B crane, 66 ft hook ht, cap alert, 18 ft steel flatbed. $39,500.

93 MACK RB690S: EM7-300, 300 hp, ext range 6 spd, 56,380 lb GVW, with 27½ ton PIONEER 4000 crane, 148 ft hook ht, cap alert / shutdown, 2 man pin-on basket, 18 ft wood flat. $79,500.

87 FORD F800: 7.8L diesel, 210 hp, Allison 4 spd auto, 30,000 lb GVW, 5 ton IMT 6420 knuckleboom, picks 3,100 lb at 20 ft max reach, 12 ft flatbed w/ stake sides. $21,900.

3123 Bethlehem Pike • Hatfield, PA 19440 • Phone 215-721-4444 • Fax 215-721-4350 • sales@opdykes.com

Please circle 42 on Reader Service Card
and micro-arthropods eat the smaller organisms and release available forms of nutrients to plant roots. When plants need nutrients, these organisms will free up nutrients and return them to the root zone, in the right forms, at the right time and in the right place. Compaction from people, lawn equipment, chlorine in the irrigation water and possible pesticide applications for plant-damaging pests destroy many of these important predators.

So what practices can we incorporate to assure proper microbial activity in our soils? The first step is to perform a soil test using laboratories that specialize in microbial analysis. Use the test results to reveal what microbes are missing. Add microbes to soil by using compost tea combined with “bio-stimulant” microbial food sources that enhance the growth of the missing organisms. There are also new commercially available products that contain cultured living microbes that include all of the puzzle pieces: bacteria, fungi, protozoa, nematodes and appropriate food sources.

Most of the “bio-stimulants” on the market today are just beneficial bacteria and food sources. Only now are companies starting to understand the need to offer complete packages containing not just beneficial bacteria and fungi, but also protozoa, nematodes and food sources.

It is important to retain and cycle nutrients with nature. Some states are already limiting the use of nitrogen due to suspected water pollution. Ask for a microbial analysis when purchasing your products. Know what is in them and their effect on plants and existing soil organisms. Using quality inoculants will rebuild soil structure even after tillage and harmful disturbances.

This system of nutrient cycling and soil building was in place for millions of years before rooted plants came into existence, so it is no wonder that roots expect these interactions to occur when ever the roots go exploring in the soil. It is only in the last 50 to 60 years that humans have begun to totally destroy this nutrient cycling and conserving system.

If we have to use pesticides, then we must replace the beneficial organisms that we destroy. Over time the need for pesticide applications will be reduced and these organisms will be allowed to function normally, regulating plant health.

Dr. Elaine Ingham is a soil microbiologist, president of Soil Food Web Inc. in Corvallis, Ore., and a former assistant associate professor at Oregon State University.
Bailey’s new 2004 Master Catalog is out and it’s jam-packed with great items for the professional arborist. To get your FREE catalog, just mention source code N4A4 when you call.

The Worlds Largest Mail Order Woodsman Supplies Company - Selling at Discounted Prices.
FMC launches Onyx insecticide

FMC, makers of high-performance insecticides, miticides and herbicides for use by tree, lawn care and golf course professionals, recently began offering Onyx insecticide, a new product for the turf and ornamental business segment targeting bark beetles, borers and other destructive lawn and landscape pests. And, with many of the traditional organophosphates formerly used to protect against these wood-boring insects removed from the marketplace, Onyx provides a replacement for these OPs with the broad spectrum benefits of its active ingredient, bifenthrin, together with low use-rates and long residual activity. Onyx controls more than 50 pests, including a wide spectrum of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in outdoor landscapes. Onyx insecticide can be tank mixed with other products and is available in 1-quart and 15-gallon sizes. For more information about Onyx insecticide, contact the FMC Customer Satisfaction Center at 1-800-321-1362, or visit www.pestsolutions.fmc.com.

RedMax’s rugged lightweight auger

RedMax’s new AG2300 auger has just the right amount of power to dig most postholes, yet it is lightweight for easy handling. The 11.2-pound AG2300 is powered by RedMax’s 22.5cc two-cycle engine, which drives a 2-inch to 4-inch auger through a 35:1 reduction transmission. The AG2300 has the power needed to dig holes for 4-by-4 fence posts and deck footings, and it is rugged enough to take the beating crews can heap on it. RedMax’s one-year commercial warranty is standard, and a two year warranty is available. For information, contact RedMax, Komatsu Zenoah America Inc., 4344 Shackleford Road, Suite 500, Norcross, GA 30093. Telephone 1-800-291-8251, ext. 213; fax (770) 381-5150, or visit www.redmax.com.

Fecon thumb capability for Bull Hogs

Fecon Inc. has introduced custom thumb capability on excavator model Bull Hogs for added versatility in mulching operations. Whether in land clearing, ROW, fuel-load reductions or any other mulching operation, get more acres per day with this new and powerful feature. When configured to work with a thumb, the Bull Hog is equipped with a rigid receiver that mates with thumbs so that trees, slash or stumps can be manipulated to the contractor’s requirements. Pile, load, reposition or simply move material out of the way. Thumb capability is available on Bull Hog models ranging from 32 inches to 56 inches cutting widths and weights of 3,300 to 4,600 pounds. Typical compatible excavators are 15-ton and larger. Contact Fecon at 1-800-528-3113 or visit www.fecon.com.

Elk River Pinnacle Tower harness


Rayco has new LS 2526 log splitter

Rayco Manufacturing Inc.’s new LS 2526 gas powered, tow-behind log splitter provides 25 tons of splitting force, powered by a 13 hp Honda engine developing 2,500 psi of pressure. Cycle time is 10 seconds. Four-way wedge is standard. Special features include a 600-pound log lift, auto cycle, and hydraulic wedge lift. The LS 2526 is a high performance unit combined with low maintenance features. Contact Rayco at 1-800-392-2686 or visit www.raycomfg.com.
**BASF Overdrive herbicide**

BASF Professional Vegetation Management (ProVM) recently introduced Overdrive herbicide. A post-emergent herbicide, Overdrive provides fast, long-term control of broadleaf weeds in key non-crop markets, such as roadside, industrial and rangeland. A formulation of diflufenzopyr and dicamba, Overdrive reduces active ingredient use by half while achieving consistent or improved control of target annual, perennial and biennial broadleaf weeds. Overdrive is particularly well-suited for cost-effective control of tough nuisance weeds, as it can be applied in low use rates, says Dan Beran, market development specialist for BASF ProVM. “This helps vegetation managers reduce application costs and increase weed-control effectiveness, without sacrificing long-term control of broadleaf weeds.” Plot studies have shown that application of 4 to 6 ounces per acre of Overdrive can result in equal or greater weed control when used alone or in combination with other herbicides, such as clopyralid, picloram or triclopyr. “Because Overdrive herbicide contains diflufenzopyr, it offers increased dicamba activity and makes an ideal choice for enhancing tank mix partners,” says Beran. For more information on Overdrive, visit www.vmanswers.com.

Please circle 196 on Reader Service Card

---

**Bandit drum-style 1290-H**

Bandit’s newest product development, the hydraulic feed, drum-style Model 1290-H chipper, has a 37-inch-diameter drum. This added diameter enables the 1290-H to cut nearly everything in its path with the bottom half of the drum. Cutting in this manner, on a downward arc and on an angle, allows the 1290 to chip with ease and consume less fuel. The larger chipper opening and powerful feed system allow the 1290-H to process limbed materials with limited trimming. It is available with gas and diesel engine options up to 130 hp. It is also available as a self propelled unit with a Caterpillar 304 rubber tracked undercarriage. Some popular options include a hydraulic winch, a hydraulic or mechanical swivel discharge spout and an Auto Feed Plus feed system governor. Contact Bandit Industries Inc. at (989) 561-2270 or 1-800-952-0178; fax: (989) 561.2273 or visit www.banditchippers.com.

Please circle 195 on Reader Service Card

---

**Southco Industries, Inc.**

**Forestry Package**

30 Cubic Yard Capacity

Model S-30 (120' cab to axle required)

30 Cubic Yard Capacity

SOUTHC0 INDUSTRIES, INC. 1840 E. DIXON BLVD. SHELBY, NC 28152

Please circle 57 on Reader Service Card

---

TREE CARE INDUSTRY – MAY 2004 21
Davey expands southeast services

Davey Resource Group, a division of The Davey Tree Expert Company, has reinforced its southeast operations by adding one employee and promoting another.

Bob Richens has been promoted to Davey Resource Group’s Southeast regional manager, where he will provide technical assistance, project development and direct client services. Richens has worked with DRG for seven years and has helped utilities and cities manage their right of ways, assets and trees.

Henry King has joined DRG as a project developer for the southeast region. King has a master’s degree in forest resources with a concentration in urban forestry from Clemson University. He is a certified arborist with the International Society of Arboriculture and has more than five years’ experience in arboriculture and urban forestry.

Richens says that these changes will enhance Davey’s ability to reach and support customers.

Davey Resource Group is a division of The Davey Tree Expert Company that includes consultants whose expertise spans everything from vegetation management and natural resource consulting to asset management.

Becker Underwood Acquires Bio-Care

Becker Underwood Inc. of Ames, Iowa, has acquired Bio-Care Technology Pty. Limited of Australia. Bio-Care is an Australian biotechnology business whose products are used as seed inoculants and bio-pesticides in agricultural and horticultural applications.

“The addition of Bio-Care further extends Becker Underwood’s position as the world’s largest non-pesticide seed enhancement company,” says Roger Underwood, CEO.

“Bio-Care is highly respected in the biotechnology industry,” says Peter Innes, president of Becker Underwood. “Bringing together the two companies provides an exciting opportunity to remain at the forefront of the R&D, formulation and manufacturing of environmentally-friendly microorganisms that maximize yield and protect plants from pests and disease.”

Leading Bio-Care products include Nogall fungal and disease control for fruit trees, and other bacterial or fungal agents used as biofertilizers, bio-pesticides or crop protectants.

Richard Waterworth, formerly the general manager of NuFarm’s specialty distribution company NuTurf, has been hired as managing director of Becker Underwood Australia, the parent company of Bio-Care. Waterworth will lead Becker Underwood’s business development effort in Australia, New Zealand and Asia, executing its plan for investment and acquisition throughout the region.

Vermeer’s names Heap international director

Vermeer Manufacturing Company recently appointed Steve Heap the managing director of Vermeer International. Heap has served in a number of capacities since becoming a member of the Vermeer organization in 1996. In this new position, Heap will be responsible for strategic and operational sales and marketing functions in Europe, the Middle East and Africa.

Heap began his career with Vermeer as an international sales representative. In 1997, he accepted the position of South American regional manager. In 2000, Heap became the Latin America district manager, increasing sales in his new territory nearly 25 percent.

Heap has also served as regional sales manager, handling dealerships in the Southwest U.S., and as global accounts manager.

Heap earned a bachelor’s degree in business administration from Point Loma Nazarene University. He and his wife, Michelle, along with their two daughters will relocate to Goes, Holland.
SavATree presents scholarships

SavATree is helping students climb higher. Jonathan Dubé of Central, S.C., and Gregory Shinn of Wall, N.J., were each awarded $2,500 scholarships to help complete their studies in horticulture.

The SavATree Sensational Scholarship Program rewards students with a strong passion for the environment and the outdoors and who possess an impressive combination of academic and non-academic credentials.

Daniel van Starrenburg, president of SavATree/SavALawn, states, “We believe that investing in today’s students helps build a wealth of arboricultural and horticultural enthusiasts to preserve and enhance our outdoor surroundings for future generations to enjoy.”

Dubé is a senior at Clemson University. He is president of the horticulture club and a Golden Key International Honor Society member. His interest in plants started as a young child, enjoying the family garden and harvesting vegetables. His work experience, first at a local orchard caring for fruit crops and then building his own lawn/landscape business, solidified his desire to pursue a career in horticulture.

Shinn is a senior at Delaware Valley College focusing on ornamental horticulture. He is president of the Interclub Council, an eagle scout, volunteer firefighter and a community educator at the Philadelphia Flower show for the past three years. Also exposed to gardening and nature at an early age, Shinn says he appreciates the intangible benefits plants provide.

“I think that by pursuing a career in horticulture I can continue to bring aesthetic beauty into many lives while maintaining the health of the environment,” says Shinn.
Prospective employers will be required to obtain – and current or former employers will be required to provide – more employment information about employee-drivers under recent regulatory changes. The changes are designed to help reduce vehicle accidents by giving prospective employers the background information necessary to make sound hiring decisions and keep unsafe commercial drivers off the road.

The new rules from the Federal Motor Carrier Safety Administration (FMCSA) will require prospective employers to obtain a driver applicant’s accident and alcohol/drug abuse history from all DOT-regulated employers who employed the applicant in the previous three years. Former employers (including the driver’s current employer, if any) must provide the information within 30 days of the request. Former rules did not specify the information that was to be obtained from former employers, nor did they require those employers to provide the information. Many former employers decline to respond to employment investigations or to provide minimal information.

Safety performance data

The new rules require, after Oct. 29, 2004, that prospective employers request the following information from an applicant’s previous DOT-regulated employers:

- General driver identification and employment verification information.
- Information about accidents in which the applicant may have been involved.
- Whether the applicant violated any of the DOT alcohol and drug regulations.
- Whether the applicant completed a substance abuse rehabilitation program, if required.

To satisfy the above requirements, motor carriers will have to keep information on their drivers’ vehicle accidents for three years, retroactive to accidents that occurred after April 29, 2003.

Employers who refuse to provide the requested information or fail to respond to the request risk being reported to the FMCSA. Employers will also be required to notify driver-applicants of their right to review the information obtained from previous employers and their right to correct errors in that information.

Filing requirements

Beginning Oct. 29, employers will be required to maintain all accident and drug/alcohol testing information obtained from previous employers, as well as drivers’ authorizations to obtain that information. The records are to be kept confidential and should only be used for the hiring decision, although the non-drug/alcohol-related information can be shared with insurers. According to the FMCSA, the documents can be placed in a “driver investigation history file” or combined with drug/alcohol files.

The regulation changes, revising Parts 390 and 391 of the Federal Motor Carrier Safety Regulations, went into effect April 29. Please be advised that an individual state’s Department of Transportation may modify these federally issued requirements.

Peter Gerstenberger is TCIA’s senior advisor for safety, compliance & standards. He can be reached at peter@treecareindustry.org.
**Vermeer**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Part No.</th>
<th>Knife Description &amp; Size</th>
<th>SALE Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC1000</td>
<td>KCH20109</td>
<td>Double Edge 9&quot; x 4-1/2&quot; x 5/8&quot;</td>
<td>$27.66</td>
</tr>
<tr>
<td>BC1220-BC1250</td>
<td>KCH20002</td>
<td>Single Edge 8&quot; x 3-1/2&quot; x 3/8&quot;</td>
<td>$16.75</td>
</tr>
<tr>
<td>BC1400</td>
<td>KCH20110</td>
<td>Double Edge 8&quot; x 5&quot; x 5/8&quot;</td>
<td>$28.40</td>
</tr>
<tr>
<td>BC1800-BC2000</td>
<td>KCH20103</td>
<td>Double Edge 10&quot; x 5-1/2&quot; x 5/8&quot;</td>
<td>$33.12</td>
</tr>
</tbody>
</table>

**Morbark**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Part No.</th>
<th>Knife Description &amp; Size</th>
<th>SALE Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>100, 200, 290</td>
<td>KCH10001</td>
<td>Double Edge 7-1/4&quot; x 4&quot; x 3/8&quot;</td>
<td>$17.20</td>
</tr>
<tr>
<td>10, 13, 17, 2050</td>
<td>KCH40001</td>
<td>Double Edge 10-1/2&quot; x 5&quot; x 1/2&quot;</td>
<td>$24.50</td>
</tr>
</tbody>
</table>

**Brush Bandit**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Part No.</th>
<th>Knife Description &amp; Size</th>
<th>SALE Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 90</td>
<td>KCH10002</td>
<td>Double Edge 5-3/32&quot; x 4&quot; x 3/8&quot;</td>
<td>$14.95</td>
</tr>
<tr>
<td>Model 90XP, 280XP</td>
<td>KCH10004</td>
<td>Double Edge 5-3/32&quot; x 4&quot; x 1/2&quot;</td>
<td>$18.36</td>
</tr>
<tr>
<td>Model 100XP-250XP</td>
<td>KCH10003</td>
<td>Double Edge 7-1/4&quot; x 4&quot; x 1/2&quot;</td>
<td>$16.32</td>
</tr>
<tr>
<td>Model 250XP, 254XP after '01</td>
<td>KCH10101</td>
<td>Double Edge 7-1/4&quot; x 4-1/2&quot; x 1/2&quot;</td>
<td>$21.56</td>
</tr>
<tr>
<td>Model 1890 Intimidator</td>
<td>KCH20103</td>
<td>Double Edge 10&quot; x 5-1/2&quot; x 5/8&quot;</td>
<td>$33.12</td>
</tr>
<tr>
<td>Model 1290 Drum</td>
<td>KCH30001</td>
<td>Single Edge 12&quot; x 3&quot; x 3/8&quot;</td>
<td>$16.40</td>
</tr>
<tr>
<td>Model 1690 Drum</td>
<td>KCH30002</td>
<td>Single Edge 16&quot; x 3&quot; x 3/8&quot;</td>
<td>$18.60</td>
</tr>
</tbody>
</table>

**Asplundh**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Part No.</th>
<th>Knife Description &amp; Size</th>
<th>SALE Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timberwolf</td>
<td>KCH10001</td>
<td>Double Edge 7-1/4&quot; x 4&quot; x 3/8&quot;</td>
<td>$17.20</td>
</tr>
<tr>
<td>12&quot; Drum</td>
<td>KCH30001</td>
<td>Single Edge 12&quot; x 3&quot; x 3/8&quot;</td>
<td>$16.40</td>
</tr>
<tr>
<td>16&quot; Drum</td>
<td>KCH30002</td>
<td>Single Edge 16&quot; x 3&quot; x 3/8&quot;</td>
<td>$18.60</td>
</tr>
</tbody>
</table>

**Mitts & Merrill**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Part No.</th>
<th>Knife Description &amp; Size</th>
<th>SALE Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drum Style</td>
<td>KCH60001</td>
<td>Double Edge 4-1/4&quot; x 2-3/8&quot; x 1/2&quot;</td>
<td>$9.20</td>
</tr>
</tbody>
</table>

*To receive this special pricing, you must use this code: 5394
Most Brush Chipper Knives on sale. Call if your model is not shown.
Offer ends June 30, 2004*
**Events & Seminars**

**May 3-14, 2004**  
Arboriculture I - “Basic Tree Climbing Course”  
Committee for the Advancement of Arboriculture  
Jackson, N.J.  
Contact: John Perry (732) 833-0500

**May 9-12, 2004**  
ISA Western Chapter Annual Meeting  
Konocti Harbor, Clear Lake, Calif.  
Contact: (530) 892-1118, www.wcisa.net

**May 20, 2004**  
Oklahoma State Univ. Nursery and Turfgrass Field Day  
Stillwater, Okla.  
Contact: Mike Schnelle, (405) 744-7361 or mas@okstate.edu

**May 25, 2004**  
IPM for Landscape Professionals OSU Campus,  
Stillwater, Okla.  
Mike Schnelle, (405) 744-7361 or mas@okstate.edu

**May 27-28, 2004**  
Oak Wilt Workshop  
Austin, Texas  
Contact: Gene Gehring (817) 307-0967 or ggehring@mailcity.com

**June 11 & 12, 2004**  
Arizona Community Tree Council Inc. Conference  
Prescott Resort & Conference Center  
Prescott, Ariz.  
Contact: Doreen L. Orist, (602)-909-9190 or dloris1@aol.com, or visit www.aztrees.org

**June 26-29, 2004**  
North American Commercial Real Estate Congress and The Office Building Show  
Royal York Hotel and the Metro Toronto Conv. Ctr.  
Toronto, Ontario, Canada  
Contact: www.boma.org

**July 16, 2004**  
2004 Conference on Woody Plants  
The Scott Arboretum, Swarthmore College  
Swarthmore, Pa.  
Contact: Kelly Ronafalvy (610) 328-8025  
Brochure: (610) 388-1000 Ext. 507

**August 7-11, 2004**  
ISA Annual Conference & Trade Show  
Pittsburgh, Pa.  
Contact: Jessica Marx, (217) 355-9411, ext. 24  
jmarx@isa-arbor.com, www.isa-arbor.com

**Sept. 15-17, 2004**  
Texas for Trees ISAT/TUFC Annual Convention  
Round Rock, Texas  
Contact: Mike Walterscheidt (512) 281-4833

**September 22-25, 2004**  
Multi-State Plant Materials Conference  
Stillwater, Okla.  
Contact Mike Schnelle, (405) 744-7361 or mas@okstate.edu

**October 8-9, 2004**  
Nursery/Greenhouse Trade Show and Convention  
Cox Convention Center, Oklahoma City, Okla.  
Contact Mike Schnelle, (405) 744-7361 or mas@okstate.edu

**October 20-21, 2004**  
Garden Expo  
Canada’s Fall Buying Show for the Green Industry  
Toronto Congress Centre, Toronto, Canada  
Contact: Landscape Ontario Horticultural Trade Assoc., (905) 875-1805; fax: (905) 875-3942; showinfo@landscapeontario.com

**October 28-30, 2004**  
TCI EXPO 2004  
Pre-conference workshops Oct. 27; EXPO Oct. 28-30  
Tree Care Industry Association  
COBO Conference/Exhibition Center  
Detroit, Mich.  
Contact: Carol Crossland, 1-800-733-2622, Ext. 106; crossland@treecareindustry.org or www.treecareindustry.org

**November 3, 2004**  
Tree Care Issues Workshop  
Stillwater, Okla.  
Contact Mike Schnelle, (405) 744-7361 or mas@okstate.edu

**February 6 -10, 2005**  
Winter Management Conference  
Tree Care Industry Association  
Los Cabos, Mexico  
Contact: Carol Crossland, 1-800-733-2622, Ext. 106; crossland@treecareindustry.org or www.treecareindustry.org
Years of experience has enabled us to reach extremely high levels of production in shredding and grinding. Our broad range of products offer solutions for grinding organic waste, crushing rock, in a wide variety of applications.
Updated Rules Could Restrict Crane Use in Tree Work

By Mark Garvin

Richard Burke, owner of Burke’s Tree Service in Rochester, N.H., has been in the tree business for more than 30 years. He specializes in large tree removals with a crane. In fact, Burke’s company only does removals.

“We get referrals from other companies that don’t have a crane,” says Burke, “and we pass on pruning, cabling and pesticide jobs to them. If they have a large tree to take down and don’t feel safe climbing or felling it, they will call us. We’ve been using a crane since 1978. To me, it’s the safest way to take down a tree. Our workers’ comp has dropped dramatically. We’re down to a .78 mod rate.”

As more tree care companies look to cranes – for reasons of safety, economics and the shortage of skilled climbers – state and federal regulators are taking a look, too.

The number of fatal workplace injuries involving a crane was higher in 2002 than in 2001, according to the latest Bureau of Labor Statistics’ data. There were 47 fatal work injuries in which a crane was listed as either a primary or secondary source of the injuries in 2002. That total is up from 26 in 2001 and above the 1997-2001 average of 37 fatal work injuries. Notably, these accidents were in construction trades and not tree care.

OSHA has said that the three major causes of fatalities around cranes are electrocutions – often from running the crane into an overhead power line – struck-bys, and falls. The overall count for crane-related fatalities is estimated at about 80 workers per year, based on data from 1992-2000. These numbers reflect all crane fatalities, primarily in construction.

In response to these numbers, last year OSHA decided to go forward with a negotiated rulemaking process to update its cranes and derricks standard. A Crane and Derrick Negotiated Rulemaking Advisory Committee (C-DAC) was formed to develop a proposed revision of the existing construction safety standards for the cranes and derricks.

Members of the committee agreed that construction crane operators ought to be tested on their skills before being allowed to operate equipment. Last fall, discussions between employers, crane makers and union representatives on the committee revealed support for operator qualifications that might include:

- a physical examination every three years;
- a written exam that is valid and reliable;
- a hands-on test.

Members of the committee have also expressed support for requiring operators to be retested every five years to combat complacency and to ensure they keep up with changing technology and regulation.

Still under discussion is whether a revised version of the Occupational Safety and Health Administration standard for cranes and derricks would require that operator exams be developed to meet certain testing standards or be obtained through an accredited entity.
The OSHA standard currently enforced for construction crane use is more than 30 years old – so old that it doesn’t address types of cranes prevalent in the industry today. Understandably, OSHA is pressing the 22 members of C-DAC to finish their work this year.

Support for requiring crane operators to certify their skills and knowledge was nearly unanimous on the committee. The idea of requiring operators to show their qualifications was included in a draft rule revision that was developed by an earlier OSHA work group, which C-DAC is reviewing. Aside from the safety issue of ensuring an operator’s skills, the committee argued that a national certification system would have practical value. It would limit the number of operator certification systems that employers would need to track.

States and cities are increasingly taking up the issue of crane operator certification. Twelve states already require crane opera-

**Quality Grapples For:**

- Skid Steer Loaders
- Tractor Loaders
- Articulated Loaders
- Telehandlers

**- 6 Mos. No Payments! - O.A.C.**

**Electro-Hydraulic Grapples & Grapple/Winches**

These new units have more features and the same high quality as our popular free-swinging grapples.

**360° Continuous Power Rotation**

800 - 587 - 6656 (24 hrs.)

www.implemax.com
Important Note:
IML will grant a 5% discount to attendees that will register on our Website. Additionally, we will offer a 15% discount for all books purchased during the seminar tour!

DON'T MISS OUT ON THIS UNIQUE OPPORTUNITY!

Locations: (Lunch Included on first day!)

1. Livonia, MI - June 21-22, 2004
   1st day - $199  2 days $299

2. Fort Collins, CO - June 23-24, 2004
   1st day - $199  2 days $299

3. Santa Monica, CA - June 25-26, 2004
   1st day - $199  2 days $299

4. Seattle, WA - June 28-29, 2004
   1st day - $199  2 days $299

Questions: Call us Toll Free at 888-514-8851!
E-mail: info@imlusa.com, Website: www.imlusa.com

Register Online: www.imlusa.com!!

Dr. Claus Mattheck is coming back with a NEW lecture! First time OUTDOORS in the UNITED STATES! "TOUCH TREES WITH DR. CLAUS MATTHECK!

Topics (First Day) - 6.5 CEU's
1. Inside full day lecture (no limit regarding numbers of people)
   - Short introduction to current state of VTA
   - New research on root mechanics
   - Are there two root plates?
   - Wet soil, trees at slopes & dikes, good & bad stones regarding tree stability
   - A new way to increase tree stability at root top gardens or other narrow or shallow places
   - Tree engineering
   - Simple ways to assess root forces in pipes & buildings
   - Shear stress bombs at tree base & in forks
   - Remarks on wind load assessment and other diagnosis methods
   - Cabling from static and dynamic point of view
   - The body language of fungi fruit bodies and forensic mycology
   - Decay diagnosis in wooden playground structures

Topics (Second Day) - 4 CEU's
Half day Outdoor exercise - Have a small group opportunity with Claus to examine and assess trees! VTA - Visual Tree Assessment. Limited space available! Don't wait! Register now! Spaces being filled quickly! (Only available for 50 people!)
Note: The Outdoor seminar (2nd day) can only be attended if 1st day registration is completed!

Company/Name:
Address:
City, State, Zip:
Phone/Fax:
E-mail:
Number of People attending:
Credit Card/Type:
Exp. Date:

Locations: Please select your location (circle!) and tell us if you would like to attend the 1st day or both days!

Ypsilanti, MI  1st day  2nd day

Fort Collins, CO  1st day  2nd day

Santa Monica, CA  1st day  2nd day

Seattle, WA  1st day  2nd day

Registration Deadline: June 14, 2004 - A $35 late fee will apply after the deadline or for walk-ins!

Send your registration form to:
IML, Inc., 1275 Shiloh Rd., Suite 2780, Kennesaw, GA 30144
If you pay by check please make it out to IML, Inc.

Please circle 32 on Reader Service Card
tor qualification, and initiatives are pending in several others. Even though tree care employers are not typically subject to construction industry standards, these particular rules and regulations will undoubtedly influence all crane operations.

Burke, for one, would hate to see crane use in tree care restricted in any way by standards written for the construction industry. He worries that restrictions would impede safety.

“Using a crane is much safer than other methods of removal,” he notes. “When the log comes down, it doesn’t fly all over the place as it would if we were just dropping it. We swing it in a controlled way over to the chipper. With a crane, we take down a limited number of large pieces, instead of dropping limb after limb.”

To keep the entire crew safe, Burke inspects the crane regularly. Every day they do a visual inspection. Every 300 hours, they send it out for maintenance. Every year an outside company does a complete inspection, top to bottom. Every five years he trades it in for a new one.

The crane has an LMI (a computerized scale), so that if you overload it, it will stop the crane. Other safety features include outrigger alarms and a front outrigger for lifting over the front.

“The key to safety is a huge margin for error,” stresses Burke. “Pieces generally are cut at weights below 2,000 pounds, whereas the rigging strap is rated for 10,000 pounds and the crane is rated at 27 tons.”

He also emphasizes that there is no substitute for experience. “Most of these guys have been with me for years – one for nine years, one for 22. They know what to do and where to position themselves.”

A stable work crew is vital, because for Burke using a crane isn’t a two-man operation. “We work with five,” he explains, “a crane operator, climber, grapple operator, and two groundsmen to limb pieces and feed into the chipper.”

On some days and in some situations they will work the crane in tandem with a bucket truck. They use the bucket near primary lines (keeping 10 feet away) then move the logs over for the crane. If a tree has been hit by lightning or is split in some way, however, Burke would much rather take it down with a crane than try to chunk it down with a bucket truck.

After the top of the tree is removed and chipped, the crew takes the rest of the tree down in “8-foot-plus” sections, which are stacked and trucked to the sawmill. The top is usually chipped, but the rest will head to the mill to offset the cost of the equipment for a day.

For speed, safety and profit, Burke believes cranes are vital for tree work. He hopes that the new regulations being written in Washington won’t put a stop to his preferred method of operations.

Mark Garvin is vice president of public policy and communications with the Tree Care Industry Association.
Run Rings
Around Your
Competitors.

We don’t have to tell you how competitive the tree care business is — YOU live it every day. But did you know that joining the Tree Care Industry Association (TCIA) will give your business a solid competitive advantage?

By joining TCIA you’ll gain immediate access to a team of business management consultants — experts in marketing, finance, sales, estimating, accounting and human resources who are dedicated to your business and only a phone call away. You’ll learn about the latest innovations in tree care safety, equipment, technology and techniques. You’ll also become part of TCIA’s extensive list of new business referrals. And you will also add your voice to the thousands of others seeking fair and beneficial governmental regulations and legislation. Call 1-800-733-2622 or go to the Web at www.treecareindustry.org, today. And start running rings around your competitors tomorrow!
S
pring blooming crabapple (*Malus species*) is the most popular flowering tree species in residential and urban landscapes.

Crabapple (hardy in zones 3-5) are easy to grow and tolerant to a wide range of soil conditions. However, they grow best in slightly acidic soil (pH 5-6.5) and in sunny locations. The tree comes in a variety of forms – weeping, erect, horizontal or rounded. They can have a spectacular display of white, pink or red flowers in single, semi-double or double flowered forms. Unlike other ornamental trees of Rosaceae (cherries, plums, pears etc.), crabapple bear small fruits (1/4 inch to 2 inches in diameter) of various colors – red, orange or gold – that attract birds into the landscape. Attractive foliage comes in a variety of colors: red, maroon, purple, burgundy, bronze or green. Some cultivars are extremely susceptible to foliar diseases, such as scab, cedar-apple rust, and cedar-hawthorn rust. Fire blight is an occasional problem, too. There is a wide selection of disease-resistant crabapples suitable for any landscape.

**Common diseases**

Infection by pathogenic (disease-causing) organisms may be due to one or several factors, such as carryover infection from previous years, cultural practices, weather or a cultivar’s lack of resistance to disease.

Pathogens enter the host through various parts of trees, such as roots, bark or leaves. These microorganisms may be intercellular (confined to the region in between cells) or intracellular (present within the cells). Fungal infection is by various kinds of spores that a fungus produces during its reproduction. When the spore lands on the tree, it germinates and produces special enzymes that dissolve the protective outer layer, such as cutin or wax; then it produces highly microscopic filamentous structures called hyphae. A body of hyphae constitutes the fungal mycelium. Mycelium colonizes the plant tissues. In addition, hyphae produce special structures called haustoria that draw nutrition from the host tissue. At the time of reproduction, a fungus produces spores of different colors. On the foliage the spores may be seen either on the upper or lower surfaces, or on both the surfaces. Spores serve as one of the diagnostic tools for an identification of the pathogen. Unlike fungi, bacteria are unicel-
lular and reproduce by repeated divisions. While one can easily identify fungi with a compound microscope, one may need a microscope with higher resolution for identification of bacteria. An arborist can identify pathogenic organisms by the characteristic symptoms produced by them on the host plant.

Diagnosis

Identification of the disease-causing microorganisms, fungi, bacteria or virus is important in giving the right treatment to infected trees. A plant health care specialist can identify a pathogen by symptoms such as spore color, characteristic spots, cracks or discoloration on the infected plant part. When identification is difficult, take the diseased plant part to county agricultural extension services for a correct diagnosis.

Fungal diseases

Scab: The fungus *Venturia inaequalis* is the causative agent for scab, the most common and one of the most devastating diseases of crabapple in several parts of the country. Severe infection results in premature defoliation of trees, leading to reduced vigor, which makes the tree more susceptible to environmental stress and other opportunistic pests.

Infection: Fungal spores that overwinter on dead, fallen leaves serve as the primary sources of infection. Rainy conditions in spring, when the buds break out, are favorable for infection. Overwintering spores on the fallen leaves are forcibly discharged. Carried by air currents, the spores infect the newly emerging leaves. When the temperature is cooler (45 F), leaves must remain wet for 17 hours for an infection to occur. At 65 F, infection takes place in six hours of leaf wetting. Spores can infect sepal, young leaves and young fruit during periods of rain.

Diagnostic symptoms

Several days to several weeks after infection, depending upon the temperature, circular, olive-black spots appear on leaves, fruit and young fruit stems. Yellowing of leaves and premature dropping of leaves follow. Symptoms typically first appear on the leaves early in spring. Heavy infections can result in defoliation in a month. Within these spots, the fungus produces another type of spore (conidia). Rain and wind disseminate the spores, resulting in secondary infections. Rainy conditions and high temperatures in summer promote secondary infections that can occur several times during the growing season, resulting in severe disease.

Control strategies

“Prevention is better than cure” is the best strategy for disease control in any plant, including crabapples. Plant disease-resistant cultivars (Table 1). Consult with your local county agricultural extension services in the selection of resistant cultivars suitable for your area. Good cultural practices will go a long way in avoiding the disease. Remove infected leaves and fruits from the vicinity of the tree to eliminate sources of inoculum in the spring. Use chemical fungicides as the last resort. Timing and applications of fungicides, such as thiophanate methyl, mancozeb, chlorothalonil, chlorothalonil plus fenarimol, and copper sulphate pentahydrate are crucial for an effective scab control. As initial infection occurs at the time of budbreak, spray at budbreak and repeat at intervals until mid-June. More frequent sprays may be necessary in wet weather.

Follow the instructions on the label for dispensing and safe disposal of fungicides. Use a sprayer suitable for complete coverage of the tree.

Identification of the disease-causing microorganisms, fungi, bacteria or virus is important in giving the right treatment to infected trees.

Rust

Cedar-apple rust and cedar-hawthorn rust are the two rust diseases of crabapple. In cedar rust diseases, the fungus completes its life cycle on two plant hosts; one in the cypress family and one in the rose family (crabapple, apple or hawthorn).

Cedar-apple rust

The fungus *Gymnosporangium juniperivirginianae*, is the causative agent for
cedar-apple-rust when crabapple and certain species of juniper (*J. scopulorum*, *J. horizontalis*, *J. communis*) and red cedar (*Juniperus virginiana*) grow in close proximity. The fungus alternates between eastern red cedar and mostly apple and crabapple. 

### Infection

During its life cycle, the fungus produces several kinds of spores. The fungus completes its life cycle in two years. Gelatinous spores from the galls on juniper infect susceptible crabapple. In the first year of life cycle, the spores infect the leaves and fruits, producing characteristic spots and lesions as described below. In the infected leaves and crabapple fruits, the fungus reproduces, producing pycnia and aecia (reproductive structures) with rust-brown spores. Spores from the crabapple are blown onto juniper in late summer and infect juniper, where galls develop in spring of next year (Figure-1).

### Diagnostic symptoms on crabapple

Depending upon the susceptibility of the host, yellowish-orange spots of variable sizes appear on the upper leaf surface. A red band or chlorotic (yellow) halo bordering the spot may appear later on some susceptible trees. As the spots mature, small, dark brown spots (pycnia) develop within the spots. The fungal hyphae grow through the leaf and produce long (1/4 inch) papery tendrils (aecia) on the lower leaf surface, directly below the orange spots. Aecia contain rust-brown spores. Under severe infections, premature defoliation occurs. Repeated infections for several growing seasons reduce the tree vigor and productivity. Severely infected trees may eventually die.

Yellowish orange spots similar to the symptoms on the foliage develop on the infected fruits near the calyx. Rust spots are superficial. Penetration into the fruit is less than 1/4 inch. The fungus produces brown pycniospores on the fruit. The
How would you feel if you paid $500 for a chain saw and found that the manufacturer certified it to only 50 hours of useful life?

When you buy an Echo, you get premium features such as light weight, superior balance and exceptional power – in a chain saw that's certified with CARB and EPA to their highest useful life rating – 300 hours. That's the highest possible "Emissions Durability" and "Useful Life" rating.

This durability makes Echo chain saws the favorite choice among Arborists and Tree Care Specialists worldwide. And every Echo chain saw is confidently backed with an industry leading one year commercial warranty.

So next time, “Grab an Echo” and get the highest level of durability!

Call 1-800-432-ECHO for more information or visit www.echo-usa.com.
fungus produces aecia less frequently on the fruits than on the leaves. Severe infection results in decreased fruit size and distortion or premature fall from the tree.

Symptoms on the cedar

Reddish-brown kidney shaped galls, ¼ inch to 2 inches in diameter, appear in winter and in early spring. The surface of a mature gall is dimpled and resembles a golf ball. The galls swell in size during rainy season. Distinctive bright orange, gelatinous spore-horns extrude from the surface of these galls. Spore masses are several inches in diameter with a central core and radiating hornlike tendrils (teliohorns). Wind currents carry the spores to near by
Finally, a purer and safer pesticide that makes everyone happy. Except pests. Introducing the next generation in horticultural spray oil - Petro-Canada PureSpray™ Spray Oil 10E. If you’re not using the purest spray oil available, you’re risking the health of the environment, plants, wildlife and people. Check the labels and you’ll see that many spray oils claim as little as 92% purity. That leaves up to 8% Sulphonated Residue (SR) including toxic aromatics - a primary source of toxicity in spray oil and the leading cause of phytotoxicity - making it harder to maintain a risk-free, healthy yard. PureSpray guarantees 99% purity with virtually no aromatics. This makes PureSpray your safer choice. For you, that means peace of mind, reduced plant damage and greater pest killing power. So make the switch, your customers will thank you. The pests won’t. Call for more information and the name of the distributor near you. 1-866-730-2045. PureSpray 10E. The purer alternative.
crabapple trees and infect the crabapple leaves and fruit.

These horns may shrivel during dry weather, but on absorption of water during rainy conditions in spring they may swell again. As the weather dries out, the galls harden into firm, woody structures. Once spent, the galls no longer produce the jelly-like horn. They may remain attached to the tree for several years. Galls may not kill the tree, however when produced near the twig tip, there may be some die back.

Control strategies

Plant resistant cultivars (Table 1). Do not plant crabapples close to junipers or cedars. When cedars or junipers are present in the landscape, remove the immature dormant gall prior to the formation of gelatinous spores. When repeated severe infections occur, remove the susceptible juniper or cedar trees. Note that spores from crabapples do not infect crabapples again, and spores from juniper or cedar do not infect them again, but infect only crabapple trees. Spray fungicides such as chlorothalonil, ferbam, mancozeb, triadimefon, triforine and myclobutanil when disease is frequent and severe. Follow the instructions on the label for use, coverage and safe disposal. Spray at the time of break and repeat at label intervals as necessary. During rainy seasons, spray more frequently. Fungicide control for Juniperus hosts is rather laborious as it often requires a season-long spray program.

Cedar-Hawthorn Rust

The fungus, Gymnosporangium globosum, a fungus that is related to the cedar-apple rust fungus, causes cedar-hawthorn rust. As such, it shares several properties of cedar-apple rust fungus: Cedar-hawthorn rust also requires two different hosts, Juniperus species (e.g. eastern red cedar) as well as many rosaceous species, for completion of its life cycle. However, cedar-hawthorn rust has a wider rosaceous host range than cedar-apple rust, which includes apple, crabapple, many hawthorns, pear, quince, mountain ash medlar and serviceberry.
The disease cycle is similar to the one described above for cedar-apple rust. Cedar-hawthorn rust usually infects leaves. However, it can also produce symptoms on fruit and green stems. Infected fruits are deformed. Leaf symptoms are similar in color but may be slightly smaller in size. Cedar-hawthorn rust shows a few characteristics different from that of cedar-apple rust, such as longer finger-like projections (teliohorns) on the lower leaf surface of rosaceous plants, and slightly smaller, more flattened galls on the juniper hosts. Additionally, galls on junipers have similar physical characteristics, but produce teliohorns for three to five years rather than one year.

Control strategies are similar to what you would use for cedar-apple rust.

Fire Blight

The bacterium *Erwinia amylovora* causes fire blight in crabapple. Though of rare occurrence on crabapples, when the infection occurs, it can develop rapidly and destroy individual trees in a single season.

**Infection**

The bacteria overwinter in old cankers on crabapples and other plant hosts and in healthy buds. Fire blight is most damaging during warm, humid weather (70°F). As the weather warms up in spring, the bacteria multiply rapidly and sticky amber-colored droplets containing millions of bacteria ooze from the cankers. This creamy, bacterial ooze attracts insects that pick it up and carry it to open flower buds, infecting the blossoms. Wind currents and splashing rain also help in the dissemination of bacteria on the newly opened flowers. Contaminated pruning shears may also carry the bacteria to healthy branches.

**Symptoms**

Infection can occur on blossoms, twigs, leaves and fruits. Shriveling and blackening of the blossoms and young shoots...
follow sudden wilting of the tree. Terminal blight of the stem causes the branch to bend; the bent stem resembles a shepherd’s crook.

The dead leaves do not fall, but remain on the tree. The leaves look scorched, hence the name “fire blight.” Infected fruit turn brown or black, shrivel and become mummified. Dark, sunken cankers appear on larger branches. Narrow cracks on the bark separate the cankers from the healthy bark. Cankers enlarge slowly and may eventually girdle the limb. During moist weather, drops of bacterial ooze are visible on the canker surface.

Control

Plant genetically resistant cultivars. Good sanitation and good cultural practices will reduce infection. Use chemical bactericides as the last resort.

Cultural Practices

Carefully monitor fertilization so as to prevent succulent growth and over-production of shoots. Succulent growth and over production of blossoms open the doors for bacterial infection. In summer, remove and burn the infected twigs that might serve as the source of infection. Make the cut at least 12 inches below the edge of the infected area or canker; and sterilize cutting tools after each cut. Clean up the tree during the winter or early spring before growth resumes by removing all infected parts and burning them. Make cuts four inches below the lower edge of the canker or infected twig.

Chemical Control

Control of the blossom infection phase is the key to successful control of the disease. Reduce the blossom infection with proper timing of protestant sprays containing the antibiotic Streptomycin. Follow the instructions on the label. Apply the first spray just before blossoms open (full pink stage) and repeat at four- to seven-day intervals through the blossoming season (three to four sprays). Streptomycin or Terramycin is most effective when used alone. You may combine either of them with Bordeaux mix or copper fungicide. Apply copper fungicides at or near bud-break. Thorough coverage from both sides is essential. Use a sprayer that gives a complete coverage of the tree.

The key to growing ornamental crabapple trees successfully in a landscape is selecting cultivars genetically resistant to fungal and bacterial diseases. Choose cultivars that are resistant to more than one disease. If you wish to include junipers and hawthorns, select the varieties that are resistant to rust. Good sanitation, healthy cultural practices and following a regular spray schedule will keep the tree healthy, beautiful and productive.

All photos of the apple diseases are from the Plant Pest Handbook, courtesy of Sharon M. Douglas, plant pathologist, Department of Plant Pathology & Ecology, The Connecticut Agricultural Experiment Station, New Haven, Conn.

Lakshmi Sridharan is a scientist with a Ph.D. in molecular biology, botany and microbiology.
FEEL THE POWER.

Power Priced At $429.95
At Participating Dealers

THE POWER OF THE 338XPT GOES WAY BEYOND CUTTING STRENGTH. IT’S THE POWER OF HUSQVARNA’S ARBORIST-FOCUSED ENGINEERING.

The 338XPT arborist saw by Husqvarna. Powerful, balanced, light and agile, it easily gets you in and out of those high, tight spaces. It boasts an unbeatable power-to-weight ratio, snag-free shape, and our industry-exclusive ArborGrip, a textured handle with thumb and throttle finger supports for greater control and maneuverability. No one is more committed to the arborist than Husqvarna.

We offer a full line of specially designed safety gear and are a proud sponsor of the ArborMaster training programs, ISA and NAA. To find the nearest Husqvarna Power Retailer, call 1-800-HUSKY-62 or visit our Web site at www.husqvarna.com

TOTAL SOURCE SWEEPSTAKES

WANT THEM? WIN THEM.
TOUGH, DEPENDABLE, AND THEY COULD BE YOURS.

Grand Prize
The Husqvarna Pro Arborist Gear & Equipment package includes: 338XPT chain saw, 334T chain saw, 336 chain saw, 3 Pro Arborist Helmet Systems, 3 pairs of Roping Gloves and 3 pairs chaps.

Second Prize
A trip for two to the Charlotte NASCAR race of your choice in 2005, including suite tickets, airfare and lodging for 3 days and 2 nights.

Third Prize
Certificate for two to the King’s Experience at Richard Petty Driving School, offered at tracks around the country.

ENTER TO WIN:
www.HusqvarnaTotalSource.com

Visit the official Web site to enter online, for official rules, regulations and complete details, and for monthly equipment giveaways. Or call 1-877-44-HUSKY, or pick up an official entry form at your nearest participating retailer.

Please circle 30 on Reader Service Card
By Dr. Michael Raupp

Imidacloprid (Merit, Imicide, Pointer) has become one of the most widely used materials in the tree care industry in the past decade. It is an important material and, at the present time, I think its benefits far outweigh its limitations. In this article, I share some of my experiences with imidacloprid and address three questions associated with its use: How well does imidacloprid control target pests? How long does it last? Will I have a mite outbreak if I use it?

To answer these, I’ll draw on my experiences managing lace bugs, adelgids and leafminers. But first, I would like to discuss systemic insecticides in general.

When systemics came along, we knew that they provided several benefits. It was generally believed that they would be less disruptive to ecosystems than hydraulic applications because fewer non-target organisms would be exposed. Hydraulic applications expose pest and beneficial insects alike to toxic chemicals. If the insecticide is broad spectrum, everyone dies.

Another advantage of systemics is that the insecticide enters the plant through the soil, delivered as a drench, injection or as a granular formulation, or it is directly injected or implanted into the trunk. This reduces concerns about aerial drift and the risk of inadvertently spraying the neighbor’s dog or pool. One nagging concern about injections and implantations is the detrimental effect of repetitive wounding to the trunk of trees.

An additional benefit to systemic insecticides is that you may reduce exposure to your applicator, your clients and their neighbors. In any management program, safety to you, your employees and your clients should be the first and foremost consideration.

Let’s look at imidacloprid in three plant/pest systems. We’ll start with lace bugs, specifically the hawthorn lace bug on cotoneaster. This pest has become more important in recent years. Many commercial landscapes have dozens, hundreds or thousands of these hardy shrubs planted in landscape beds. In April, May and early June these plants look fine with their new flush of foliage. However, in much of the country, by July or August, leaves turn unsightly shades of brown or yellow and premature abscission may occur. The culprit here is the hawthorn lace bug, a native pest. Cotoneaster, which is in the rose family, is a plant that hawthorn lace bugs devour with gusto. Cotoneasters have several redeeming features – they are hardy, sturdy and will put up with a lot of abuse. However, the extreme susceptibility of many cultivars to lace bugs can turn them into a maintenance headache.

One of my study sites has thousands of cotoneasters in planters in large parking garages. Every year untreated plants turn...
brown in the late summer and autumn. It is really quite spectacular. A while back one of my colleagues began treating beds with soil injections of imidacloprid. He asked me to determine how well it worked and how long it lasted. How well did it work? Levels of control were spectacular. Untreated shrubs averaged approximately 40 lace bugs per shoot and suffered about 40 percent discoloration to the leaves. Following soil injections of imidacloprid, lace bugs and their injury were almost non-existent. How long did it last? The protection provided by imidacloprid lasted well into the second and third years following application at this particular site. We are currently conducting investigations to determine how long imidacloprid provides protection in this and other locations.

A second system involves hemlocks and their devastating exotic pest, the hemlock woolly adelgid. In managed urban landscapes, the destruction caused by the woolly adelgid is well known. Recently, during a trip to the Appalachians, I had an opportunity to witness the havoc in native hemlock stands. In these pristine riparian glens, ancient hemlocks and the evolutionary secrets held in their germplasm, are being lost. To see stately hemlocks in residential landscapes succumb to adelgids is unfortunate but tolerable with the knowledge that these trees can be replaced. To see these magnificent giants dying in their natal homes, knowing that there is no replacement, is truly a saddening experience.

In residential or commercial landscapes, it is sometimes impossible to achieve thorough coverage of the canopy due to the presence of buildings, adjacent properties or large tree size. Sometimes hydraulic applications are impossible due to the presence of swimming pools, ponds, or streams that underlie hemlocks. In these situations, soil or trunk injections of imidacloprid provide a nice alternative to foliar applications for managing adelgid.

How well does imidacloprid control adelgid in landscape situations? Some work conducted by my colleague, Ralph Webb, a scientist with the USDA-Agricultural Research Service, demonstrated that imidacloprid could be extremely effective. He looked at healthy hemlocks, hemlocks in poor canopy condition, and hemlocks with dieback. Some received imidacloprid and others were left untreated. Hemlocks with the healthiest canopies experienced the most dramatic reductions in adelgid populations. This makes good sense. Imidacloprid is transported in xylem and a tree with effective water uptake should be able to transport imidacloprid well. However, even trees with thin canopies and dieback shed their adelgid burden following applications of imidacloprid. One of the most interesting findings of this study was that trees remained virtually adelgid free for more than 800 days following the application of imidacloprid. This is remarkable given the fact that treated trees were growing at the same location as hemlocks infested with adelgids.

The final success story that I will tell involves the use of foliar and granular applications of imidacloprid to control a serious pest of boxwoods, the boxwood leafminer. This small fly belongs to a family of whose members are known to cause galls, mine leaves and, in some cases, eat other insects and mites. This exotic pest causes blistering, discoloration and premature leaf abscission in boxwood. My experience with imidacloprid is that both foliar applications and soil injections can provide population reductions of the leafminer in excess of 80 percent in managed landscapes.
To this point I have spoken of pests that are controlled well with imidacloprid. You must keep in mind that no one material should ever be expected to control all pests with great efficacy. This is true for imidacloprid as well. One of the target sites for many insecticides is the insect’s nervous system. Mites and insects differ physiologically and imidacloprid does not affect the nervous system of mites in the same way that it does insects. When you treat a plant with imidacloprid, the mite doesn’t “see” the imidacloprid in the same physiological way that an adelgid or a leafminer does. This is why imidacloprid is not recommended for controlling mites.

The first time that I became aware of issues with mites following the application of imidacloprid was back in the mid-1990s when a study was published relating mite outbreaks on honeylocust to the application of imidacloprid. This study suggested that the removal or suppression of beneficial insects by imidacloprid might be responsible for increased mite populations on treated street trees. About this same time, I began to hear reports from several arborists that hemlocks were experiencing mite injury following applications of imidacloprid. I have been investigating this situation for the past four or five years.

Let’s revisit the hawthorn lace bug on cotoneaster. Although lace bugs and their...
damage are common, I rarely see mite damage on cotoneaster. However, two years ago, I began to see mite damage on imidacloprid treated plants. I have collected three different species of plant-feeding mites from cotoneaster treated with imidacloprid — a rust mite, two spotted spider mite, and southern red mite. I have since monitored more than a thousand cotoneasters in landscape beds. If cotoneasters are left untreated, they are almost guaranteed to have lace bugs and the damage will be severe. If imidacloprid is applied, we annihilate the lace bugs, but about 40 percent of the time we will see mites on the treated plants. However, in most cases, the injury caused by the mites is miniscule compared to that caused by the lace bugs.

Hemlocks were one of the first trees widely treated with imidacloprid in landscapes. Spruce spider mite and hemlock rust mite can cause severe stippling damage and russetting of hemlock foliage. In the study mentioned above, trees treated with imidacloprid incurred about twice as much mite damage as untreated trees. However, in absolute terms this meant that the number of needles damaged by mites went from about 5 percent to roughly 10 percent per terminal. The actual abundance of both rust and spider mites also increased. In a second study, my students and I surveyed a large number of mature hemlocks in landscapes in the Washington/Baltimore metropolitan area. About half of the hemlocks treated with imidacloprid exhibited bleaching of the needles caused by spruce spider mite. This contrasted with bleaching on about 10 percent of untreated trees. These findings agree with reports from commercial arborists working in the mid-Atlantic region.

What happens to boxwoods that have been treated with imidacloprid to control leafminer? At my one study site, I have seen boxwood spider mite abundance increase about fivefold and damage increase from about 7 percent to about 20 percent on imidacloprid treated compared to untreated plants.

Does the application of imidacloprid lead to increased mite abundance and injury in all cases? Absolutely not. I have treated trees such as pin oak with soil injections of imidacloprid and witnessed no increases in oak spider mite populations or their injury.

What mechanisms underlie increased mite abundance following the application of imidacloprid? Three hypotheses have been suggested. Researchers that documented a mite increase on honeylocust suggested that the imidacloprid might be knocking out some of the good guys, enabling non-target pests to outbreak. Several kinds of true bugs, Hemiptera, are important biological control agents of mites. Many hemipterans are omnivores, meaning that they sometimes feed on plant sap when they are not eating meat. Several laboratories have demonstrated that omnivorous bugs can be killed through contact with imidacloprid treated plants. A second hypothesis suggests that imidacloprid may bring about a change in the plant

**A Great Combination!**

2005 International chassis &
a 14’ Schodorf forestry body
Starting at $43,750
Let us build a body to suit you

![Schodorf Logo](Image)

Used 1991 Kodiak
Call for details save $$$$ 

Building quality forestry bodies for over 65 years.
Call Mike Cassidy for a brochure and a quote 1-800-288-0992.
that makes it better food for the spider mite. Evidence for this idea had been found in some fruit and grain crops for insecticides other than imidacloprid, and in hops where imidacloprid has been used to control aphids. The third hypothesis suggests that the imidacloprid may stimulate reproduction in mites. This phenomenon is known as hormoligosis and it has been implicated in increased reproduction in several species of sucking arthropod pests, including green peach aphid, citrus thrips and twospotted spider mite.

Where does this leave us? My colleague, Jan Nyrop (Cornell University), graduate student Adrianna Szczepaniec and I have been fortunate to secure funding from the TREE Fund to continue our investigations into the mechanisms underlying the increased abundance of mites and their injury on trees treated with imidacloprid. In a few years, we hope to have a much better understanding of how and why mites sometimes increase following the use of imidacloprid.

In summary, imidacloprid is one of the most remarkable and powerful new tools that arborists have in their arsenal – no question about it. Like many other situations faced in managing trees, the use of a pesticide often boils down to weighing relative risks and benefits. Think of an ancient hemlock in glade inaccessible to vehicles or a 40-meter giant overshadowing a pond in a public park. Now toss in a healthy infestation of hemlock wooly adelgid. Tree death is a real possibility. Do you use imidacloprid with a high probability of controlling the adelgid but at the risk of an increasing of mites and their damage? For now, I think that I would be willing to accept some mite damage if it meant saving the tree. Remember, mites will vary from place to place and from year to year. If you use imidacloprid, you should monitor carefully and frequently to detect mites, and be prepared to intervene. Mites are important and fascinating pests that can be successfully managed in landscapes, but that’s another story.

Michael Joseph Raupp, PhD., is a professor of entomology and an extension specialist in the Entomology Department at the University of Maryland in College Park, Md.

References used to prepare this article


MITES?

MAY BE HARD TOO SEE

BUT CONTROLLING THEM IS EASY USING ONE OF MAUGET’S

MI-TE-FINE “GENERATION II” MICRO-INJECTION PRODUCTS

ABACIDE

INJECT-A-CIDE

INJECT-A-CIDE 3

IMICIDE’S 3 PARTNERS FOR CONTROLLING MITES

Mauget

500-TREEES TX
300-873-3779
877-TREE HLP
(877-873-3457)

Please circle 39 on Reader Service Card
A Growing Concern
Invasive Non-Native Species

By Lana Robinson

Call them “exotics,” “aliens,” “non-indigenous harmful species” or simply “weeds,” but invasive non-native plants by any name are a growing concern worldwide. The fast growth characteristics and high reproductive rates of these foreign invaders pose a serious threat to native species, natural communities and ecosystem sustainability. These insidious species are considered by some experts to be the second most important threat to biodiversity, after habitat destruction.

Lee Gilman, products and services developer for the Tree Care Industry Association, is among those worried about the invasives’ adverse impact on biodiversity.

“Increasingly, the world is getting smaller, with travel,” says Gilman. “Pretty soon, if invasives aren’t controlled, locally and on a worldwide basis, the spread will become ubiquitous. Regions with the same climate could have the same plant palette. These monocultures result in a loss in diversity and endanger ecological systems that have taken thousands upon thousands of years to evolve. These invasives are pests.”

Some 4,000 non-native species, most of which originated in Europe or Asia, reside in North America today. How did they get here? Early explorers, colonists and immigrants brought alien plants with them to the New World, either on purpose or accidentally, with the transport of seeds or plants in the ballast of ships, in the fleece and hair of livestock, in clothing, and as contaminants in seed lots. More recently, non-native species have been intentionally imported for use in medicine, dyes, forage, erosion control and as ornamental plants. The majority of those commonly cultivated in gardens never venture outside the landscape setting, but an alarming number of species that escape thrive in the wild – largely because there are no natural pests to limit their reproduction and spread. The fact that they so readily adapt to the wild, however, does not, in itself, suggest these plants of foreign origin are invasive.

According to Dr. Sigurdur Greipsson, a restoration ecology professor at Troy State University in Troy, Ala., the “invasive” designation is reserved for those particular imported plants that aggressively compete with and displace native species.

“If you look at old plants that were imported, only 10 percent become really invasive,” says Greipsson. “Ninety percent of them are not actually a problem, but we’re not really sure why some become so aggressive.”

There is some evidence that suggests invasives have smaller amounts of DNA than the non-invasives, which allows them to divide and multiply more quickly. Moreover, some of these exotic invaders are actually more attractive than their native counterparts, which has contributed to their proliferation.

Greipsson says arborists have good reason to be concerned, since a primary impact of invasives in woodlands is their ability to prevent the regeneration of trees.

“Alabama is the second leading state, after Oregon, in the production of lumber, so the lumber industry is quite concerned,” says Greipsson. “Obviously, kudzu, which was initially brought in during the cotton period to control soil erosion, has become a problem here, especially along the access roads into the forests. It is spread along access lines, on the dirt roads. Machinery they use to dig up small ditches, and birds, spread the seeds ... Interestingly, one of the most effective controls for kudzu is to allow goats to graze it.

“Japanese privat, Chinese privat, honeysuckle and mimosa are also invading,” the professor continues. “Birds spread privat in the middle of the forest. Some of these

Species listed on the Massachusetts Natural Heritage and Endangered Species Program’s list of the “10 most unwanted invasives” include multiflora rose (Rosa multiflora).
invasive non-natives are perennials. They can take over the whole forest floor in a pine tree plantation. They kill big trees. They climb along then invade the whole canopy and the tree just dies. Kudzu, for example, starts to shade the tree too much, it causes defoliation. As soon as foliage starts to drop, it basically gets ill. Then fungal disease kills it.”

Habitat degradation, in one form or another, has reduced the ancient longleaf pine forest in Southern Alabama to a mere 1 to 2 percent of its original range. But it isn’t just the trees that are affected by kudzu and other spreading non-natives. Greipsson says the whole ecosystem is changing, which impacts insects and birds as well.

“A colleague at Cornell University and I am looking at swallow-wort,” reports Greipsson, speaking of the exotic, herbaceous twining perennial classified as Cynanchum rossicum. “It was originally brought here from Ukraine. It’s a real problem now in the lower basin of the Great Lakes system. It grows along highways and looks nice and innocent, but it creeps into the forest. We’re concerned about it. There is a study linking that particular invasive plant, swallow-wort, to reducing population of rare butterflies up north.”

Similarly, since garlic mustard (Alliaria petiolata) has overtaken native mustards, the numbers of West Virginia White butterflies have dropped dramatically. Larvae from eggs laid on the offending plant fail to fully develop.

The Nature Conservancy reported in 1996 that 42 percent of the declines of threatened and endangered species in the U.S. are partly due to the effects of invasive species. Little by little some invasives, such as the non-native white mulberry (Morus alba), are infiltrating native genetics as well, by hybridizing with their native counterparts. By some estimates, non-native species threaten fully two-thirds of all endangered species.

Beyond environmental impacts, these invasions are costly. One study estimated that from 1901 to 1991, economic losses in the U.S. caused by 15 invasive plant species (not including agricultural weeds) were $603 million (Office of Technology Assessment, 1993).

Problems vary by region, climate

In New England, where the coastline is dotted with ports, 30 percent of the region’s flora is exotic. Queen Anne’s lace is one example, but even the buttercups and daisies prominent in the wild are transplants.

Many exotics, including multiflora rose, have been here so long they’re naturalized,” says Gilman. “The root stock is bred to be aggressive, to support what is on top. The problem occurs when rootstock originally grafted to ornamental roses takes on a life of its own and is released into the wild. It can scale the tallest, strongest trees in the Northeast load up the canopies, and with additional snow, wind or ice from a storm event, pull the tree down. Thus, multiflora rose can bring down the mightiest oak trees. That’s an interesting juxtaposition.”
Thom Kyker-Snowman is a natural resources specialist in forestry for the Metropolitan District Commission, Massachusetts’ state agency charged with overseeing the Quabbin Reservoir and managing watershed lands. Kyker-Snowman reports that the combination of protracted over-browsing by deer and the presence of planted exotics surrounding many of the old homesites at the reservoir has led to locally impenetrable thickets of Japanese barberry (*Berberis thunbergii*).

“These thickets have successfully monopolized the understory in some areas, especially on historically arable land that is now under red pine plantations,” says Kyker-Snowman, who also serves on the Massachusetts Native Plants Advisory Committee. “While barberry is the only shrub in some over-browsed areas and may be providing important support for wildlife, it also threatens the stability of the forest cover by preventing regeneration.”

Other species, listed along with the common and Japanese barberries on the Massachusetts Natural Heritage and Endangered Species Program list of the “10 most unwanted invasives” include: Oriental bittersweet (*Celastrus orbiculata*); purple loosestrife (*Lythrum salicaria*); autumn olive (*Elaeagnus umbellate*); Japanese, Morrow’s and Amur honeysuckles (*Lonicera sp.*); multiflora rose (*Rosa multiflora*); Norway maple (*Acer platanoides*); garlic mustard (*Alliaria petiolata*); shining and common buckthorns (*Rhamnus fragula, R. cathartica*) and common reed (*Phragmites communis*).

The Virginia Department of Conservation’s Division of Natural Heritage and the Virginia Native Plant Society have identified 115 invasive alien plant species that threaten or potentially threaten natural areas, parks, and other protected lands in Virginia.

In the Pacific Northwest, where approximately 400,000 acres of national forests and national grasslands are affected by infestations of invasive, non-native plants, the USDA Forest Service is looking at integrated ways to prevent future infestations,
manage existing problems and restore affected sites.

“To date approximately 95 invasive plant species have been reported on national forest lands in Oregon and Washington,” says Regional Forester Linda Goodman, Region 6. “These infestations have a high potential to expand and further degrade national forests and grassland through loss of wildlife habitat, loss of rare or endangered plants, decreased biodiversity, degradation of water quality and loss of recreation opportunities.”

An exotic parasitic plant known as giant Asian dodder (Cuscuta japonica ‘Choisy’) has recently appeared in Texas and threatens a variety of trees and landscape plants in Houston. Often cultivated in Asia for medicinal products, it is believed that it may have been intentionally introduced into Houston for similar purposes. First detected by City of Houston crews in August 2001, the spaghetti-like plant, which tangles and winds itself around other plants, has since been found in half a dozen neighborhoods, primarily in southern residential districts of the city.

Observers worry that a particularly aggressive invader, the Australian tree (Melaleuca leucodendron), which is relatively new on the scene, will have invaded the entire Everglades region of Florida in 20 years or less.

And the list of states and regions experiencing problems goes on. Unfortunately, the problems are compounded due to the lag time in knowledge of the damage inflicted by dispersal and the fact that nurseries, landscape designers and extension services continue to promote their use long after they have become invasive in natural settings. Dr. Greipsson says this underscores the need for education.

“We need to educate and bring awareness of what plants to avoid, and to identify the invasives in order that they be eradicated as soon as we see them, before they have a chance to get established and begin to out-compete the natural vegetation,” says Greipsson.

Steve Nix, a professional forester who researches, analyzes and manages forest resources in the Southern U.S., hosts an online forestry forum (http://forestry.about.com). Nix guides readers on planting issues and warns that extreme care should be exercised when planting the following tree species outside Many exotics, including multiflora rose, have been here so long they’re naturalized.
their natural habitats because of their invasive tendencies: Black Locust (*Robinia pseudoacacia* L.), which is native to the Southern Appalachians and Southeastern U.S.; Chinaberry tree, China Tree, Pride of India, Umbrella Tree (*Melia azedarach* L.); Mimosa, silk tree (*Albizia julibrissin Durazz.* L.); Royal Paulownia or Princess Tree (*Paulownia tomentosa*); Tallow Tree, Chinese Tallow Tree or Popcorn-tree (*Triadica sebifera* L. Small.); White Poplar (*Populus alba* L.); and Tree-of-Heaven, ailanthus, Chinese sumac, stinking shumac (*Ailanthus altissima* P. Mill.).

**Control methods discussed**

Control methods include cutting or mowing, girdling, excavation and chemical control. Chemical control can be the most effective solution for stubborn populations, especially those with deep and abundant rhizomes that seem to regenerate no matter how many times they are mowed or cut.

Gilman believes the prudent use of plant-specific herbicides may actually do less harm to the environment than some of the manual activities.

“It is imperative to manage invasive plants,” says Gilman. “Brush mowers mow down six-inch trees. What’s the environmental impact of that? All the critters that are living in there are hurt as well. When plants regrow from stump sprouts, you end up with an increase in stem density. Increased stem densities are less manageable. Alternatively, you may increase mechanical controls and cause soil disturbances, which create new opportunities for invasives.”

Controlled burning deters some species, but unfortunately many invasives are simply stimulated by fire.

Combining cutting with use of herbicides may be the most effective. Several sources recommend 20-50 percent solutions of glyphosate applied directly to stems immediately after they are cut. In this manner, less of the chemical is required and it is unlikely to damage nontarget vegetation. This treatment works in the control of autumn olive, the buckthorns and multiflora rose.

“It’s all about balance and not relying on any one tool,” says Gilman. “That means the proper, sound use of herbicides should be integrated with other techniques to create a community of diverse plants and animals.”

Many utilities practice Integrated Vegetation Management (IVM), a long-term approach to vegetation management that uses a variety of low-volume herbicide application techniques with minimal mowing, to keep rights of way under control.

Gilman says cost is a driving factor in the effectiveness of any control technique. “You can never get away from economics. If you can’t afford the economics, you don’t achieve the desired result or necessary result,” he observes.

While many arborists are uncomfortable with herbicides, offering an invasive mitigation plan might be a very important and valuable service to clients and the environment. “It could be a potential service for an existing client, to put Roundup on weeds in driveways and spray along ecotones ( transitional borders between two ecological communities) or the woodline, if they can get comfortable using herbicides,” says Gilman. “And even if they don’t, the tree care specialist can inform the client. That’s a value-added service, a consultative sales approach.”

**Prevention, proactive control best**

Gilman says if you give invasives an inch, they’ll take a mile, so it’s always best to catch them in the early stages.

“It makes the most sense to target weed management around the root balls of new plantings, so weeds are not spread from the nursery, which could require extensive management years later,” he says. “It’s best to target control efforts during the first two years; that’s when weeds can be dealt with most expeditiously. If you initiate the process early, you can avoid weeds running rampant and feeling overwhelmed. Controlling weeds as they attempt to...
become established addresses the problem. Once invasives are rampant, you can spend a lot of money and get limited results. If you fix the problem when it starts, you are not out there treating symptoms.”

To assist in the early control effort, Gilman believes planning boards should require an invasive plant mitigation plan as part of the planned approval and inspection process. “They should do that when they issue approval for site development or disturbance, and then follow up in one or two years to see if the environment is stabilized. That’s the window of opportunity, before the plants get a foothold. Woods may be pristine to begin with, but if the linear ecotone isn’t buttoned up between the natural area and landscape, invasives can spread in one or more directions,” he says.

Greipsson suggests that everyone can play a role in stemming the tide of invasive non-natives. “People should keep their eyes open. Be vigilant,” he advises. “If you see a strange plant that doesn’t fit into the local flora, eradicate it before it becomes a real problem. How that is done is more or less by trial and error, but some schemes can be built to eradicate it if everyone pulls together.”

**Online resources:**


http://spectrum.troy.st.edu/~greipsso/, home page of Dr. Sigurdur Greipsson, Troy State University Dept. of Biology & Environmental Science.

www.invasive.org, a joint project of The Bugwood Network, USDA Forest Service, USDA APHIS/PPQ, and the University of Georgia, Warnell School of Forest Resources and College of Agricultural and Environmental Sciences, Dept. of Entomology.

www.invasiveplants.net, which focuses on work conducted by students and staff of the Ecology and Management of Invasive Plants Program, directed by Bernd Blossey, at Cornell University.

Fact sheets on some of the more common plants land managers face throughout the nation are available online from Dow Chemical, www.dowagro.com/ivm/invasive/invasive.htm. Each sheet describes how best to control the plant, timing, equipment to use, rates and other tips.

Lana Robinson is field editor in the Information and Public Relations Division of the Texas Farm Bureau, based in Waco, Texas. She regularly covers agricultural issues for Texas Gardener, Texas Agriculture, The Growing Edge and Texas Neighbors, and frequently contributes horticulture features to other green industry publications.
Taking Credit Can Increase Your Business

By Dave Rattigan

In North American society, credit is king. But for a business considering accepting credit cards, there are concerns about fees and additional paperwork that could cut into the business’s profits while adding to the workload. While some business owners who accept credit cards consider it additional grief and effort, many others think the pros far outweigh the cons.

Tom Gallagher of Ace Gallagher Stump Grinding Service LLC in Livingston, N.J. says he and his colleagues have frequent conversations about whether accepting credit cards would stimulate their business, and to what degree. Gallagher doesn’t accept credit cards for his service, but says he wonders how beneficial it would be.

"Every year, for four to five years, we have had discussions about what worked, and what didn’t," Gallagher says. "We have the same conversation (about credit cards) every year."

According to several tree care business owners who accept credit cards, many of Gallagher’s assumptions are correct. In a competitive industry where owners keep a careful eye on expenses, the practice of accepting credit cards adds cost and takes administrative time. However, they also feel the practice is good for business, primarily by making sales possible where they otherwise might not be. Also, the transaction speed benefits both the consumer and the business, as consumers receive service and companies receive prompt payment.

Costs and charges

Liz Harpst, a Knoxville, Tenn.-based manager with credit card processor Nova Information Systems (which, through an affinity program with TCIA, provides credit card processing services for TCIA members) explains that the processor works as a middle-man between the “merchant” and the card-holder’s bank. After Nova receives proper notification from the transaction, it is able to access funds and relay those funds to the merchant’s account. The average time of transaction is two business days. The merchant pays for that service in three ways:

1.) A percentage of each transaction goes to the processor, charged to the merchant on a monthly basis. Harpst says the percentage is currently running as low as 2 to 3 percent, but that a merchant’s actual rate depends on a number of variables, including how transactions are processed, i.e. swiping cards or keying them in, the volume of charges being processed, when the merchant contracted for the service and more. The merchant signs a contract with the processor; in Nova’s case, usually for three years.

2.) In order to process the charges, Harpst says, she would suggest that the merchant order a software package that allows them to send orders to the processor through the office personal computer, and to receive authorization for the sale. The cost is about $450. That is the least expensive of a couple of options that also include using a terminal machine (starting at $700 for a new model), or a portable, wireless terminal that can be used in the field (starting at $1,300). The machines may also be leased monthly, starting at about $18 per month.

3.) The merchant also pays a $5 statement fee, and may be charged other small fees for services such as voice authorization, for accepting foreign bank cards, and rare surcharges on certain other cards, Harpst says. She estimates that those fees (including the statement fee) could add $5 to $10 to a merchant’s
average monthly bill.

The merchant may monitor their business account at the Web site www.merchantconnect.com. There remain some mom-and-pop operations who do their credit processing by mail, but that method is outdated and not encouraged, notes Harpst.

Not surprisingly, Harpst is an advocate of businesses in most industries accepting credit cards. Simply put, she says, “It’s the way things are going. Everybody has to take credit cards now, for convenience and safety.”

Customer convenience

Jim Rock of Ames Story Tree & Lawn Service in Ames, Iowa, definitely weighed the pros and cons before deciding to accept credit cards four years ago. “It does cost a little bit,” he says. “But we find the convenience to the customer – especially on the tree service side – really does a lot for the client. A lot of times, that sells the job right there.”

Kate Schaper, office manager for Hamm’s Arbor Care of Partyville, Wis., (the name of the town, she says, is a misnomer), explains that her company began taking credit cards after a large-scale sheer wind storm hit the area, and nearby Madison, where the company does about 75 percent of its business. “It wiped out a lot of huge trees,” she says. “It took mammoth trees and tossed them like toothpicks.”

The storm created a great and sudden need for the company’s services, and accepting credit cards was a way for owner Kevin Hamm to respond to those who couldn’t pay by cash or check. Schaper says the company has a few repeat customers who always pay with credit, but that the company only rings in four or five credit sales each month. “You look and think, ‘Why bother?’ But as soon as there’s an ice storm, wind storm or tornado, and people are caught unaware and don’t have their funds in place, it gives us the ability to say, ‘It’s not a problem.’”

Accepting credit cards helps his company meet his clients’ needs by making it easier for them to pay, says Ames Story Tree’s Rock, and it also helps differentiate his company from less-experienced, less-skilled, less-knowledgeable and uninsured competitors.

That’s a problem many tree care companies apparently run into. As Lani Pieschacon, president of North Florida Arborist Inc. in Tallahassee, Fla., stresses, when it comes to price, “I can’t compete with a redneck in a pickup truck with a chainsaw, no insurance, and working for beer money.”

A credit option that makes it easier to pay for a job may help a customer lean in the direction of a more seasoned, skilled company. “My prices might be higher than the three or four guys who just started this spring, and the three or four guys who’ll go out of business this fall,” admits Rock.

The Kan-Du Stump Grinder ...

... is fast, efficient, economical and has over 12 years of proven reliability. It is hydraulically controlled, self propelled and will travel at a fast walk in open areas and slowly on hills and in close quarters. It also has a hydraulically controlled, rear-mounted stabilization blade. It is easy to operate, has a 48-inch working width, yet will pass through a 29-inch opening and will grind 30 inches high and 24 inches deep.

“(Accepting credit cards is) another tool in the toolbox of being a professional. It’s part of being an established business.”

**Competitive edge**

Mark Bourgeois, who has run Arbor Pro Inc. in Gresham, Ore., for 20 years, doesn’t market the fact that he accepts credit cards. In the two years he’s accepted credit cards, he’s sometimes gone three or four months without running a card. However, like Rock, he looks at it as a business tool worth having – if one lands a good processing rate. Sometimes, albeit infrequently, it can be a deciding factor for a customer who wants a job done but who doesn’t have the cash on hand or in his checking account, he says. It might also be a deciding factor for a consumer choosing between two companies.

“If you’ve got an apples-to-apples bid and somebody takes credit cards and somebody else doesn’t, that might push the job your way,” he speculates. “You may gain a few jobs you wouldn’t otherwise have gotten.”

While he thinks it’s worth having, Bourgeois suggested that the additional paperwork that comes with processing credit cards might be more of a concern to a company that doesn’t have regular office help. “If there’s an office person working regular hours, that’s not a big deal. But when you’re a (small) operation running the business out of your house, and doing the books when you come home – which is half the guys in the business – it’s one more headache. The way you’re staffed is going to be an issue.”

**Customer preferences**

Some people simply prefer paying by credit. Bourgeois observed that he has some clients who pay for work using their cards because they want to accrue more free airline mileage. Laura Chisholm, vice president of Aspen Tree Expert

Company in Jackson, N.J., notes that her clientele includes senior citizens who may receive a monthly government check, and frequently prefer to pay for the service rather than be invoiced. “They want to pay for it right now,” Chisholm says. “Then the credit card invoice will come in after the work is done, and they’ll pay that.”

**Transaction fees**

The transaction fee is something to consider when a company is bidding for big jobs, Chisholm says. Her company works for some large government clients, including military bases in her region. The federal government requires her company to accept credit card payments in order to bid for the jobs. Accepting credit cards has been beneficial, but she’s well aware of the transaction fees.

“It’s not an issue with $100 jobs,” she says. “But when you have a $100,000 contract and are losing 3.7 percent, that hurts. There are some big amounts going through there. When you’re bidding certain numbers, it’s something to keep in mind.”

The state of Florida also does business only with companies that take credit, says Pieschacon, whose company does some work for the county and the state. “We take that (service charge) as a cost of doing business,” relates Pieschacon, who has been pleased with the quick payments that come with doing credit business.

Aspen began accepting credit cards in 1999 and, like Pieschacon, Chisholm says she feels the practice has benefited the company, because of convenience for both her company and its customers. The company is assured of being paid promptly, without going through the process of sending out invoices, and in some cases chasing the customer for payment.

“It’s automatically in our bank account within three days,” she says. “That’s a plus. It would be better if the customer handed our guys the money, but that doesn’t happen all the time.”

Rock agrees, adding that for many, a tree job is something done every four or five years, paid for with a lump sum.

“If they can pay one time from their own credit card, it’s a win-win situation,” he says. “Otherwise, they might want us to finance the job, which is a hardship for us. We want the work, but don’t want to finance it.”

*Dave Rattigan is a freelance writer living in Peabody, Mass.*
As a tree care expert, you know the value of experience, knowledge and the right tools. It’s the same in the insurance industry. The Hartford put down roots and began growing almost 200 years ago. For years, we’ve been helping arborists to protect their livelihood with an insurance program designed especially for your industry. Find out why hundreds of arborists across the country choose The Hartford to protect their business.

Call your agent today or call The Hartford at 1-800-533-7824. For more information, visit our Web site at www.thehartford.com/arborists.
Insurance: Operations Control Results in Loss Control

Supervisors need help in enhancing productivity and reducing accidents. This article will assist by providing a means for review and prevention of operational factors that can contribute to accidents. By using a logical method to look at operational problems and come up with workable solutions to those problems, supervisors can learn how to identify operational problems that contribute to accidents and incidents.

Clearly, accidents are costly to an organization. Accidents may mean lost time, diversion of both attention and personnel, medical expenses and even lawsuits. Accidents are an example of the type of obstacle to productivity that a supervisor may have to confront.

Accidents also reflect poorly upon supervisors, since they are responsible for controlling operations within their areas of responsibility. Since accidents and other operational obstacles reflect a breakdown in operations control, it is not surprising that supervisors with the fewest accidents are those usually held in the highest regard by management.

**Supervisory skills**

In order to control operations, a supervisor must possess certain basic knowledge and skills, including knowledge of the work and the responsibilities of those who work in the department. Knowledge of the work is derived from whatever training or education the supervisor brings to the job, plus on-the-job experience. A supervisor’s understanding of responsibilities comes from experience and from such sources as company policies and job descriptions.

A supervisor must also be an effective planner, which may be a supervisor’s primary function. He or she must be able to plan effectively to ensure proper procedures, schedules and utilization of resources. After planning, a supervisor’s most important challenge is to instruct; to explain to each member of the work team what is expected. Instruction can take many forms, such as group instruction, or one-on-one; it can even be delegated to someone who may be a more capable trainer. The supervisor remains responsible, even if the task of instruction is delegated.

A supervisor must be able to lead others, both by example and by inspiration. Communication skills are equally vital. Since the supervisor links management and workers, he or she must be able to speak the language of both sides, and clearly relay the concerns of each.

Supervisors must also demonstrate a great degree of flexibility. An open-minded supervisor is approachable; this means that workers are more apt to communicate small concerns before they evolve into major ones. In addition, open-mindedness is essential to effective problem solving.

**Operations Control = Loss Control**

Operations include every facet of the process involved in ensuring that the product or service is efficiently produced or provided. Operations control involves making sure that satisfactory results are achieved. The task of the supervisor is to control the operations in his or her area of responsibility. The better this is done, the better products and quality objectives will be attained. This should also translate into fewer accidents. If the supervisor controls his or her operations, losses will be controlled.

**Definitions: the language of loss control**

A Loss is a sudden and destructive event. A Loss Exposure is a possibility of a loss. Loss Prevention aims to reduce the frequency or likelihood of a particular loss. Loss Reduction aims to reduce the severity of a particular loss. Together, Loss Prevention and Loss Reduction equal Loss Control.

An operational problem, or job hindrance, is any condition or event that interrupts or interferes with the normal process of the job. (In other words, anything that hinders the supervisor’s overall job performance or efficiency). Examples can include damaged equipment, delays, rejects and re-works, damaged material, shortages, people problems and injuries. Accidents certainly interrupt or interfere with the orderly progress of the job. An accident is a major job hindrance.

Similar to an accident, an incident is an accident-like occurrence, but without harm to persons or damage to property. An incident is sometimes referred to as a “near miss.” Incidents are job hindrances.

Operations control includes controlling job hindrances. The supervisor who is properly controlling operations is reducing and eliminating job hindrances, including accidents and incidents.

A Responsible Condition is a condition that, if eliminated, would result in no further repetition of the particular loss or accident, under the same set of circumstances. In other words, the responsible condition is the crux of the matter, the underlying condition that allowed the loss to occur. Identifying and correcting responsible conditions to prevent reoccurrence is the primary responsibility of the supervi-
It is the purpose and goal of accident analysis and investigation.

Managing for loss control: equipment/material/people

Regardless of the size or type of organization, we have found that operational problems are reducible to an analysis of the production factors: equipment/material/people, or E/M/P. These factors are at the core of every organization, and are the key to identifying any job hindrance.

Equipment includes all tools and machinery used on the job, including the building itself, chippers, aerial devices and even word processors. Material refers to all the elements that become part of or are used to create the product or service of the business. Examples include raw materials, as well as chemicals, gasoline and electricity. People includes all those who design, oversee or produce the product or service. People means managers, service technicians and assemblers.

E/M/P encompasses all the elements that exist within a given enterprise. But more than being merely a system for categorization, E/M/P is shorthand for a highly successful method of analysis basic to effective operations control.

Whenever an operational problem is encountered, the E/M/P categories can be used to isolate the factors involved. Once these elements have been targeted, a review of each one is made by looking into the four considerations relevant to each category. The supervisor can begin to focus on the responsible condition as a necessary step toward its elimination.

The E/M/P approach to loss control

As you review each operational problem (or job hindrance), consider the equipment, material and people involved. Question how the equipment was selected, arranged, used and maintained. Question how material was selected, placed, handled and processed. If the problem involves an issue...
with people, review how each person was selected, placed, trained and led. These questions will identify factors that need to be explored further.

E/M/P is a crucial starting point to focus on the elements of operational problems. Since the objective of this entire process is to control operations, this understanding is an essential first step.

Introducing the six Ws

The E/M/P process enables the supervisor to understand a job by breaking it down into its components. But E/M/P is only the first stage of the investigation. To identify the responsible condition that gave rise to the job hindrance, the facts must first be obtained. Once the supervisor has gathered the facts, he or she can identify the responsible condition or conditions and turn to the important challenge of developing methods to eliminate and control them. The way the facts can be obtained is by asking specific questions.

Begin with the WHY? question. Why is it necessary to do whatever it is that has led to the job hindrance? If the answer turns out to be that it is, in fact, not necessary, then whatever is being done that led to the job hindrance can – and should – be eliminated, which will eliminate the job hindrance as well. In that case, the questioning need go no further and job hindrance has been resolved.

The second question – closely related to the first – is the WHAT? question. What useful purpose does this task or procedure serve? If it doesn’t serve a useful purpose, then eliminate it (in which case, the investigation can end right there).

WHERE should it be done? Should it be moved? Rearranged? Reorganized?

WHEN should it be done? Is it an issue of timing? Should it be rescheduled?

WHO is best qualified to do the job? Is the right person doing the job?

And finally, the last “W” (which actually ends in W) is the HOW? question. How can it be done better, more easily, more safely?

These six Ws are the nuts and bolts of the investigation process. These are the questions a supervisor must ask to ascertain the responsible condition for the job hindrance. WHY? and WHAT? help determine whether the condition is necessary and useful. If it is not, it can be eliminated without further questioning. WHERE? WHEN? and WHO? help in combining and rearranging necessary details, and HOW? helps to simplify the job and determine the best way to do it.

Supervisor’s investigation report

When an incident occurs, the supervisor in charge will usually report to management on the circumstances and whatever recommendations may be appropriate. The supervisor’s report becomes an important tool for management to use in reviewing the overall circumstances and for setting necessary priorities.

The Supervisor’s Report Form [above] provides a convenient way to communicate to management with clarity and precision.

Heading Information. The data requested on the top of the form is important from
an analysis standpoint. For example, it may reveal that a disproportionate share of the hindrances are coming from a particular crew. This in turn may raise questions about that crew, about fatigue, training, supervision, and so forth. It may also provide additional E/M/P information.

What Happened? This is a brief description of what took place or what caused the supervisor to make the investigation.

Why Did It Happen? This section uses the “W” questions to provide the necessary information. It is important that the information provided be complete and objective. The answer to the WHY? question is really a statement of the responsible condition.

What Should Be Done? Supervisors have a responsibility to make suggestions to management as to what corrective measures would be appropriate, even if the actual authorization or implementation of those measures may well be beyond the scope of the supervisor’s authority.

What Have You Done Thus Far? Merely identifying the conditions responsible, without proposing any corrective action, means that in all likelihood nothing will be corrected. Someone must take action, even if the action is merely that the supervisor has reported the condition to management. What management decides to do thereafter is up to them.

<table>
<thead>
<tr>
<th>Why?</th>
<th>Why is it being done? Is it necessary?</th>
</tr>
</thead>
<tbody>
<tr>
<td>What?</td>
<td>What useful purpose does it serve?</td>
</tr>
<tr>
<td>Where?</td>
<td>Where should it be done?</td>
</tr>
<tr>
<td>When?</td>
<td>When should it be done?</td>
</tr>
<tr>
<td>Who?</td>
<td>Who is the best qualified person to do the job?</td>
</tr>
<tr>
<td>How?</td>
<td>How can it be done better, easier, safer?</td>
</tr>
</tbody>
</table>

The six Ws are the nuts and bolts of the investigation process. These are the questions a supervisor must ask to ascertain the responsible condition for the job hindrance.

How Will This Improve Operations? This question is designed to help the supervisor sell ideas to management. It is helpful to consider this question from a bottom line point of view. How will eliminating the problem save time and money?

Summary

Supervisors contribute to an organization’s primary goals of production, quality and profit by effectively controlling their operations. Supervisors control operations by eliminating operational problems or job hindrances. These operational control principles are the most direct way to incorporate loss control into everyday operations. It is important to determine the causes of accidents, when they occur. However, it is even more important to identify conditions that could cause accidents before those accidents occur. Why wait for an accident to happen?

For more information, contact your local Hartford agent or your Hartford Loss Control Consultant. Visit The Hartford’s Loss Control Web site at www.thehartford.com/corporate/losscontrol/

This document is provided for information purposes only. It is not intended to be a substitute for individual legal counsel or advice on issues discussed within. Readers seeking resolution of specific legal issues or business concerns related to the captioned topic should consult their attorneys and/or insurance representatives. This information is provided by the Loss Control Department of The Hartford Insurance Group. Reprinted with permission. Further reproduction or electronic distribution prohibited. Copyright 1999, The Hartford, Loss Control Department. All rights reserved.

---

Lightning Protection for Trees
Your complete source for lightning protection needs.

- Provide your clients an additional service.
- Limited investment, quick profits.
- Consider golf courses, parks, large estates and historic trees.
- Lightning protection systems for all types of structures.
- Send for a free Tree Kit—A folder containing information about adding this service.
- Order our video or CD Rom—“The How-to Presentation for Installing Lightning Protection in Trees”- $19.95, Visa or MasterCard.
Calculating Time & Materials Pricing

By Jim Huston

“Measure once, cut twice. Measure twice, cut once.” – A carpenter’s adage

So it is with time and materials (T&M) pricing. Preparation in two areas is essential. First, you have to calculate your prices accurately for every contingency. I often spend many hours with clients calculating T&M prices. Second, you have to market and “sell” not only your prices but the process. You have to not only negotiate the prices, but you must also educate your client in the process. Otherwise, you’re opening yourself up to a possible disaster. Calculating the prices is the easy part. Managing the customer’s expectations is the tough one.

How it works

A contractor in the Northeast had me help him develop T&M prices for a large multi-million-dollar residential installation project. Basic labor was priced at $25 per man-hour. All G&A (general and administrative) overhead was calculated in this hourly rate. We also put together some basic unit prices. Sod installed was priced at $.65 per square foot. The sod cost $.20 per square foot, with $.45 for soil prep and installation. The project had a 5,000-square-foot courtyard my client was going to prep, grade and install sod on. There was also a 16-acre horse corral on which the contractor was going to do some light prep work and then seed it.

The courtyard went from brown dirt one day to beautiful green crimson sod the next. The owners were so impressed they asked the contractor if he could sod the 16-acre horse corral. His reply was, “Yes. The cost would be $.65 per square foot plus $25 per man-hour. When can we start?” This contractor was prepared. This job actually helped him to retire early and move, with his family, to another part of the country.

Another contractor was not so prepared, at first. He called me in a panic one day and asked me to help him readjust some T&M pricing he’d been using for another very large residential project, which ended up at well over $4 million.

The three-man crew was using some rather large pieces of equipment to move and place boulders. The initial billing rate was $125 per man-hour or $1,250 per man per day, including the equipment. This was fine until the crew had to water plants and trees, when $125 per man-hour was a bit excessive for holding a hose and spraying water over the countryside.

The owner and general contractor were withholding a $500,000 progress billing from my client, until he went back and recalculated his T&M rates and then applied them retroactively to the whole job. Needless to say, my client was anxious to get paid, keep the job and make everybody happy.

My client had excellent records for the whole project. I recalculated all the T&M rates, with and without the large equipment. My client and I then went back and readjusted all previous billings. He then had to “sell” the new pricing to both the owner and the general contractor. Fortunately, the old total was not very different from the new one. My client got paid and went on to finish a very beautiful project.

Another contractor, who called me one day, wasn’t so lucky. He’d done close to $10 million of T&M installation work for a very wealthy residential client over an eight-year period. Apparently, one of his competitors was jealous of his relationship with this client. The other landscaper got the ear of the client and convinced him he’d been overcharged during the previous eight years. The client had his attorney send the landscaper a letter demanding a re-evaluation of all his previous charges, and a refund. This is when I got the initial phone call.

I told the contractor I could help him calculate and validate T&M rates for the previous eight years of work. We could then make any adjustments as we deemed necessary. However, it was going to be a bureaucratic nightmare, as this project would take hundreds of hours and cost thousands of dollars. To top it off, what do you think the chances were of salvaging the relationship with this client who’d provided more than $10 million dollars of work?

Materials pricing

I recommend charging for repair materials independent of labor rates. For commercial customers, you’d normally add a minimum margin of 20 percent to invoice cost. While not necessarily accurate, you could justify the 20 percent by calling it 10 percent for G&A overhead and 10 percent for net profit. Residential markets will usually allow you to charge retail prices for materials.
**Subcontractor pricing**

The going margin I see around the country applied to subcontractor costs ranges between 10 and 20 percent. Rarely is it higher or lower, and 15 percent is a pretty good benchmark. You could market the 15 percent by saying 5 percent was for G&A overhead and 10 percent for net profit. However, you have to think about your market when adding a margin to subcontractors.

A client in Pennsylvania called me a number of years ago. He was bidding a large commercial project with a $100,000 soil prep and jute netting subcontractor on it. The landscaping part of the job was only about $36,000. My client asked me what I thought he should add on to the subcontractor cost. He said he was thinking of adding 15 percent. His rationale was that five percent was for G&A overhead and 10 percent was for net profit.

I asked him if the subcontractor was reputable, and if he’d need much supervision on this job. My client said he’d done lots of work with him, and that he needed little or no supervision. He added that when it came time for the subcontractor to do his work, all my client would have to do was make a telephone call and then send an invoice to the general contractor when the work was completed. I told my client that it appeared he wanted to charge $15,000 ($100,000 x .15) to make a phone call and send an invoice. He chuckled and said, “I guess so.” I asked him if he thought he could charge $15,000 to do that and, if so, I’d make the call and split the $15,000 with him. We both laughed.

Of course, if you can charge $15,000 for the call and invoice, by all means do so. However, this contractor realized that, in this case, $5,000 would probably be sufficient. Think cost, but also think market!

**Equipment**

You should allow the market to help you out in a T&M situation, as it often “predisposes” various pricing levels. If at all possible, you should attempt to charge equipment rental rates for the equipment you own. Treat rented equipment as you would a materials or subcontractor cost and mark it up accordingly.

You should provide prices for every piece of motorized equipment that will show up on the job site. Often, my clients will use daily, weekly or even monthly rates for trucks, tractors, chippers, skid steers, etc.

Don’t forget to charge for the crew truck. I often build the cost for the crew truck into the labor rate. You should also charge for delivery trucks and trucks making dump runs. For these, I like to charge a minimum of four hours per day or engine running time, whichever is greater. I think it’s usually best to charge for the supervisor’s truck in the rate for the supervisor.

---

**G & A Equipment, Inc. Knoxville, TN**

Visit us on the Web: www.gaeq.com

800-856-8261

Lowest Prices on the Market

Please circle 26 on Reader Service Card
**Labor (curb-time, portal-to-portal rates)**

Every hour you pay for should be passed on to the client in a T&M situation. This is why crew day rates can be very helpful when doing T&M work. Curb-time rates are applied to on-site time. Portal-to-portal rates apply to every hour of the payroll day.

For instance, if you were charging $400 per crew member for a 10-hour day and the crew was on site for eight hours of curb time, the curb-time rate would be $50 per man-hour ($400 ÷ 8 curb man-hours = $50). However, the portal-to-portal rate would be $40 ($400 ÷10 total man-hours = $40).

Drive time or non-site time can be handled one of three ways:

1. It can be included in the hourly rate charged to the client. The client is, therefore, charged an hourly rate based on curb time.

2. The client is charged for actual drive time to the job site. Essentially, the clock begins to run once the crew clocks in or leaves the yard and stops when the job is completed. This method has some inherent problems if the driver starts from a location other than the yard, gets stuck in traffic, or has to make other stops along the way. Instead, an average time could be allocated to the job, but this puts you into the third method.

3. You can charge a show-up fee that includes drive time plus a certain amount of time on the job (i.e. the first 15 to 30 minutes). Time after that is charged at a set hourly rate.

When negotiating T&M labor rates, use the terms portal-to-portal and curb time. No one knows what they mean and you’ll appear much smarter than you actually are.

It’s usually wise to have multiple rates.

**Rate cards**

I encourage my clients to print a rate card with all their rates on it. This card may be for internal use only. Or you might give it to clients. In either case, it will save you time and the embarrassment of not knowing what you charge. You can attach your rate card to contracts or hand it out as needed. In any case, it will make you look more professional.

**A simple illustration**

Figure 19.1 illustrates how I cost out the T&M rate for a three-man crew with a crew truck for a 10-hour day. The crew average wage, labor burden, overtime factors, etc. are as indicated in the figure.

This crew needs to bill out $1,200 per day. This includes the crew truck, all G&A overhead and net profit. The curb-time rate calculates out at a little under $44 and the portal-to-portal rate at just over $39. I’d round these to $45 and $40, respectively.

**Summary**

Time and materials or cost-plus billings can be an excellent way to perform work. However, you must do your homework. You need to know your rates cold.
you’ve calculated your rates, the job’s not over. You must communicate effectively with your client and manage client expectations. You’re constantly negotiating on a T&M project. Develop and keep a rate card with you at all times. It will save you a lot of aggravation.

Don’t hesitate to get help or a second opinion when calculating your T&M rates. Remember the carpenter’s adage, “Measure once, cut twice. Measure twice, cut once.”

This article was adapted from James Huston’s new book and audio book, *How to Price Landscape & Irrigation Projects*, which covers equipment costing and pricing in more depth. The author is president of J.R. Huston Enterprises Inc., which specializes in construction and services management consulting to the Green Industry. Mr. Huston is a member of the American Society of Professional Estimators and he is one of only two Certified Professional Landscape Estimators in the world. For further information on the products and services offered by J.R. Huston Enterprises, call 1-800-451-5588, e-mail jrhei@jrhuson.biz, or visit www.jrhuston.biz. To order a copy of the book, call 1-800-733-2622.

Note: The costs used in our scenarios are for illustration purposes only. Your costs will vary from the ones used in these examples. The key is for you to build a typical one-day scenario for the different crew, materials and equipment you use. Round up these rates as appropriate. If your costing structure is accurate, the rates you calculate should be very close to your current ones and to those generally seen in your market.
Tree Climber

Arbor Images Complete Tree & Shrub Care is a well established and fast growing company serving Southern Wisconsin and Northern Illinois. We are seeking an experienced climber with 3 years’ climbing experience. Drivers license required CDL preferred. We offer a complete benefit package. Fax resume to (262) 763-5090 or call (262) 763-4645.

Kaiser Tree Preservation Company

Kaiser Tree, a leading tree service in southern RI, is seeking a foreman-quality arborist w/5 years minimum bucket/climbing experience; CDL/truck driving experience. Pay/benefits/vacation based on skill. Ames (401) 640-0216.

Mountain High Tree Service & Lawn Care, Denver, CO

Experienced tree climbers needed. Top pay, full benefits. PHC and Lawn Techs also needed. Come work for Denver’s leading arboricultural and lawn care company. Please call (303) 232-0666; fax (303) 232-0711; or apply online at mhttree@pcisys.net.

Crew Foremen, Climbers, Groundspersons

Growing mid-size San Diego-based tree service company hiring crew foremen, climbers and groundsmen; minimum 2 years’ experience, $15-$20 an hour, EOE. Certified Arborist a PLUS. Benefits, drug screening. Must have valid driver’s license. Immediate openings, year-round work. Fax resume to (760) 727-3813 or call (760) 941-3992.

Advanced Tree and Shrub Care

Need exp. arborist/tech in N. Central TX. Established, fast growing co., need highly motivated, aggressive individual. PHC knowledge pref. Train w/ a degreed consulting cert. arborist. Fax resumes (972) 569-8370 or call (214) 544-8734.

P&H Technicians – Southeastern Pennsylvania

Full-time employment with advancement opportunities. Formal training provided by The Bartlett Tree Research Laboratory. Experienced applicators only need apply! Excellent wage and benefits package with 401(k). Driver’s license required, CDL preferred. Bartlett Tree Experts – Exton office. Phone (610) 594-4740; fax (610) 594-4743; e-mail rdexter@bartlett.com.
Do You Have What It Takes …

… to be a part of Atlanta’s leading tree care company? We are searching for experienced tree climbers and crew leaders to help our successful team stay on top. Year-round work, relocation assistance, excellent compensation and benefits package. Driver’s license required. CDL preferred. Drug Free Workplace. Submit resume to Sean Harrison at: Arborguard, P.O. Box 477, Avondale Estates, GA 30002. Phone: 404-299-5555; Fax: 404-294-0090; E-mail: sharrison@arborguard.com.

Ira Wickes/Arborists

Rockland County-based firm since 1929 seeks qualified individuals with experience. Arborists/Sales Reps, Office Staff, Crew Leaders, Climbers, Spray Techs (IPM, PHC, Lawn). Great benefit package includes 401(k) matching, advancement opportunities, EOE. Check us out on the Web at irawickes.com. E-mail your resume to info@irawickes.com; fax (845) 354-3475, or snail mail us at Ira Wickes/Arborists, 11 McNamara Road, Spring Valley, NY 10977.

Pleasant View Tree Service

We are looking for certified arborist/climbers/groundsmen. Must have CDL license. Must have motivation for advancement through continued education & certifications. Also have the highest standards in quality control & customer relations. Compensation depends on position held & experience. Starts at $15/hr highest in industry. Medical, dental, pd vacation, holiday & bonuses. Call Pleasant View Tree Service, Inc. – Aric – Stillwater MN (651) 430-0316.

WHAT’S THE DAVEY DIFFERENCE?

It’s Davey people that make the difference and Davey can make a difference in your career.

You’ll be part of a growing team of certified arborists, technicians, botanists, agronomists and horticulture scientists in a company that offers over 120 years of tree care history and knowledge.

Positions with training, benefits, and advancement opportunities are now available throughout the United States and Canada.

Eastern, Mid-Atlantic & Southeastern States
Call Brian Tarbert 800-531-3936 brian.tarbert@davey.com

Great Lakes, Central, Southwest & Western States
Call Mark Noark 800-445-8733 mark.noark@davey.com

Canadian Operations
Call: Gordon Ober 800-445-8733 gordon.ober@davey.com

Or Visit: www.davey.com

Please circle 17 on Reader Service Card

HAWAII

Utility Line Clearance Bucket Operators. CDL required. MUST have a minimum of 4 years’ utility line clearance experience. Pay starts at $16 per hour, based on experience. Benefits include paid medical and dental insurance, paid federal holidays, vacation pay, 401(k) and profit-sharing plan. References required. Send resume with salary history and employment references to: Jacunski’s Complete Tree Service, P.O. Box 4513, Hilo, Hawaii 96720, Phone: (808) 959-5868, Fax: (808)959-0597, e-mail: jacunskis001@hawaii.rr.com.

Please circle 16 on Reader Service Card

TREE CARE INDUSTRY – MAY 2004 69
Dallas, TX - Arborist/Foreman

Experienced climber to lead and direct pruning crew. Potential for advancement to supervisor/management. Bilingual a must. Pay based on experience. E-mail resume to treedoc@integrity.com or fax (214) 357-3468.

Tree climbers/sales reps

Enjoy working year round with fellow easy going skilled employees. Be financially appreciated for what you can produce while working in a Virginia ocean front community. Call (757) 425-1995.

Boston Area

Serving the finest properties from Boston to Cape Cod, we are seeking arborists with the typical credentials to join our team of professionals. We offer state-of-the-art equipment, facility, benefits and working environment; relocation assistance available. Contact Andy Felix at Tree Tech Inc., PO Box 302, Foxboro, MA 02035; phone (508) 543-5644; fax (508) 543-5251; e-mail treetech@earthlink.net; or visit www.treetechinc.net.

Plant Health Care Coordinator
Gaithersburg, Md.

Seeking an Integrated Pest Mgmt/Plant Healthcare Coordinator to manage and implement IPM/PHC programs. Must have background and experience in plant & insect diagnostics and carry-out treatments, ability to manage 1-2 assistants, time management skills & pesticide control knowledge. Must posses the ability to work in a fast-paced, energetic environment. Valid CDL and pesticide applicator's license preferred. Benefits include health/life insurance, paid vacation/personal days, profit sharing, 401(k), employee stock ownership, competitive compensation. Please submit resume via e-mail to Shannon Byrne, sbyrne@thecareoftrees.com or via fax at (610) 239-7576.

Work for the Best to Invest in Your Future

RTEC TREECARE, Northern Virginia & Metropolitan DC area’s premier tree care company is expanding and looking for arborists. As a Sales/Arborist the focus is making connection with people, motivating, and inspiring them. The position requires strong initiative and self-direction. Our environment is fast-paced and results oriented. We need people with self-confidence that can enliven, engage and positively impact our clients. The job has variety of tasks and is dynamic, changing, and requires understanding, quick reaction and motivation. Other positions available are: Climbers that are trained and experienced with skills, technical knowledge, and driven for quality. Groundsman that have interest in the industry and want to develop their skills and knowledge for advancement. Plant Health Care Technicians with experience and knowledge of plant health care, and the changing environment, with the drive for higher education, are quality- and goal-oriented. RTEC offers excellent benefit packages for all employees, including vacation, health care and training programs. Fax resume: (703) 573-7475, e-mail: admin@treestrees.com or call us: (703) 573-3029.
Unbeatable Selection!

Royal Carries Mini Roll Offs
Utilizes One Vehicle For Unlimited Applications. Get Roll Off / Hooklift Versatility At A Standard Dump Body Price! Call For Additional Information!

1997 International 4900 Forestry Truck
10466 Turbo Diesel, 64 Speed, 33,000 GVW, 16 Heavy Duty Body With Removable Lids, 18 Ton Dump Cylinder. Ready To Work - Only $29,900.00!

1994 Freightliner FL70 Forestry Truck
210 HP Cummins Diesel, Heavy Duty Allison World Pushbutton Trans, New 10’ Extreme Duty Dump With Fold Down Sides. In Stock - Ready To Roll!

1998 GMC C6500 Chip Trucks
Caf Caf, Automatic Trans, Brand New 16 Chip Body & Hoist, Non CDL!

1990 Ford F700 Forestry Truck
Cummins Caf, Auto, NO CDL, New 14 Forestry Body With Removable Lids.

Royal Is Your Hooklift Headquarters!
Use One Truck For Unlimited Applications.
Chip, Spray Rig, Equip. Carrier, Dump, Lockable Storage And More! Call For Info & Pricing!

1991 Ford LN7000 Knuckleboom Truck
Ford Turbo Caf, Automatic, 80’/62’ Crane With 25’ Reach, New 12’ Royal Body With Removable Lids. Only...$36,900.00!

Royal Is Your Chip Truck Headquarters!
All Makes And Models, Over Or Under CDL, Auto Or Manual, Large Selection Of Dumps With Removable Lids & Chassis In Stock.

1997 To 1998 GMC Chip Trucks
Caf Cafe, Automatic Or Manual, Some In Stock Or Will Build To Your Specs!

97 To 98 GMC T7500 Dumps
Caf Caf, Allison Automatic Trans, 14 To 18 Bodies With Removable Lids.

Clean Used Chassis With New Bodies!

www.royaltruckequip.com
1-800-283-4090

Please circle 53 on Reader Service Card
Educational Development Manager

The International Society of Arboriculture (ISA) is seeking to hire an Educational Development Manager (EDM) to work at its headquarters operation in Champaign, Ill. The EDM will be responsible for assisting with development of publications; writing technical articles; reviewing technical materials; managing translation projects; answering technical questions; writing CEU questions; and assisting in the development of educational projects and programs.

The ideal candidate for this position will possess the following:
- A bachelor’s degree in arboriculture, forestry, horticulture, or a related field
- ISA Arborist Certification
- Two or more years of practical experience in arboriculture
- A fundamental understanding of adult education
- Strong communication skills, especially in technical writing
- The ability to handle multiple projects simultaneously

Interested parties should forward a resume, dossier, or C.V. directly to ISA at the following address:
International Society of Arboriculture
Attn: Sharon Lilly
P.O. Box 3129
Champaign, IL 61826-3129.

Tree Maintenance

Redwood City – A GREAT PLACE TO WORK! Public Works Department Tree Maintenance Worker We are looking for an individual to join our Redwood City Public Works Service’s Team! Position will be req’d to operate a variety of equip. such as brush chipper, chain saw, aerial lifter and tractor for ROW Tree Maintenance. Call for more information about the position! Must have valid CA class-C drivers license and pass background check.

Redwood City HR dept., 1017 Middlefield Rd., Redwood City 94063 Call: (650) 780-7285 Application req’d. EOE visit our Web site: www.redwoodcity.org.

Climbers Wanted

Aspen Tree Expert Co., Inc., a leader in NJ arboriculture is seeking reliable, experienced climbers. Multi-level positions available from secondary climbers up to crew chief/foreman. Drivers license mandatory, CDL a plus. Benefits include medical, paid holidays/vacation and retirement plan. Excellent pay based on experience. Fax resume (732) 928-6608, E-mail to aspentree1@hotmail.com or mail PO Box 1197, Jackson NJ 08527.

EXPERIENCED CLIMBERS ... Go out on a limb and make us an offer!

Enjoy hanging out in the trees? If so, we’re the place for you! We’re a national tree care company willing to pay for experienced tree climbers with a valid CDL. Extensive training and career path provided. Great benefits, pay and perks. Immediate openings available in Northern Virginia, Gaithersburg, Md., and Philadelphia, Pa. Contact Shannon Byrne at sbyrne@thecareoftrees.com, (610) 239-8017 or fax: (610) 239-7576.

People with a passion for trees and a drive for success are not always easy to find. Your a special breed. So why not work for a special company. Almstead is the Northeast’s most rapidly expanding tree & shrub care company with over 40 years of dedicated service. Almstead provides full administrative and marketing support, state-of-the-art equipment and continuing education programs. Unlimited growth potential awaits those who share our passion.

Positions currently open in NY, CT & NJ.

Passionate about trees...? we are.

Please circle 2 on Reader Service Card
Are your workers FULLY trained in electrical hazard awareness? Address this problem with the latest edition of the Electrical Hazards Awareness Program (EHAP) from TCIA, the Tree Care Industry Association.

EHAP is the cost-effective way to provide your employees with the critical knowledge and training they need to prevent electrical accidents. Meet OSHA safety requirements with EHAP.

The EHAP program is available in **English** and **Spanish**. The program combines written information, video training and hands-on training to reinforce important objectives.

Order this essential training program today.
Phone: (603) 314-5380, 1-800-733-2622
Fax: (603) 314-5386
E-mail: tcia@treecareindustry.org
Web: www.treecareindustry.org

Member $85 • Non-member $135
KISA Certified Arborist Salesperson position immediately available. Extremely professional and well-established full-service tree care company hiring a highly-motivated, career-interested individual to join our sales team. Great opportunity for advancement. Salary and bonus negotiable, company vehicle, excellent benefits, health, vacations, holidays, life, disability and 401(k). Call (301) 570-6033.

Tree Workers Wanted

Atlanta area. Foreman, Climbers, Groundsmen (CDL license a plus) will help with move. Opportunity to grow with the company into sales & management. Pay will be based on performance $9 to $25 hour + benefits. Paid vacation for CDL license holder. North American Tree Service (770) 554-9406.


EQUIPMENT FOR SALE

Bucket Trucks for Sale

We have a great inventory of aerial towers for sale. These trucks are 1977 thru 1998, Ford, Chevy, and GMC. We have Hi-Rangers, Asplundh and Teco units that have 50-foot to 70-foot working heights. Most units have been recently certified and are currently working. We also have some parts trucks. For information, call Brad at (626) 395-6647, 8 a.m. to 4 p.m. Pacific time.

03 IH 7500 66K GVWR, 98 IH 4900 bucket w/ forestry pkg, 90 IH 1954 w/N85 crane and 05 & 04 IH 4300s. 03 Intel 7500 66K, HD tandem axle, 345 HP w/ 8 speed LL, All polish wheels, chassis loaded. w/ 03 Log Lift model 135Z and 14’ J & J T-1, 3 shoots & apron, three way air gate, miles 3,000. 98 IH 4900 33K with HD specs, Allison auto, VO-60 lift with forestry pkg, 24k miles. 89 IH 1954 HD 33K, 5 & 2 w/ new style hood, National N85 crane w/ custom HD double wall 12’ body and swing gate. Miles 42K. Two new 04 & 05 IH 4300s 26k w/ auto and 20K hook lifts. all super clean. Contact Vince at 781-438-2760 or on the web at TruckSeekers.com.

Alexander Equipment Company

We have a huge selection of used chippers, stump grinders & tub grinders! Call Matt or Steve for details or try our Web site at www.alexequip.com for complete list & pictures. Financing available! We can ship anywhere! 4728 Yender Ave., Lisle, IL 60532. (630) 663-1400.


Factory Reconditioned & Reworked Equipment

From the leaders of chippers & waste reduction equipment.

Hand-fed chippers – whole tree chippers – stump grinders – horizontal grinders (models from all major manufacturers), more than 100 units to choose from. For our selection, visit: www.banditchippers.com or call Bandit Industries Inc., Remus, MI 49304, 1-800-952-0178 or (989) 561-2270.

Rayco & Vermeer

Stump Cutter Remanufacturing

Retip your Rayco Super Tooth for only – $3.95
Rebuild & Retip your Rayco Super Tooth — $5.95
Retip your Vermeer Pro-Tooth for only — $2.75
Free return shipping on orders over 100.
Toll Free 1-888-999-1778.
See what we do at www.stumpcutterking.com.
We buy used Rayco & Vermeer Cutters.

Hydraulic knuckle boom trucks with dumping flatbeds; Ford, International; 1988 to 1991; single axle, CDL or non-CDL. We can custom design and build sides, tailgates, chip boxes or continuous-rotation grapples. Call us for any specialty truck needs. Atlantic Fabricating Inc., Jack or Paul, Sayreville, N.J. (732) 938-5779; www.atlanticboom.com.

Fertilizer Tank/Sprayer

Lesco 300 gal. gas powered poly/fiberglass tank/sprayer – 8 hp engine, 14 gpm pump, 300 ft. of hose on reel. Like new – less than 25 hours use. Can be mounted on truck or trailer. Must sell. $4,000 obo. (919) 989-1919.

Conserv-A-Tree


Ropes, Ropes, Ropes

All types and brands of professional climbing and lowering arborist ropes at warehouse prices. Call for current price list. Free shipping. Visa, MC, AX. Small Ad — Big Savings since 1958. 1-800-873-3203.

Hardware and software

by an arborist for the arborist. For more information about the industry’s best-selling package, call or write Arbor Computer Systems, PO Box 548, Westport, CT 06881-0548. Phone: (203) 226-4335; Web site: www.arborcomputer.com; e-mail: phannan@arborcomputer.com.

Please circle 31 on Reader Service Card

We Made Them First
And They're Still The Best

Known for manufacturing the first fiberglass poles in the industry, Jameson continues the tradition of innovation with an expanding line of quality tree care tools.

- Boom Mount Tool Holders
- Canvas Tool Bags
- Fiberglass Poles
- Pole Saws
- Pruners

JAMESON

800.346.1956
www.jamesonllc.com

Please circle 35 on Reader Service Card

TREE CARE INDUSTRY – MAY 2004 75
PRODUCTS & SERVICES

ArborGold Software – Complete job management!

ArborSoftWorx is the Proven Leader in the Tree Care Industry providing feature rich software and hardware solutions. ArborSoftWorx Commercial is designed for the “for-profit” Arborist, Landscaper and Lawn Care Specialists to efficiently manage their business. ArborSoftWorx Municipal is designed for the Municipal/City, Campus Arborist to effectively manage their Urban Forest from Inventory/Survey to work schedules, budgets and mapping. Discover the ArborSoftWorx difference. Serving our customers throughout the U.S.A., Canada and Europe since 1983. Visit us at: www.ArborSoftWorx.com or call us 1-800-49-Arbor for more information.

BUSINESSES FOR SALE

Business for Sale
Seattle, WA – Established tree care company for sale. Twenty years in business with over 1,500 customers, including high-end clientele and ongoing municipal contracts. ISA Certified Arborists with good reputation for quality work. Gross Sales over $250k/year for past 5 years. Sale includes approx. $100,000 worth of modern equipment, tools, supplies and client database. $20,000. Serious inquiries only. Please call Rob Osborn, Sound Tree Service Inc. at (206) 246-3804.

Highly successful Northern Virginia, Washington D.C. metropolitan area tree service for sale. Income is 50% referral. Gross receipts of $170,000 for just 3 man crew. Sky is the limit. Priced to sell at $150,000. Please call Atlas Tree, Inc. at 703 591-3045.

For Sale: Southeast Wis. land-clearing business for highway, municipal & construction. Equipment, contracts and established accounts. Also, 2-acre commercial real estate site that includes shop & modern home in quiet neighborhood. Will separate – $900k/obo. (262) 370-8447 or toll free 1-877-887-5012

Tree Business For Sale
Near Westfield, N.J., sales over one million annually. Turnkey operation. Established 50 years; modern building, land, equipment including 2 cranes. Excellent clientele. Owner retiring. Will stay as long as needed. Call (908) 482-8855.

Green Waste Recycling Facility
Near Houston – Equip. includes Morbark 1200 Tub Grinder, Morbark 975 Waste Recycler, dozer, front-end loader, trucks, chippers, tractors and other equip. Established Tree Service, Land Clearing and Recycling operation with 15 yrs clientele. $1 million annual sales; many commercial acct’s; 30-acre tract in Brazoria County. Asking $1.5 million. (281) 482-3511; fax (281) 648-3850; Web: www.friendswoodfirewoodco.com; e-mail: bradymora@friendswoodfirewoodco.com.

An employment/ownership opportunity is available for the right person(s) in the Pacific Northwest. I have owned and operated a tree care company (with 1-3 employees) in Olympia, WA, for the past 18 years and am ready to do a career transition, even though business has never been better. We get on average 50 calls per week, mostly word-of-mouth and repeat business and annual gross revenue of $150-160k. We have a quality-oriented clientele and an excellent reputation in the area. I am looking to transition out of ownership in 1-2 years. Transition would include: sales and client relations; extensive plant, insect and disease knowledge particular to our locale; and on-the-job technical assistance. This is an opportunity for someone to work toward ownership in a rewarding and lucrative career. We are located in the progressive capitol of Olympia, Wash., where the economy is thriving, the trees never stop growing and where the weather rarely keeps us from working. Equipment may be included with business, or not, and includes: new Sterling 26000 GW w/14-foot Southco bed, 2001 Vermeer BC1000 chipper and a 2002 50TX track mounted stump grinder and misc. chain saws and specialty tools. Please call or e-mail Michael H. Moore for inquiries to: mooretrees@earthlink.net or (360) 866-8043.
Ready For A Great New Idea?

1. Does your business produce chips?
2. Do you spend a lot of time and money getting rid of them?
3. Now you can turn those chips into premium mulch in one pass through a Rotochopper CP 118.

Ron Van Beek from Tree Care, Inc., in Holland, Michigan recently told us:
“I’m amazed. The mulch I’m making with my CP 118 is the best looking product in our entire area and it sells as fast as we make it. Purchasing this machine was the best decision I’ve made in a long, long time.

The CP 118 will turn your wood chip disposal PROBLEM into a money making OPPORTUNITY. Change the LOOK, FEEL, COLOR, and VALUE of your chips in one quick and simple pass through the Rotochopper CP 118. You can stop worrying about where to dump those chips and start selling them into the highly profitable premium mulch market.

- Regrind and create any color you choose in one pass.
- Pull with a pickup - feed with a skid steer.
- Sets up in minutes.
- Call today for a free video or on site demo.

608-452-3651

Rotochopper, Inc.
217 West Street
St. Martin, MN 56736

info@rotochopper.com
http://www.rotochopper.com
320-548-3586

Please circle 52 on Reader Service Card
On top of everything else you have to do as a small business owner or manager, implementing a safety program in your company can be a daunting task. TCIA’s Model Company Safety Program can help you evaluate your existing program and guide you to what you need to do.

You should consider OSHA as another resource. Low-cost, hands-on, consultative-type assistance is available to you through OSHA’s SHARP program.

What is SHARP?

The Safety and Health Achievement Recognition Program (SHARP) recognizes small employers who operate an exemplary safety and health management system. Acceptance into SHARP by OSHA is an achievement of status that will single you out among your business peers as a model for worksite safety and health. Upon receiving SHARP recognition, your worksite will be exempt from programmed inspections during the period that your SHARP certification is valid.

One thing SHARP is not is a means for OSHA to cite companies and levy fines. SHARP is administered by the Consultative Services division of OSHA, which has no enforcement authority.

Of course, you are obligated to abate any hazards uncovered by the consultation.

Getting started

To participate in SHARP, you must:

- Request a consultation visit that involves a complete hazard identification survey;
- Involve employees in the consultation process;
- Correct all hazards identified by the consultant;
- Implement and maintain a safety and health management system that, at a minimum, addresses OSHA’s 1989 Safety and Health Program Management Guidelines;
- Lower your company’s Lost-Workday Injury and Illness rate (LWDII) and Total Recordable Case Rate (TRCR) below the national average; and
- Agree to notify your state Consultation Project Office prior to making any changes in the working conditions or introducing new hazards into the workplace.

SHARP Certification and Inspection Exemption

After you satisfy all SHARP requirements, the Consultation Project Manager in your state may recommend your worksite for final SHARP approval and certification. The state and OSHA will formally recognize your worksite at a SHARP awards ceremony.

As a certified SHARP site, you will be granted a one-year exemption from OSHA’s scheduled inspections for the first year of your SHARP participation. After one year of certification, you may request renewal for one or two years, provided that you:

- Apply for renewal during the last quarter of the exemption period;
- Allow a full-service comprehensive visit to ensure that your exemplary safety and health management system has been effectively maintained or improved;
- Continue to meet all eligibility criteria and program requirements; and
- Agree, if requesting a two-year renewal, to conduct an interim-year self-evaluation and to submit a written report to your state Consultation Program Manager that is based on the elements of the 1989 Safety and Health Program Management Guidelines (available at www.osha.gov) and includes OSHA’s required injury and illness logs.

Not quite ready?

If you meet most but not all of the SHARP eligibility criteria and are committed to working toward full SHARP approval, you may be recommended by your state Consultation Program Manager for an inspection deferral of up to 18 months if:

- You have had a complete hazard identification consultation visit at your worksite and you have corrected all hazards;
- You are in the process of implementing an effective safety and health management system; and
- You can meet all SHARP requirements during the deferral period.
Call for nominations for TREE Fund Board of Directors

The Tree Research and Education Endowment Fund (TREE Fund), a 501(c)(3) nonprofit organization, is seeking nominations for its Board of Directors. The mission of the TREE Fund is to identify and fund projects and programs that advance knowledge in the field of arboriculture and urban forestry to benefit people, trees and the environment.

The TREE Fund has awarded more than $2 million dollars worth of arboricultural and urban and community forestry research grants and educational scholarships.

The TREE Fund Board of Directors is a voluntary position that provides leadership and strategic oversight to ensure the success of the organization. The estimated time commitment is four to eight hours per month. It is a three-year commitment, and the board meets three times per year in different locations throughout the United States. Reasonable travel expenses are reimbursable.

Role of the Board of Directors

Ultimate responsibility for the organization rests with the board of directors. The responsibility is recognized by state and federal laws; legally the board is responsible for the activities and fiscal integrity of the organization. The appropriate role of the board is to set policies which will ensure that it fulfills its legal, financial, operational and professional responsibilities to the donors and grant recipients.

Term: Board Members serve for 3 years

Responsibility: As a board member you are required to do the following:

- Be committed to the mission of the TREE Fund.
- Understand and observe the respective roles and responsibilities of the board and executive director.
- Recognize the role of staff in carrying out board directives and be careful not to interfere with the functions delegated to staff.
- Assist in organization fundraising, through participating in strategic planning and development planning, identify prospects, assist in cultivation, write personal appeals and thank you letters, accompany staff on office calls and ask for contributions.
- Ensure the needs of the donors and grant recipients are met.
- Approve and evaluate programs and activities of the organization.
- Plan the future direction of the organization.
- Establish board policies to guide the operation of the organization.
- Set financial objectives and monitor their achievement – the board’s fiduciary responsibility is to protect/ensure the organization’s financial status.
- Recommend changes to the Trust Agreement.
- Attend all board meetings and committee meetings. Come to meetings well prepared and participate actively.
- Act and vote on behalf of the board mission and long-term interests. Abide by the vote of the majority.
- Support the decisions and policies of the board in discussion outside the boardroom.
- Take advantage of opportunities to become more educated about the TREE Fund.
- Enhance external communications by bringing important outside views to the board and, in turn, communicating board and TREE Fund policies to key external constituencies.
- Avoid conflicts of interest.
- Respect the confidentiality of board deliberations and information provided to the board.
- Engage in board self-evaluation.
- Serve on one of the TREE Fund’s 5 committees.

Self nominations are welcomed. Call or e-mail the TREE Fund for a copy of the form at (217) 239-7070 or treefund@treefund.org. The deadline to submit a nomination is May 31, 2004.
There’s no substitute for face-to-face, one-on-one contact between arborists and their suppliers. And there’s no equal to the level of educational programming at TCI EXPO. That’s why TCIA chose to invest in a new market, the West Coast, for a brand-new trade show, held March 25-27 in Sacramento, Calif.

TCIA’s recent foray into the Western United States represents our commitment to investing in powerful, strategic experiential marketing opportunities for our members. TCI EXPO Spring was successful in introducing more than 600 West Coast consumers to the world’s largest trade show, providing a foundation for a successful future.

Through TCI EXPO Spring, we:
• researched a new market,
• collected high-quality leads,
• generated local media coverage,
• enhanced existing relationships,
• encouraged new relationships,
• educated thousands of prospective buyers,
• identified key partners and suppliers, and
• initiated valuable word-of-mouth communications.

Thanks to...

Fanno
... morning refreshment sponsor!

In short, 639 highly motivated consumers who came seeking information will be telling their friends and colleagues about their TCI EXPO experience, who in turn will tell their friends and colleagues, so that the brand communicating effects of TCI EXPO Spring will multiply exponentially.

Without a doubt, the course of TCI EXPO on the West Coast will mirror the historical progress we have made on the East Coast. We look forward to its growth.
Rolling the dice for VFTPAC

TCIA’s new political action committee, The Voice for Trees, held its second fundraiser at TCI EXPO Spring. A Las Vegas style casino night drew gamblers and political supporters to try their luck at blackjack, craps and roulette. A $25 contribution bought $500 in chips, which some of the more successful players parlayed into thousands.

VFTPAC has been very successful in its initial fundraising efforts. This spring its advisory committee, made up of a cross-section of small and large companies in the industry, will examine the voting records of senators and representatives who support the agenda of commercial arboriculture.

Today, where laws and regulations impact every aspect of commercial tree care, being a politically active business is as essential as having liability insurance and workers’ comp. VFTPAC operates with a simple mission in mind: to identify, endorse and elect to Congress champions of commercial arboriculture, and to encourage greater participation in Congressional elections by our members.

When those people are found, additional questions are asked. Is the candidate in a competitive race? Will our assistance help retain the seat of a vulnerable pro-arboriculture incumbent? Does the candidate need VFTPAC’s money? Only when these and other factors are weighed does a potential Congressional leader for commercial tree care emerge. Today’s issues of interest to commercial tree care do not cut along party lines. VFTPAC will support elected officials who are able to build winning coalitions of Republicans and Democrats on issues that are critical to our industry.

TCIA is grateful for the commitment of its inaugural advisory committee and all who have supported the Voice for Trees as we head into the fall election season. We are doubly grateful for the support of Associate Members Arborwear, Buckingham, Fanno, Growtech and Sherrill who donated prizes for the lucky winners at casino night.
Dave Anderson admits he was a hatchet man when he managed several car dealerships in northern California several years back. If an employee wasn’t producing, Anderson would watch and wait. If the poor performance continued, the employee would abruptly get the ax.

“I fired a lot of people the wrong way,” says Anderson, now a small business and leadership consultant and author of the book Up Your Business: 7 Steps to Fix, Build or Stretch Your Organization. “I didn’t know any better. I was never trained in how to fire someone. For my first year and a half, I blindsided a lot of people.”

Anderson, who has long since honed his hiring and firing skills, is not alone. Perhaps because it can be so stressful and uncomfortable, firing is one lesson that often gets overlooked at small-business seminars and management classes. Yet, it is something nearly every small business owner or manager faces at one time or another. And as something that has to be done, you’d best learn to do it well.

A bad firing experience can undermine your confidence, make you look like a weak leader, reflect badly on your business and erode morale among the remaining employees. And, in an increasingly litigious society, it can land you on the wrong side of a lawsuit.

“People still get fired and people still sometimes sue,” said Stephen Fox, an employment and labor lawyer with the Dallas-based firm of Fish & Richardson. “As employers get wiser, they learn to (fire) in a way that they are protected.”

If it looks like an employee’s performance may eventually lead to termination, the essential first step is to offer concise and fair warning well in advance. Arlene Vernon, a human resource consultant in Eden Prairie, Minn., says a poorly performing employee should be required to attend a formal meeting regarding job performance. There, the manager should specifically state what the standards and expectations are and how the employee’s actions are failing to meet those standards. The employee should then be told he will be terminated if performance does not improve.

“They need to know what the expectations are and it needs to be very specific and very timely,” Vernon says. “Don’t wait a month after they have done something wrong to have the meeting.”

At the meeting, it’s a good idea to write out the expectations, the steps the employee should take to make the improvements, and
a time frame for coming into compliance. The employee should then sign the statement, confirming he understands what is expected of him. If your company has a policy handbook, make sure you follow any established corrective actions required.

**Keep a record**

After the initial meeting, the buzzword for business owners or managers is to document, document and then document some more. The employee’s ongoing performance or a specific infraction should be written down, dated and kept in a secure file. That way, if the employee does face termination, you will have a detailed record to justify your decision.

Advanced warning and clear documentation of an employee’s conduct is not only good management, it provides essential legal protection. Fox says employers who face legal tangles most often involve in “no knock” firings – essentially cases when an employee is fired without specific prior warning.

“The employer literally knocks on the door and says, ‘Your time is up,’ ” Fox says. “While that is not illegal, juries often disregard the law and consider what is fair under the circumstances … If it goes to trial, a jury is going to look at the principles of fairness and decency.”

Fox also offers another warning. While it’s a good idea to keep a formal record, don’t gossip or send offhand e-mails about the employee’s behavior or performance to a manager or other employees. E-mails in particular can be damning evidence if a case goes to court. “A person’s memory is much more easily erased than a computer hard drive,” Fox says.

Don’t fire solo

So you’ve met with the poorly performing employee. You warned him. You laid out his plan for improvement. Still, two months later he has shown no signs of getting any better. At this point, you’re left with no choices. For the sake of your sanity and for the good of your business, termination is the only – and probably best – alternative.

So here’s what not to do. Don’t get so fed up that you run up to him, wave a finger in his face and scream “you’re finished!”

No, a much more reasoned approach is in order. To minimize the disruption to your business and to help ensure you don’t end up in court, you want the firing to go as smoothly – and calmly – as possible. For starters, consider timing. Firing someone on Christmas Eve can be downright cruel.

---

**Woodsman**

**extreme performance. . .**

**extreme quality. . .**

**an extremely**

**competitive price!**

2003 was a record year for Woodsman. To meet the increased demand, we have tripled our manufacturing capacity in our new state-of-the-art facility in Farwell, MI.

We look forward to another record year in 2004. Call us today to learn why there is such an “EXTREME” demand for Woodsman Chippers!

800-953-5532  fax: 989-588-4827  e-mail sales@woodsmanchippers.com
and send a chilly message to the rest of your staff. If possible, try to delay until after a major holiday or until a time when your business is in slow stretch.

The best day to fire, say human resource experts, is typically late in the afternoon on Friday. There are several reasons for this. At many workplaces, folks leave early on Fridays so the chances are better that there won’t be a lot of people around when the employee leaves the building carrying a box. A Friday firing will also limit the amount of office gossip and downtime related to the action. The fired employee will also have the weekend for reality to sink in and, if necessary, time to cool off.

Once you’ve set a time and a date, you shouldn’t go it alone. Having someone else in the office, your lawyer if possible, can provide a degree of legal protection if the employee does end up suing. The presence of another person can also keep things from getting too emotional or ugly.

“I would always have someone else with me in case the person freaks out,” Vernon says. “You have a witness to what is being said and, frankly, you’re not alone. This is such a difficult thing, it helps to have someone else there.”

Follow the script

The next step is to write a script. You don’t want to just wing it when you’re firing someone. You should write down what you want to say and then use those notes as a guide as you break the news to the employee. What you say should be brief and to the point, stating the employee’s performance relates to performance, personality conflicts or personal problems, the quit-now-or-you-will-be-fired option deserves consideration. It allows the employee to save face, eases some of the hostility, and accomplishes your goal.

Depending on the circumstances, moments before you fire an employee you may want to offer one last option – that the employee voluntarily resign. This most likely is not appropriate in cases when an employee broke the law or a blatantly violated company policy. But when the firing relates to performance, personality conflicts or personal problems, the quit-now-or-you-will-be-fired option deserves consideration. It allows the employee to save face, eases some of the hostility, and accomplishes your goal.

While an employee who quits typically will not be eligible for unemployment benefits, many will sacrifice that rather than having to tell potential future employers they were fired.

Either way, it’s a good idea to provide the employee with a letter covering basic information, such as the exact time when employment ceases, the remaining pay she will receive, when benefits end and how and where to return materials that are company property.

Once fired, the employee should be required to leave the workplace as soon as possible. If there is concern that the employee might become belligerent or violent, then make adequate security arrangements beforehand.

Beat the gossip mill

News of a firing will spread as fast as, you know, wildfire. You want to douse the flames as soon as possible. Being as forthcoming as possible with employees will reduce speculation about what happened and allay fears that they may be next to get the ax.

“They should be informed, otherwise the gossip mill gets rolling,” Vernon says. “You should be honest, without telling the employees details that just aren’t their business. Chances are your other employees have been saying ’what’s taking him so long to fire (the employee).’ They are the ones that most likely had to deal with the employee on a daily basis. They are probably well aware there was a problem.”

Firing never gets any easier. And it shouldn’t. When people’s lives and livelihoods are involved, it shouldn’t be taken lightly. Yet, done right a firing can immediately improve your business, boost morale and send a message to other employees that you are willing to take the steps to make sure everyone is pulling their weight.

Anderson says that after several years managing his car dealerships, he didn’t have to fire very often. After having to terminate several employees, he became better at hiring and at taking the steps that would help an employee improve. And the firings he did have to carry out were never unexpected.

“It got to the point that I rarely had to fire someone,” Anderson says. “The standards were so clear that they would leave on their own when they realized they were wrong for the job. If you have clearly set the standards and you have to fire someone, it’s not easy but you can stand tall. It shouldn’t be personal. It’s just the person was the wrong fit. I ask people what’s harsher – firing someone or keeping him in a position where he doesn’t have a prayer of reaching his full potential. That’s not fair for anybody. Life is too short for that.”
Is he safe under this tree?

Judging a tree's potential to fail is an integral part of work site assessment and safe work planning as required by OSHA and ANSI. That’s why TCIA developed *Hazard Tree – Risk Assessment & Mitigation for Tree Workers*, an interactive training tool that contains brilliant, full motion video and more than 50 narrated slides with embedded movies. It includes a model job briefing, advanced rigging & risk mitigation techniques, and the latest methods to qualify & quantify hidden defects.

Retail – $95
TCIA Members – $75

**Call 1-800-733-2622**
Order *Hazard Tree* today.

TCIA TREE CARE INDUSTRY Association
3 Perimeter Road, Unit 1 • Manchester, NH 03103
www.tcia.org

Please circle 62 on Reader Service Card
Green Point of New York has been representing the green industry throughout New York State since its formation in 2002. Green Point has demonstrated to the State Legislature, the New York Department of Environmental Conservation and other government agencies that it is a trusted partner that will share information and impart knowledge about the environment and horticulture. The goal of Green Point is to assist lawmakers and regulating agencies in New York State with the promulgation of laws, rules or regulations that have the potential to impact the environment and the green industry.

Attorneys Ed Valente and Tom West of LeBoef, Lamb, Green & MacRae have represented Green Point from the beginning. With their skillful legal advice and political guidance, we have already assisted the state with several initiatives. We were instrumental in the development a Best Management Practices manual for the arboricultural use of Merit on Long Island, which was accepted and endorsed by the New York Department of Environmental Conservation. We were invited to sit on an advisory board, headed by the New York Department of Environmental Conservation, for the purpose of clarifying issues related to the recent changes in the pesticide regulations affecting the green industry. We have provided numerous position papers to various government agencies related to proposed environmental laws and regulations having the potential to adversely impact our industry, and our position on each issue was heard. And, we have provided guidance and support to a multi-agency committee, consisting of members of the New York Department of Environmental Conservation; the New York State Department of Health; Cornell University; the Environmental Protection Agency; the New York City Department of Environmental Protection; the Gaia Institute; Putnam County, N.Y.; Westchester County, N.Y.; and the New York Attorney General’s Office, which is working on water quality issues throughout the state. In addition, both Ed and Tom have reached out to other strategists and lobbyists representing various green industry groups such as: Responsible Industry for a Sound Environment, the Professional Lawn Care Association of America, New York Alliance For Environmental Concerns, ServiceMaster, Farm Bureau and the Structural Applicators. This leadership has placed Green Point in a position to have clear lines of communication so when common issues arise, information can be coordinated and shared, resulting in a cohesive message.

Looking forward, we continue to build positive relationships with key members of our government. Our efforts have gained us private meetings with the chairs of both the Environmental and Conservation committees in the House and Senate. At these meetings, discussions focused around Green Point’s involvement in the Agricultural Container Recycling Council pilot program on Long Island. Both committees have agreed to sign a petition endorsing this volunteer recycling program. Green Point will work with the New York Department of environmental Conservation, Agricultural Container Recycling Council, Long Island local governments, and other green industry groups to launch this program on Long Island.

In addition, we are currently conducting an extensive survey of all industry members in New York to help determine our constituency. We are interested in realizing our combined volumes, the amount of clients serviced, and the amount of acreage that we care for. This information will be extremely valuable in our efforts to be heard and recognized in the political world.

We are very happy with our achievements and progress to this point.

“And, we would publicly like to thank the Tree Care Industry Association for its leadership and vision throughout our development. Without their advice and direction, none of this would have been possible,” states David McMaster, president of Green Point of New York.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Air-Spade</td>
<td>53</td>
<td>34. Independent Protection Company</td>
<td>63</td>
</tr>
<tr>
<td>2. Almstead</td>
<td>72</td>
<td>35. Jameson LLC</td>
<td>75</td>
</tr>
<tr>
<td>Altec Industries Inc.</td>
<td>11</td>
<td>36. Lewis Utility Truck Sales Inc.</td>
<td>48</td>
</tr>
<tr>
<td>3. Arborjet Inc.</td>
<td>38</td>
<td>37. Loftness/US Attachments</td>
<td>46</td>
</tr>
<tr>
<td>4. Arborsystems</td>
<td>45</td>
<td>38. Mat-3 Inc.</td>
<td>55</td>
</tr>
<tr>
<td>5. Arbortech</td>
<td>61</td>
<td>39. J. J. Mauget Company</td>
<td>49</td>
</tr>
<tr>
<td>6. Arborwear LLC</td>
<td>57</td>
<td>40. Miller Machine Works</td>
<td>79</td>
</tr>
<tr>
<td>7. Bailey’s</td>
<td>19</td>
<td>41. Morbark Inc.</td>
<td>3</td>
</tr>
<tr>
<td>8. Bandit Industries Inc.</td>
<td>13</td>
<td>42. Opdyke Inc.</td>
<td>17</td>
</tr>
<tr>
<td>9. Bartlett Arborist Supply</td>
<td>70</td>
<td>43. Oregon Cutting Systems Group Inside Front Cover</td>
<td></td>
</tr>
<tr>
<td>The F. A. Bartlett Tree Expert Company</td>
<td>74</td>
<td>44. Payeur Distribusions Inc.</td>
<td>48</td>
</tr>
<tr>
<td>10. Beaver Squeezer Grapple, LLC</td>
<td>74</td>
<td>45. Pete Mainka Enterprises Inc.</td>
<td>76</td>
</tr>
<tr>
<td>11. Bishop Company</td>
<td>52</td>
<td>46. Petro-Canada</td>
<td>39</td>
</tr>
<tr>
<td>12. Border City Tool &amp; Manufacturing Co.</td>
<td>41</td>
<td>47. Plant Health Care Inc.</td>
<td>16</td>
</tr>
<tr>
<td>13. J. P. Carlton Company</td>
<td>29</td>
<td>48. Porter-Ferguson</td>
<td>54</td>
</tr>
<tr>
<td>The Care of Trees Inc.</td>
<td>72</td>
<td>49. Rapco Industries Inc.</td>
<td>40</td>
</tr>
<tr>
<td>14. CEI</td>
<td>42</td>
<td>50. Rayco Manufacturing Inc.</td>
<td>5</td>
</tr>
<tr>
<td>Central Boiler</td>
<td>58</td>
<td>51. RigGuy Inc.</td>
<td>41</td>
</tr>
<tr>
<td>15. Chuck Smith Log Mauler</td>
<td>10</td>
<td>52. Rotochopper Inc.</td>
<td>77</td>
</tr>
<tr>
<td>16. Cutter’s Choice</td>
<td>69</td>
<td>53. Royal Truck &amp; Equipment Inc.</td>
<td>71</td>
</tr>
<tr>
<td>17. Davey Tree Expert Co.</td>
<td>69</td>
<td>54. SavATree</td>
<td>70</td>
</tr>
<tr>
<td>199. J. Davis Tree Service Inc.</td>
<td>23</td>
<td>55. Schodorf Truck Body &amp; Equipment Co.</td>
<td>47</td>
</tr>
<tr>
<td>18. Dica Marketing Co.</td>
<td>79</td>
<td>56. Sherrill Arborist Supply</td>
<td>7</td>
</tr>
<tr>
<td>19. Doggett Corporation</td>
<td>36</td>
<td>57. Southco Industries Inc.</td>
<td>21</td>
</tr>
<tr>
<td>20. Echo Incorporated</td>
<td>37</td>
<td>58. Stump Removal Inc.</td>
<td>57</td>
</tr>
<tr>
<td>21. FAE-USA Inc.</td>
<td>27</td>
<td>59. Timberwolf Manufacturing Corporation</td>
<td>51</td>
</tr>
<tr>
<td>22. Fanno Saw Works</td>
<td>53</td>
<td>60. Tree Care Industry Association – Membership</td>
<td>33</td>
</tr>
<tr>
<td>23. FMC</td>
<td>Inside Back Cover</td>
<td>61. Tree Care Industry Association – EHAP</td>
<td>73</td>
</tr>
<tr>
<td>24. Forestry Equipment of Virginia</td>
<td>66</td>
<td>62. Tree Care Industry Assoc. – Hazard Tree DVD</td>
<td>85</td>
</tr>
<tr>
<td>25. Forestry Suppliers Inc.</td>
<td>68</td>
<td>63. Tree Health Management Inc.</td>
<td>15</td>
</tr>
<tr>
<td>26. G &amp; A Equipment Inc.</td>
<td>65</td>
<td>64. Tree Medics Inc.</td>
<td>46</td>
</tr>
<tr>
<td>27. Giuffre Brothers Cranes</td>
<td>32</td>
<td>65. Tree Tech Microinjection</td>
<td>40</td>
</tr>
<tr>
<td>28. Good Tree Care Company</td>
<td>47</td>
<td>66. Univar</td>
<td>42</td>
</tr>
<tr>
<td>29. The Hartford</td>
<td>59</td>
<td>67. Vermeer Manufacturing Company</td>
<td>1</td>
</tr>
<tr>
<td>30. Husqvarna Forest &amp; Garden Company</td>
<td>43</td>
<td>68. Vitamin Institute Back Cover</td>
<td></td>
</tr>
<tr>
<td>31. IML</td>
<td>75</td>
<td>69. Western Tree Equipment &amp; Repairs</td>
<td>26</td>
</tr>
<tr>
<td>32. IML</td>
<td>31</td>
<td>70. Woodsman Chippers</td>
<td>83</td>
</tr>
<tr>
<td>33. Implemax Equipment Co Inc.</td>
<td>30</td>
<td>71. Zenith Cutter Co.</td>
<td>25</td>
</tr>
</tbody>
</table>

* Please circle this number on the Reader's Service Card for more information, or ... fill out the form online! Go to www.treecareindustry.org, click “Publications,” then “Tree Care Industry magazine” and “Contact TCI Advertisers.”
Hidden in the box below are the names of 33 trees, or part of their names, both common and scientific. They may be forward, backward, upward, downward or diagonal. When you are done, the leftover letters will spell out an ANSI rule.

WORD LIST:

ABIES  CATALPA  LILAC  QUERCUS
ACER  CRATAEGUS  LOCUST  REDWOOD
ALNUS  CYPRESS  MAGNOLIA  ROBINIA
ALTHEA  DOUGLAS FIR  MAPLE  SUMAC
APPLE  GINKGO  MENZESII  Tilia
BIGTOOTH  HORSECHESTNUT  PEAR  ULMUS
BIRCH  KATSURA  PICEA  WHITE
BOXELDER  LARIX  POPLAR  WILLOW
CARYA

For answer to puzzle, see page 24

TCI will pay $100 for published articles. Submissions become the property of TCI and are subject to editing for grammar, style and length. Entries must include the name of a company and a contact person. Send to: Tree Care Industry, 3 Perimeter Road, Unit 1, Manchester, NH 03101, or staruk@treecareindustry.org.
Introducing Onyx™ Insecticide. Tough protection against tough tree pests.

Onyx is the new cost-effective insecticide that provides long residual activity and broad-spectrum control of the toughest pests that attack trees, including bark beetles, wood borers and clear wing borers.

Onyx insecticide is formulated with the proven capabilities of its active ingredient bifenthrin. This, combined with a patented, proprietary carrier that optimizes trunk spray applications, allows for low use rates and high-performance effectiveness. It is particularly effective when used as a preventive treatment, prior to the adult flight of selected pests.

And unlike other pyrethroids, Onyx has no alpha-cyano group in its chemical structure, which means it’s tough on pests, but easy on you.

So start protecting precious trees with Onyx insecticide. For more information, contact our Customer Satisfaction Center at 1-800-321-1FMC, or visit us at www.pestsolutions.fmc.com.
Absentley Otherwise Impossible
MADE EASY by World #1 Plant Supply
24 of typical worldwide massive “impossibilities”

1800 SALVAGED OLD TREES: “NONE SICK OR DEAD”
SUPERthrive™ unique extra life—TRANSPLANTING, MAINTENANCE, SALVAGING. “IMPOSSIBLES” MADE EASY. 1,800 60 to 75 year-old trees dug from grounds of 20th Century Fox Studios, stock-piled in weather for 2 years, replanted along streets of Century City. Landscape architect and contractor reported “not one sick or dead tree at any time.” Only SUPERthrive™ could have done this—or even approached it.

ZERO LOSS, 3,000-ACRES TRANSPLANTS FOR U.S.D.A., VERSUS 3% SURVIVAL. NEXT BEST. – A GREAT CALIFORNIA STATE RUN UNIVERSITY, SAN LUIS OBISPO.

PLANTED 10,000 TREES, Seattle World’s Fair, WITH ZERO LOSS.

SAVED ALL OF HUGE SHIPMENT OF PALMS FROM FLORIDA TO 48 Taiwan GOLF COURSES. LOSE OVER HALF WITHOUT.

SAVED 15 GAL. DRUMS SAVED $100,000 – ALL CONDEMNED TREES, U.S. CORPS OF ENGINEERS PENN. JOB – ALCA vice-president, Ohio.

SAVED ALL GREAT SPECIMEN TREES TRANSPLANTED by U.S. Corps Of Engineers, FOR CAMOUFLAGE, WORLD WAR II.

TWO WEEKS DIFFERENCE IN HYDROSEEDED GRASS STAND, ALONG FREEWAY BANKS FOR EROSION CONTROL – Maryland State Highways.

CELERY ALL TRANSPLANTED PERFECTLY IN 17 LARGE HOUSES, before and after one without, IN WHICH ALL LOST. – California

1200 TREE WITH 4” CALIPER TRUNKS BARE-ROOTED IN DECEMBER. NO LOSS. – Tucson, Arizona, City Parks Department.

BIGGEST TRANSPORTATION OF LANDSCAPE MATERIALS, CALIFORNIA TO FLORIDA, TO PLANT Disney World®. NO LOSS.

1 GAL. PER 25 ACRES GRAPEVINES, DRIP, 20% MORE YIELD, SWEETER, LARGER, WHILE NEIGHBORS LOST HALF CROP TO SHATTERING STORMS – California.

ALL PALM SPRINGS DESERT GOLF BENT GREENS PERFECT WHILE EACH OTHER COURSE LOST 6 TO 14 BENT GREENS – California.

BIGGEST TREE EVER MOVED, 100 YEARS OLD GUINNESS BOOK OF RECORDS. MANY OTHER “BIGGESTS.”

WELL OVER MILLION EACH BARE-ROOT ROSES, ZERO LOSS AND STRONGER – California grower; New Mexico retailer, each.

OVER 1800 ORNAMENTAL CHERRY TREES, 100% SUCCESSFULLY TRANSPLANTED, BLOOMING WELL SOON – LOS ANGELES CITY PARKS, 63 YEARS USER.

LARGE BLOCK ROOTED CUTTINGS TRANSPLANTED WITH SUPERthrive, 100% HEALTHY, WHILE LOSING ALL WITHOUT IT TO FUNGUS IN HEAVY RAINY SPRING.

ON EVERY CONTINENT, WITHOUT SALESMEN, UNCHALLENGED GUARANTEES SINCE 1940. Just results. REFUSE BEING BURNED BY FALSE “AS GOODS”.

“BEST STUFF I EVER SAW” said lead landscape architect, Cal Trans (California State Highways Department).

“SUPERthrive IS THE GREATEST PRODUCT IN THE WORLD!” Hydroseed with it and get out of the way of the grass! Possibly U.S. #1 landscape nurseryman-contractor, Washington, Baltimore.

SAVING 50,000 CACTI, TREES along Nevada’s Mojave desert pipeline, at 120°. Reported planted ALL famous, and “world’s biggest” Las Vegas hotels. Pushes back Africa desert.

Please circle 68 on Reader Service Card