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It’s never too early to say “Thanks” …

Many of us feel as if the holidays steamrolled through and are glad that Valentine’s candy will soon disappear from the office kitchen table. While it may not be time for the Thanksgiving holiday again, it is time for TCIA to pause and give thanks.

We have an illustrious history that we stand on today made possible by arborists, leaders and visionaries who have gone before us, both volunteers and staff. I daresay their dreams in 1938 were BIG dreams, and I hope that if they were standing with us now, they would be very proud of the scope of the dreams that are coming true for this community. So first, we say thanks to those who had the foresight to see what this community of professionals and businesses could become.

In order to get here, we have had a host of partners who have walked with us, in many cases for years and years. When the dream was to found a trade show just for the tree care industry, we had Associate Members, our manufacturers and suppliers, step up to the plate to take the risk and the ride with us to establish what has now become the world’s largest tree care industry show – with a record breaker last November.

Many of those same Associate Members, and considerably more, stepped up to the plate again when the industry decided that it needed a high quality editorial publication. They have resoundingly supported us through good and bad economic times. What you have in your hands today is one of the products of TCIA’s work about which we get constant praise. And so we say thank you again to those Associate Members and advertisers who recognize the value this marketplace provides for mutual benefit in the tree care industry.

Along the way, there have been Excellence Awards, banquets, meetings, safety videos and a whole host of new member products and services that Associate Members have partnered with TCIA on to provide the kind of quality that our community expects from its trade association. Compliments we have received for being on the cutting edge also must flow directly back to our Associate Members and partners who have understood the need for safety products, top notch education, and the means for our community to gather. They have supported the long-term vision for the tree care industry, and again, we must say thank you.

Today, as we have entered a Transformation of the Industry, we have become true partners. Through a vote of the membership, the association has opened its arms completely at the Board level by agreeing to acknowledge that Associate Members should be able to sit at the head of our table – as the Chair of the Board. I have never been so proud of our tree care company members, nor so delighted to be able to welcome this corporate expertise fully into the strategic direction of our future. Further, we are on the cutting edge of association management – most associations do not have the courage to make this choice.

In response to this move into full partnership, TCIA has also entered into more regular and individual conversations with our partners; seeking to acknowledge their ever-increasing need for return on investment and to respond to that need. Now, instead of supporting individual events or activities, our partners have a chance to be recognized for the breadth of their support for the Transformation of our Industry throughout the entire year.

Our Associate Members have responded in a resoundingly positive way to our new approach, making significant monetary contributions, and again, are to be commended for their long-term view of the BIG dreams to Transform the Tree Care Industry. You will see in every issue of TCI magazine the progress of our partnership development, and you will see throughout the year in our mailings, publications and materials constant recognition of how central their walk with us is to providing you with the quality trade association benefits you have come to expect.

We ask one thing of all of our readers, members and the customers of TCIA’s partners, exhibitors, advertisers, and Associate Members – please Thank TCIA’s partners. Yes, it is very important for TCIA to provide recognition and thanks, and we will be very visible in doing that. It is even more meaningful and important for our partners to know that their participation with TCIA is recognized by you and important to you, and that it is a vital part of the tree care industry’s future.

To our associate partners, on behalf of TCIA, “THANK YOU” to our new Crown, Branch, Root and Seed Partners.

To our TCIA members, “THANK YOU” for taking the time to express your thanks to our committed partners throughout this year!

Cynthia Mills, CAE
Publisher

TCIA’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.

Tree Care Industry

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Soul of a Tree?

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Does it make sense to talk about the soul of a tree? How one answers this question depends on how soul is defined. Definitions are critical to any discussion, and soul is difficult to discuss because of its wide range of cultural and popular meanings and usages. This word is seldom used in arboriculture, but it can be productive to think about soul and trees because it can help us to understand their inner and communal life.

I have been discussing this question with Dr. Alex Shigo, the author of numerous and definitive books and articles on tree biology and, in the eyes of many, the father of modern arboriculture. These thoughts have come from our ongoing conversation, which usually takes place in the woods or around a microscope.

The question of soul in trees is a philosophical matter with practical consequences. Philosophical reflection asks about the nature of things and the relative importance of what we value, and raises practical questions about what we are doing and where we are going with our lives.

Living with trees naturally raises these kinds of questions. Looking at trees teaches us about living; our gaze is drawn up, down and around. It engages our imagination as we read a story in bark and try to grasp the mystery within. The words “tree” and “true” have a common root, and the presence of trees in our lives embodies the lasting and life-giving values that feed the human soul. The artist, the philosopher and the arborist make important discoveries under the canopy.

The question of soul

It may be more productive, however, not to ask if a tree has a soul but to ask which qualities of soul can be found in trees. Definitions of soul commonly refer to vital and life-sustaining principles and energies that coexist with a physical body. Integrity and harmony within an individual and within relationships are qualities of soul. Discovering these qualities in trees can help us to better understand and care for them.

Despite its bodily associations, soul is often conceived of as a force or entity that is separate or separable from the physical self. For example, when a person is thought of as having a body and a soul, the soul
refers to a nonphysical part. This concept of soul would not easily apply to trees. The vital and life-sustaining principles and energies (the “vitality”) of trees are discovered through scientific observation of natural systems. We can make this distinction by referring to the biological soul of trees.

A word about the risks of applying human concepts to trees is in order. It is natural to use anthropomorphic language when speaking of other creatures, but this tendency can result in misconceptions about trees and even cause them harm.

The concept of healing is a harmful anthropomorphism. Trees do not heal; they compartmentalize wounds. Understanding this is difficult because of some basic differences in the responses of animals, non-woody plants, and woody plants to injury. The failure to appreciate these differences has resulted in harmful practices intended to help trees to “heal.” Treating tree injuries like human injuries fails to respect the biological soul of the tree.

Another example of a harmful anthropomorphism is the concept of pathogen. Trees and microorganisms have evolved in relationships that we might consider harmful. We generally regard infections in humans as pathological. If a healthy tree is defined as one without active infections, then there is no such thing as a healthy tree. Again, the failure to understand and respect the biological soul of trees and the imposition of our misconceptions has resulted in harmful tree care practices.

Biological soul

Anthropomorphic language, despite the risks, can be productive. While trees do not possess the ability to communicate in a human sense, their vitality depends on communication. Trees connect information in ways to improve the chances for survival. Trees, like all organisms, are a system of parts and processes designed for staying alive and continuing as a species. This system is based on receiving, communicating, and responding to new information.

The communication system is the network of living (parenchyma) cells connected by thin strands of living material called plasmodesmata. This network is called the symplast. The symplast is connected to the cell generator (cambium) and initiates and regulates biological processes.

Compartmentalization is the framework for defense in trees, and this process provides a dramatic illustration of communication in trees. Wounding experiments have shown that the symplast regulates the activities of the vascular cambium by sending it messages. When trees were wounded with drill bits and later dissected, it was observed that the cambium need not be touched to respond. A barrier zone of specialized cells was formed by the cambium in response to injured cells elsewhere in the symplast.

These results are significant because they show that the cambium can receive messages from the symplast. This process has great survival value. If a tree is in trouble because of injury or infection, the cambium responds even if the problem has occurred elsewhere in the tree. This explains how barrier zones can form far in advance of injured tissue and demonstrates that survival in trees depends on the communication of new information.

Every biological process depends on receiving, communicating and responding to information. The growth and survival of an individual tree depends on the function of the symplast. But there is potential here for a serious misconception about the nature of trees. It would be a mistake to think of trees only as individuals, to believe that the biological soul of a tree is simply a matter of internal processes. The life of trees is ecological and communal. Trees grow and survive by forming relationships.

Communal life

Trees have evolved in groups, and have grown and survived under all kinds of adverse conditions and in the presence of other organisms that could kill them. In a healthy, natural setting a tight web of con-
nections sustains individuals within the group and the group itself. The survival of the system depends on constant vibrations of change and response. Climatic change, the introduction or increase of certain organisms, fire and other changes large and small place new demands on trees and community. Given sufficient time, the forest system and its members can adapt to these demands.

The dynamics of change and response create harmony. If change occurs suddenly or severely, dynamic equilibrium is lost and disorder results. The failure to understand the communal life of trees will cause for us and for the trees we love a great disharmony. And it has, even with the best arboricultural intentions.

Before axe and saw, the forest never knew a stump. Trees either fell, pulling up roots, or broke off several meters above ground. Harvesting trees leaves a large amount of dying wood and starving roots underground. Populations of opportunistic fungi, such as Armillaria mellea, can increase under these conditions. Although dead and dying trees are the primary food source, living roots become infected under these conditions as well. Roots of living trees become infected through root grafts or through injuries often caused by compaction or disruption by equipment. These fungi play a beneficial role in a healthy forest, but become pathogens through human hands.

Individual trees of a species are connected by grafted roots, and by strands of mycorrhizae. This “root-fungus” is a symbiotic relationship in the form of an absorbing organ. Mycorrhizae may also interconnect. As the group responds to change, some individuals die so as to perpetuate the group. The most vital trees survive and sustain the vitality of the system. A pathogen may be harmful to an individual but beneficial to the group, if dynamic equilibrium is maintained.

Equilibrium is created and sustained through relationships. This can be grasped with the help of the “three tree” concept.
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Tree one is a sapling that contains a high ratio of dynamic to static mass. Dynamic mass refers to living cells; static mass refers to cells without living material. As the sapling grows it develops a core of static mass as the trunk and woody roots increase in size. Tree two is a collection of branches on a well-defined trunk. Each branch produces energy for itself and for the developing trunk and roots. As some branches are unable to meet the increasing needs of the tree, portions of them are shed. This process continues and the branch eventually dies.

Tree three is a collection of trees in developmental stages one and two. This is a community, and each member tree functions like a branch and contributes to the whole. Each tree is connected by root grafts and by mycorrhizal fungi. This community nurtures and protects its members, and those that are unable to grow and contribute begin to shed parts and eventually die.

The term symplast is usually reserved for the network of living cells within a tree, but the network of trees in community functions very much like a symplast. A symplastic connection between individual trees of a species is established through root grafts. Mycelial strands of mycorrhizae form similar connections. Though they are not symplastic, energy and ele-
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ments flow between trees through these connections.

We have taken trees out of the natural group upon which their vitality depends. We remove them from the system that sustains them, and plant them alone in hostile and foreign places. We create for them a false vitality based on mechanical interventions and chemical dependency. We then blame their early demise on a bug, fungus or disease that under vital conditions wouldn't necessarily be a threat.

Living with trees

Understanding the soul of trees and the life for which they have evolved helps us to care for them in the forest, in a lawn or on the street. Trees can tolerate unhealthy and unnatural sites, but will exist in a weakened and fragile state. A host of creatures capable of digesting the tree will do their naturally assigned duty. Unless we create conditions that can support a life-sustaining network for well-chosen trees, and give them care that appreciates their natural intelligence, vitality will suffer. Many of the large, mature trees living among us are not a testament to our arboricultural expertise, but to their tolerance of our folly.

Fortunately, we want the things that trees need. Apart from the obvious fact that the future of the planet depends on trees, we want to live with them. Many cultures and traditions have sacred trees; they embody our desires for fertility, faithfulness, and stability. Trees feed the human soul. We are enlivened by the vitality that keeps them alive.

And we have much in common. Human culture is born of soil, which has given us the very words we use to speak of ourselves. “Human” comes from the Indo-European root *dhghem*, meaning soil, as does the word “humus.” The familiar Semitic word *adam* comes from *adamah*, again meaning soil. And it should come as no surprise that the root of the word “soil” means foundation or home. Like trees, we draw our life from, and sink our roots into, the earth.

Why should we bother with this talk of soul? Discovering the inner and communal life of trees can help us to treat them with greater care. We might discover something about ourselves as well. Arboriculture is not only the cultivation of trees. It is the cultivation of a community to which we belong.

*Jack Phillips is a consulting arborist and teaches arboriculture at Metropolitan Community College in Omaha, Nebraska.*
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Stihl to undergo $78.4M manufacturing expansion in Virginia

Power equipment manufacturer Stihl Inc. will expand operations in Virginia Beach with a capital investment of over $78.4 million. Slated for completion in 2007, the initial two-phase expansion will create in excess of 150 new jobs, which is part of an overall corporate plan to add up to 300 new positions in the next year.

“We are pleased to be able to continue to add jobs here in support of the local and national economies in lieu of outsourcing,” stated Fred Whyte, president of Stihl Inc. “Although we export to over 80 countries, the United States is still the largest single market for our products. Consequently, expanding manufacturing here in Virginia Beach has repeatedly proven to be a sound business decision for Stihl.”

This project marks the largest single facility investment in the history of Stihl. In phase one, a new 60,000-square-foot facility will house manufacturing operations for Stihl guide bars for chain saws. This will be the first time that guide bars will be manufactured in the U.S. for Stihl and will represent an investment of over $20 million by the company. In phase two, an investment of more than $58.4 million will expand one warehouse by 88,000 square feet and convert other existing warehouse space into manufacturing for additional crankshaft and machining operations.

Just three years ago, Stihl expanded by $60.8 million and 200 employees. Significant increases in demand for Stihl guide bars have led to the new production facility in the U.S. The new Virginia Beach facility will primarily provide guide bars to markets in North and South America.

“Stihl is the only chain saw manufacturer that produces its own guide bars and saw chain,” said Peter Mueller, executive vice president of operations at Stihl Inc., “and we are pleased to soon be able to produce guide bars here in the U.S.”

The latest expansion will be carried out from 2005 to 2007.

Stihl began manufacturing at the Virginia Beach facility in 1974 with about 50 employees. Today, the company employs approximately 1,600 people in Virginia Beach and at company-owned branches around the country.

Chuck Smith joins Yale Cordage team

Yale Cordage has appointed Chuck Smith as national sales manager. Smith brings over 30 years of sales experience in synthetic ropes and is a wealth of information on ropes, fibers, and their applications. Smith will aid Yale in the identification of new markets and the development of current accounts.

“The addition of Chuck Smith to Yale’s sales department marks an important milestone in Yale’s history and is a key indicator of our success in the field of innovative rope manufacturing,” says company president Tom Yale. “Chuck’s in-depth understanding of the rope marketplace, both nationally and internationally, is an invaluable asset.” Smith is based in Yale’s Saco, Maine, facility.

Sherrill names president

SherrillTree Supply Company named Alma Hill as president. Hill previously served as director of operations. She will report directly to Tobe Sherrill, former company president and newly named CEO.

Hill will oversee national and international marketing, sales and distribution. “(Hill) has played a key role in the success of our company and her 22 years of experience in management and distribution will provide the leadership we need to maintain our role as the leading provider of high quality tree care supplies,” said Tobe Sherrill.

Prior to joining SherrillTree in 2001, Hill was VP of operations for Yarborough Co., a furniture hardware distribution company. She earned a bachelor of science in business administration with a concentration in marketing from High Point University, graduating Suma Cum Laude.
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Events & Seminars

February 7, 2006
Solving Plant Problems in the Landscape
MGIA – Bingham Center, Bingham Farms, MI
Contact: MGIA at (248) 646-4992

February 7-9, 2006
Pennsylvania Landscape & Nursery Conference
Penn State Conference Ctr Hotel, State College, PA
Contact: PLNA 1-800-898-3411; www.PLNA.com

February 9, 2006
Central Kentucky Ornam./Turf Assn. Winter Hort. Conf.
Holiday Inn North, Lexington, KY
Address: Contac: Lynn Rushing
lynn@thepondlady.com; (859) 576-0263;
www.ckota.org (online reg.)

February 11, 2006
LIAA 34th Annual Tree Conference & Trade Show
Farmingdale State University, Farmingdale, NY
Contact: (516) 454-6550; www.liaatrees.org; liaa-trees@aol.com

February 12-16, 2006
2006 Winter Management Conference
Tree Care Industry Association
St. Kitts, West Indies
Contact: Deb Cyr 1-800-733-2622, Ext. 106;
cyr@treecareindustry.org; or www.tcia.org

February 12-17, 2006
Municipal Forester Institute
Lake Arrowhead, CA
Contact: Society of Municipal Arborists,
Urbanforestry@prodigy.net, www.urban-forestry.com

February 14 & 15, 2006
Connecticut Turf & Landscape Conference
Conn. Grounds Keepers Assoc. (CGKA) & Conn. Irrigation Contractors Assoc.
Connecticut Convention Center, Adriaen's Landing Hartford, CT
Contact: (203) 699-9912; ralice@snet.net

February 20, 2006
Hazard Tree Identification class
Rutgers Office of Continuing Professional Education
New Brunswick, NJ
Contact: www.cookce.rutgers.edu/courses

February 21-24, 2006
2006 ASCA Consulting Academy
Atlanta, GA
Contact: Angela Corio, ASCA (301) 947-0483

February 23, 2006
Woody Ornamental Updates: Review ’05/Anticipate ’06
MGIA – Bingham Center, Bingham Farms, MI
Contact: MGIA at (248) 646-4992

February 27, 2006
NYSTA Southeast Regional Conference
State Turfgrass Assoc. w/ Cornell Coop. Ext., PLA of Rockland Cty, NYS Turf & Landscape Assoc., NYS Assoc. of Cemeteries
Holiday Inn Suffern, Suffern, NY
Contact: 1-800-873-8873, (518) 783-1229,
nysta@nysta.org; www.nysta.org

February 28-March 2, 2006
Western PA Turf Conference and Trade Show
Greater Pittsburgh Expomart, Monroeville, PA
Contact: ptcinfo@paturf.org; www.paturf.org

March 30, 2006
NYSTA Adirondack Regional Conference
NY State Turfgrass Association w/ Cornell Coop. Ext., Adirondack GC Superintendents Assoc., Adirondack Park Agency
Crowne Plaza Resort and Golf Club, Lake Placid, NY
Contact: NYSTA 1-800-873-8873, (518) 783-1229;
nysta@nysta.org; www.nysta.org

For the most up to date calendar information, visit
www.treecareindustry.org ⇒ news ⇒ industry calendar

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<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>TC2857</td>
<td>6-ton NATIONAL ALL WHEEL DRIVE 12 TON HIAB, picks 1,140 lb at 51 ft max side reach, 12½ ft utility body, 120V inverter, winch, jib on boom</td>
<td>$34,900</td>
</tr>
<tr>
<td>99 GMC C7500</td>
<td>210 hp, Allison 6 speed auto, A/C, 33 GVW, 77 ft LIFT HT, 135 ft max platform height</td>
<td>$39,500</td>
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<tr>
<td>98 INT 1954: DTA466</td>
<td>245 hp, Allison 5 speed auto, 35 GVW, with 65 ft ELLIOTT ECE365B PLATFORM LIFT, 40' x 60' steel basket, 21 ft steel flatbed</td>
<td>$38,500</td>
</tr>
<tr>
<td>88 FORD F900:</td>
<td>4X4: DT466, 250 hp, Allison 6 speed auto, A/C, 56 GVW, 77 ft LIFT HT</td>
<td>$65,900</td>
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<tr>
<td>98 FORD F900:</td>
<td>250 hp, Allison 6 speed auto, A/C, 56 GVW, 77 ft LIFT HT</td>
<td>$65,900</td>
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<tr>
<td>99 INT 2554:</td>
<td>275 hp, 8 spd +lo, 10 ft ENCLOSED PLATFORM LIFT, 12½ ft utility body, 120V inverter</td>
<td>$39,500</td>
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<tr>
<td>99 ECH-5-135</td>
<td>135 ft max hook ht, 20 ft steel flatbed, 4 hydraulic extendable jibs, winch, jib, joystick controls, 120V inverter, winch &amp; jib on boom</td>
<td>$39,500</td>
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<tr>
<td>7½ TON NATIONAL</td>
<td>210 hp, 7 spd, 32,000 lb GVW, with 7½ ton NATIONAL 995-39 crane, picks 1,750 lb at 39 ft max reach, winch on boom, remote controls, 16 ft steel flatbed</td>
<td>$37,500</td>
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<tr>
<td>88 FORD LN9000:</td>
<td>7.8L diesel, 235 hp, Allison 4 spd auto, 2 spd transfer, AWD, 35 GVW, with 7½ ton RO PJ200 crane, 24 ft hook ht, new 14 ft steel flatbed</td>
<td>$59,500</td>
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<tr>
<td>7½ TON NATIONAL</td>
<td>210 hp, 7 spd, 32,000 lb GVW, with 7½ ton NATIONAL 995-39 crane, picks 1,850 lb at 39 ft max reach, winch on boom, remote controls, 16 ft steel flatbed</td>
<td>$37,500</td>
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<td>98 FORD F900:</td>
<td>6 spd, 14 ton NATIONAL 800B crane, 76 ft hook ht, 2 spd winch, 20 ft wood flat</td>
<td>$29,500</td>
</tr>
<tr>
<td>2000 INT 4700:</td>
<td>210 hp diesel, 6 spd, 33 GVW, with 16 ton NATIONAL 8000 crane, 70 ft hook ht, capacity alert / overload shutdown, winch, 18 ft wood flat, $59,500.</td>
<td>$59,500</td>
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<tr>
<td>96 INT 4900:</td>
<td>210 hp, 7 spd, 32,000 lb GVW, with 9 ton NATIONAL 995-39 crane, 72 ft hook ht, 2 spd winch, 20 ft wood flat</td>
<td>$37,500</td>
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<td>7.8L diesel, 235 hp, Allison 4 spd auto, 2 spd transfer, AWD, 35 GVW, with 7½ ton RO PJ200 crane, 24 ft hook ht, new 14 ft steel flatbed</td>
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<td>$59,500</td>
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March 6, 2006
NYSTA Western Regional Conference
NY State Turfgrass Association w/ Cornell Coop. Ext., Western NY Golf Course Super. Assoc., Western NYS Nursery/Landscape Assoc., Buffalo/Niagara Marriott, Amherst, NY
Contact: NYSTA 1-800-873-8873; (518) 783-1229; nysta@nysta.org; www.nysta.org

March 7, 2006
38th Annual Professional Plant, Turf & Tree Conference
Nassau Suffolk Landscape Gardeners Assoc.-L.I., Huntington Town House, Huntington, NY
Cont: Pat Voges (631) 665-2250; NSLGA2@optonline.net

March 9, 2006
Urban Tree Care Workshop
Lake & Porter City Ext., Lowell Pub. Library, Lowell, IN
Contact: Stan Simz (219) 755-3240; or Russell Hodge (219) 406-0431

March 14-16, 2006
CARTS-Cert. Pest. Applicator or Regist. Tech training
MGIA – Oakland CC, Orchard Ridge Campus, Farmington Hills, MI
Contact: MGIA at (248) 646-4992

March 17, 2006
Urban Tree Care Workshop
Chesterston Public Library, Chesterston, IN
Contact: Stan Simz (219) 755-3240; or Russell Hodge (219) 406-0431

March 30, 2006
Garden State Tree Conference, NUAISA Annual Conf.
Rutgers University, New Brunswick, NJ
Contact: www.NUAISA.com

April 1-4, 2006
ISA Southern Chapter Annual Conference & Trade Show
The Wynfrey Hotel, Birmingham, AL
Contact: 1-888-339-8733; dcarter@isasouthern.org

April 4-5, 2006
Spanish CARTS-Certified Pesticide Applicator or Registered Technician training
MGIA – Bingham Center, Bingham Farms, MI
Contact: MGIA at (248) 646-4992

April 10-12, 2006
Trees & Utilities National Conference
National Arbor Day Foundation
Crowne Plaza Chicago O’Hare, Chicago, IL
www.arborday.org/TUconference; or 1-888-448-7337

July 25-27, 2006
PANTS (Penn Atlantic Nursery Trade Show)
Atlantic City Convention Center, Atlantic City, NJ
Contact: PLNA 1-800-898-3411; www.PLNA.com

November 9-11, 2006
TCI EXPO 2006
Tree Care Industry Association
Baltimore, MD
Contact: Deb Cyr 1-800-733-2622, Ext. 106; cyr@treecareindustry.org; or www.tcia.org

Send your event information to:
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or staruk@treecareindustry.org
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Organic PureSpray GREEN. Safe on anything but pests.
This project earned Winkler’s Tree & Landscaping, Inc. of LaGrange Park, Ill., an Award of Distinction in TCIA’s 2005 Excellence in Arboriculture program. The award was presented at TCI EXPO in Columbus, Ohio, in November 2005.

Entry Category: Line Clearance/ROW Maintenance
Size of project: Over $10,000
Client: Chicago Transit Authority
Date project started: 6/20/2005
Date projected completed: Ongoing

Goals of the project: Hazardous dead trees and limbs were overhanging the “L” tracks in Chicago. One of these had recently broke loose and crashed through the window of a train’s engine, seriously injuring the motorman. Winkler’s goal was to remove these hazards, here trimming back a row of Ailanthus altissima. (Flagmen, as employees of the railroad, were not required to wear a hard hat.)

Climbing a large ash. There were two climbers in this tree.
injuring the motorman. Our goal was to remove these hazards.

What did you do on this project?:

Removed hazardous dead trees and limbs along a stretch of the railroad that was of particular concern.

List all common names of tree(s) on contract/project:


List any desirable and undesirable qualities of trees on project:

Most of the trees were in very poor condition due to a lack of regular maintenance. The trees of heaven were of particular concern as most of the large specimens had serious trunk rot. On the opposite end of the spectrum, quite a number of the ash trees were marvelous specimens.

History of tree(s) condition and care:

The trees had been trimmed previously, but it was many, many years prior. No other care had been provided.

History of site:

This is a very old rail system and the trees added nice scenery for the passengers. Unfortunately, poor financial conditions allowed the trees to become hazardous from neglect.

Describe how your work on the project conforms to ANSI A300 Standards:

The primary emphasis was on safety. All pruning cuts were proper collar cuts. Where trimming left the remainder of the tree in an unsafe condition, removal was recommended.

Describe the challenges involved in the project:

1. Working over a railroad with regular trains.
2. Working on a steep, rocky slope with poor footing.
3. A high volume of pedestrian traffic.

Describe how you overcame these challenges:

We used a flagger, the trains were required to slow to 5 mph while passing through the area, and work stopped when a train came. All crew members were instructed to move slowly and cautiously, and to help one another. Large signs were erected, cones were put out and crew members stayed alert for people walking through.

Describe how your efforts demonstrate sensitivity to the species of plants in the project:

*American elm:* The crew made sure these trees were worked on with disease-free tools.

*Tree of heaven:* We were more aggressive in trimming these trees as they posed the highest risk.
Unfortunately, no headline about this will appear in the newspaper. However, there will also not be a headline that reads, “Killer Tree Causes Horrific Train Derailment.”

Describe how the finished project compares to the start of project:

Trees were properly trimmed back and what was once a hazardous situation has been made safe.

Describe the impact of finished project on the site, the community and the people who will be affected by the work you have done:

Although most people will be unaware, train passengers will be safer. Unfortunately, no headline about this will appear in the newspaper. However, there will also not be a headline that reads, “Killer Tree Causes Horrific Train Derailment.”
Proof Positive: A Good Story Can Be Telling

By Chip Eichelberger

In today’s business world, boring facts and empty stats simply won’t make the impression on customers that a story about someone “just like them” will. True stories are much more compelling and better-remembered than other information. So, to get coveted word-of-mouth advertising, start by telling your company or product story. When you do, you’ll find that story-telling is a powerful tool that differentiates you from your competition.

Story-telling your way to greater profit is based on the idea of “social proof.” When people are unsure what to do, they look at others’ behavior and ask what others have done previously in the same situation. A behavior seems more correct to the degree that we see others doing it, and the more people doing it the better. Social proof comes into play in all buying decisions, from the most basic to the most expensive. This includes everything from what movie to see or restaurant to eat at, to what car to buy or contractor to hire. Whatever your industry, you can essentially get your customers to write your best stories for you by documenting your successes through testimonials and pictures. Do what your competition fails to do effectively. To develop powerful stories that sell your customers, follow these 10 simple steps:

1. Identify your positioning. If you don’t position yourself advantageously, your competition will position you and your product in a way you do not want. What is your unique selling proposition (USP)? What added value do you deliver that your competition won’t? Get your customers to say “wow!” Maybe it’s your unique expertise, free installation, or free delivery. Whatever you offer, it should be low-cost but have high perceived added value.

2. Define your ideal customer. Contrary to popular belief, your customer base isn’t “everybody.” While you may have customers across all spectrums, who’s going to be the most profitable customer for you, and how can you attract more of those? You don’t want to be always selling to everybody. Be proactive, and let your competition suffer the consequences of giving their sales force too broad of a brush.

3. Identify what is different about you. Different is good. Create a point of differentiation between you and your competition with a story. You may have noticed this recent trend at retail when you’re looking for a BBQ sauce or a bottle of wine. To get customers to pick their product off the shelf, companies use their product packaging and Web sites to tell an intriguing story. Check out www.iloves-tubbs.com (Mr. Stubbs – my favorite BBQ sauce) and www.workinggirlwines.com for good examples.

4. Draw them to you. If you’ve done the first three steps well, the customers you want will be attracted to you. Rather than pursuing customers, learn their key terms/pains/problems and how you can solve them. For example, top mortgage brokers work to build a good reputation and thereby attract a lot of the business. They don’t have to go out and pursue clients; people come to them. Do the little things that make for a great story so your customers will sing your praises and bring the business to you. Ideally, you’ll be able to choose your customers, instead of begging them to choose you over your competition.

5. Show, don’t tell. One of the main principles of story-telling is to show the details of the story, and let those details speak for themselves. Effective story-telling is in the details, and the more the better. Leaving out a minute detail, which you feel may not be important, could turn out to be the deciding factor from the customer’s point of view. Paint a picture with your words to bring your story to life for the reader or listener. You don’t have to be a master fiction writer to tell a powerful story. Set up a problem, then work through and resolve it by offering specific benefits to the customer.

6. Feel their pain. You can use your stories to help overcome common objections you receive, such as cost. You don’t want to compete on price but on customer experience and your unique ability to solve customers’ problems. In life insurance and financial services, for example, many people haven’t done what they should do in terms of planning. In this case, smart advisors tell their customer’s, “Don’t feel bad. Last week I met with someone just like you who had that same problem. Here’s how we worked together to solve it …”

7. Keep ’em coming. Dog-eared, over-copied success stories from seven years ago won’t do the trick. Document everything and keep it current! Develop a system to follow up with satisfied clients because you can’t have too many stories at your disposal. Utilize the Web, phone calls, letters, and e-mail to generate new stories, and then put them on your Web site in the form of written, audio and video testimonials. Have them organized and ready to send out with e-mails to prospects.

8. Use pictures. A picture is worth a thousand more words. A testimonial with a photo shows that there is a real person behind the name, enhancing your credibility. Build your testimonials one at a time, asking clients, “If I can exceed your expectations, get the work done in time and at the budget we set, would you give me a testimonial so I can share your success with other customers?” The majority of your customers will happily say “Yes!” Then you can create a Raving Fan book that will
let you select the jobs you want to do. Home improvement contractors, for example, can fill it with before-and-after pictures plus testimonials saying that they showed up on time, stayed within budget, etc. On future jobs, other bidders will show up with no social proof – just a napkin with an estimate on it – but the smart contractors will have 10 success stories, impressive photos, and raves from past customers. Even if their price comes in 10 to 20 percent higher, if they’ve proven that they can meet the customer’s needs, the customer is likely to pick the professional who provided social proof!

9. Utilize product reviews. Vendor ratings and product reviews such as you find on eBay, Overstock.com, and Amazon.com can tell your story and offer social proof even without personal contact. The combination of customer rants and raves is highly believable.

10. Create a personal marketing sheet. Tell a good story about who you are, especially if you’re self-employed. It should feature a picture of you and your product and tell who you are and what your USP is. On it, list some of your customers and include the right quotes as well as detailing your number of years’ experience, special training or certifications you and your team have, and any community involvement.

Tell yourself a new story about stories

Many people are hesitant to sell themselves and their product or service with stories because they don’t want to feel “pushy,” as if they’re forcing their clients to do their marketing for them. A simple paradigm shift is all you need to see the benefits of this practice, for you and for your customers. Consider this: you’re cheating people if you don’t share what a great experience you offer customers. They’ll go somewhere else and get an inferior product and experience.

In the end, it’s simply a matter of utilizing the power of social proof: Tell your story, attract customers to you, deliver what you do best, and you won’t be able to stop them from talking about their “lucky find,” sending others to you and coming back again and again. Remember: A good story can change the way people think. A great story can change the way people behave.

Chip Eichelberger is a peak performance strategist and motivational speaker who will be presenting this month at TCIA’s Winter Management Conference in St. Kitts, Feb. 12-16.

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The Occupational Safety and Health Administration (OSHA) is working on a direct final rule to reinstate its original roll-over protective structures (ROPS) standards for the construction and agriculture industries.

OSHA published a technical amendment in 1996 that revised the construction and agriculture standards for testing of ROPS used to protect employees who operate wheel-type tractors. The revision removed the original ROPS standards and replaced them with references to national consensus (SAE) standards for ROPS-testing requirements. The agency has since conducted a thorough evaluation of the original ROPS standards and those implemented under the 1996 technical amendment. OSHA is now proposing to reinstate the original ROPS standards for construction and agriculture after identifying several substantive differences between the national consensus standards and the original standards.

The direct final rule affects wheel-type tractors over 20 horsepower. It restores impact testing for protective frames, and an additional cold-temperature testing option under the construction standard. It also reinstates the exemption from a field-upset testing option and an additional cold-temperature testing option in the agriculture standard.

The measure is not likely to have any direct adverse impact on landscape maintenance, vegetation management or other tree operations that make use of tractors with ROPS because of its focus on manufacturing and testing requirements.

Direct final rulemaking is an expedited process that saves regulatory resources over the more traditional rulemaking by streamlining one stage in the rulemaking process. OSHA generally publishes a proposed rule simultaneously with a direct final rule. If significant adverse comments are received on the direct final rule, it is withdrawn and the comments are addressed in a subsequent final rule document. In this instance, however, the agency is not publishing a proposed rule. If significant adverse comments are received on the direct final rule, OSHA will withdraw the rule and determine, based on public comments, whether to issue a proposed rule in the future. Public comments and other information on the direct final rule can be viewed on the “Dockets and e-comments” page of the OSHA Web site, www.osha.gov. The docket number reference is S270A. Access the Federal Register notice for this direct final rule by typing the following address into your Web browser: http://dockets.osha.gov/vg001/V047B/00/49/88.PDF

State News

Maryland: Revisions to the Licensed Tree Expert Bill anticipated: SB 123 has been introduced and had its first reading in the Senate on Jan 16. The bill proposes to reduce the experience prequalification from five years to three years for licensed businesses and would allow practicing removal companies that are in good standing that prove certain conditions to be eligible to be examined for the Tree Expert License.
A companion bill expected to be introduced in the House included the removal section. At press time, the bill was not yet available for review.

**New Jersey: Licensed Tree Expert Bill Considered by Legislature:** On January 13, the New Jersey Office of Legislative Services released a draft bill that essentially would codify and make mandatory the state’s long-standing voluntary certification for arborists. It is anticipated that the bill will soon move into Committee for hearings and from there to the full Legislature for passage.

The draft bill grandfathers existing Certified Tree Experts and exempts line clearance tree trimming personnel. For other would-be LTEs there will be experience pre-requisites and testing requirements.

**Rhode Island: Changes to Pesticide Applicator Law:** Effective Jan. 1, the State of Rhode Island and Providence Plantations Department of Environmental Management, Division of Agriculture, Pesticides Section enacted changes to the Rules and Regulations Pertaining to Pesticides. Their intent is to clarify regulatory ambiguity and address some of the problems associated with the use of pesticides.

The revisions include increasing the number of recertification credit hours applicators must obtain in order to maintain their certification, as well as requiring Commercial Licensed Applicators to obtain pesticide credit. Other areas being addressed include developing a protocol for the storage and disposal of pesticides as well as amending the record-keeping requirements for all applicators, and classifying specific pesticides known to contaminate ground and/or surface water as state limited-use pesticides.

**Washington: Crane Regulation re-write:** WISHA’s crane rules – part of Chapter 296-24 of Washington’s general safety and health standards - are being rewritten and organized for clarity and ease of use. These rules will also be updated to reflect current American National Standards Institute (ANSI) requirements. The project will encompass mobile cranes and address personnel lifting, so they will affect arborists’ use of cranes. This re-write was first proposed in 2004, and a final rule is anticipated in June.

Specific requirements for personnel hoisting can be found in: WAC 296-24-23533 Crane and derrick suspended personnel (work) platforms.

For more information, interested parties can contact either Cindy Ireland at (360) 902-5522 or Kimberly Johnson at (360) 902-5008.
Tips from the Field for Reduced Vibration, More Efficient Stump Grinding

CIA asked a handful of members with experience in grinding stumps for tips to reduce vibration and operate stump grinders more efficiently. Here are some of the responses.

Tim “Bo” Snell
Owner of Snell Tree Experts, Fuquay Varina, N.C.

What are the various factors that contribute to vibration in stump grinders and what techniques or practices do you employ to reduce it?

A whole host of factors can contribute to that irksome, and possibly damaging, vibration in stump grinders. Here is a list of what has caused my own machine to make a bothersome humming noises and vibrate to the point of being able to feel the entire machine “shake, rattle, & roll”: 1. Loose nuts and/or bolts (anywhere on the machine, from the muffler cage to the cover for the cutter wheel); 2. Loose pieces of metal, such as the gas cap; 3. Broken/damaged/missing teeth; 4. Improperly adjusted/placed teeth; 5. Teeth not properly replaced from ones replaced 180 degrees away (on the other side of cutter wheel).

It thus follows from my list above that, to fix those problems, do the following: 1. Make sure all nuts and bolts are tight (but do not over tighten, or you can create a whole new set of problems!); 2. Make sure there is no “loose metal” anywhere (it seems common sense to make sure the gas cap is on snugly, but believe me, most of us forget common sense at times); 3. Immediately stop the machine and check for broken or damaged or missing teeth (teeth are sometimes irreparably damaged when they strike a hidden hunk of steel that the tree has grown around); 4. Always check teeth placement and adjust with proper tools (do not rely on “well, it looks about right”); 5. When you replace one set of teeth, always replace the set on the opposite side of the cutter wheel (180 degrees away).

Stump grinder vibration can also be caused by a chunk of stump/root getting caught up in the housing around the wheel and then rubbing against the wheel, or by a piece of metal wire (such as that found in wire baskets of B & B trees) getting wrapped around the shaft of the cutter wheel. Obviously, no great wisdom here – just some personal experience.

What one, two or three common mistakes do many operators make that cause the job to be more difficult, less efficient and/or less profitable?

1. Not following the manufacturer’s recommendations, as found in the accompanying manual.
2. Not following the manufacturer’s recommendations, as found in the accompanying manual.
3. Not following the manufacturer’s recommendations, as found in the accompanying manual.

Seriously, just as the three most important words in real estate are “location, location, location,” so the three most important words for people who grind stumps are “read, read, read.” (Or, perhaps “Read the manual.”) If you don’t read the manual and don’t follow the recommendations in it, then you are headed for trouble. (This is assuming the manual is written in plain English with the aim at communicating clearly and not just filling up pages with gobbledygook.) The manual covers safe operation, daily/weekly/monthly/yearly maintenance schedules, parts lists, schematics, warnings, helpful hints, etc. I’m constantly amazed at how many of my questions are answered in my manual. Obviously, the manufacturers have used...
their own machines extensively, listened to owners, and taken the time to produce a quality manual.

For example, when the manual says, “Do not attempt to take too big a bite when grinding,” then I follow that advice. The times when I have not heeded that advice have been the times when my machine has bogged down. Another example: When the manual says to wear a helmet and safety glasses, then do not go without either of these unless you think you would be more attractive wearing an eye patch the rest of your life or having a metal plate screwed onto your skull to hold it together.

It’s definitely less profitable to be maimed for the rest of your life than to spend a few bucks on a helmet and safety glasses. If we are willing to spend tens of thousands of dollars on a fancy machine that can rip huge stumps to pieces, why aren’t we willing to spend a few more measly dollars for a shield for our eyes and a cover for our skull?

What one, two or three simple practices or techniques can you offer that might improve efficiency, avoid breakdowns and downtime, and generally make stump grinding easier and more profitable.

Again, read the manual! To be more helpful, I’d say to 1. Do a safety check before and after using the machine each time and fix any problem immediately (do not procrastinate). 2. Don’t try to take a bigger bite than the machine can handle safely; and 3. Always carry an extra container of fuel with you in case your machine gets thirsty toward the end of the job.

Cameron Smith
Vice President/Owner, Johnny’s Tree Service Inc., Jackson, Mich.

Some (vibration) factors include bad universal joints in models with shaft-driven cutter wheels, lost or broken cutter teeth or cutter pockets, worn or missing rubber mounts on the engine, radiator, etc. Keeping a good eye on cutter teeth and replacing those that need attention is very
Common mistakes: Not having the tools and extra teeth on the machine or in the tow vehicle for on-site repairs; taking too much off a stump when grinding causes unneeded stress to the grinder; not keeping the rubber debris guards in good shape or simply not using the guards can cause property damage, improper backing in tight areas can cause machine and property damage. Also, not having the grinding area surveyed for underground utilities could be potentially dangerous.

Simple practices or techniques: Pay attention! Always know your surroundings when grinding. Are there buried utilities? Was a visual inspection of the grinding area done for loose debris (rocks, metal, wood pieces)? Has the grinder been properly serviced? Are all debris guards in place and in good shape? Always tread lightly with equipment on lawns – take the time to lay down plywood or composite mats to minimize yard damage for larger machines where lawn damage is a concern.

Patrick Gales

Vibration: 1. If and when possible, trailer the machine (transport) up off of the road on another trailer so as to reduce it getting bounced around.

2. Buying a machine that is “under-powered.” The machine may have many wonderful features, but not enough “engine.”

3. All machines require regular maintenance before they break down. Carry extra parts for those that are more likely to break in the field.

Simple practices or techniques: Have only one or two employees use the machine, and have them maintain it on a regular basis.

Do a day’s worth of stumps all together instead of hauling the machine to every job.

Make sure all debris guards are in place and in good shape. Photo courtesy of Ben Trissett.
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This new Model 1890 Track Bandit features:
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- 305 CAT Rubber Track Undercarriage
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site, even where it may not be needed. Collect several stump work orders. Schedule a day’s worth of stumps in an orderly, time-efficient route.

Benjamin G. Tresselt III  

The main factor in stump grinder vibration is trying to grind with dull cutting teeth. When the teeth are dull they don’t cut. They usually do a combination of bounding off and just beating on the stump. In most cases with a high horsepower and/or low torque machine you will continue to grind, or in actuality chip away at, the stump. The cost of this is that the machine performance is greatly reduced and you will take additional time to completely grind the stump. Also, using dull teeth puts extreme wear on your machine and can greatly reduce its overall life and usefulness. The obvious technique is to grind with only sharp teeth and replace teeth as they get dull, even if that means stopping in the middle of a job. The long-term benefits to your machine and your stump-grinding profitability will far outweigh the short-term benefit of completing a job “on time.”

Common mistakes: As stated above, the most common and overall costly mistake is grinding with dull teeth and not taking the time to change them whenever necessary. This one factor will make stump grinding more difficult, much less efficient and much less profitable in the long and short term.

Simple practices or techniques: Stump grinders are heavy-use, dirty machines that can really do a lot of work. If treated correctly through proper use, maintenance and repair, a high-quality stump grinder can make you a lot of income and last for many years. Unfortunately, because stump grinders can easily destroy stumps, rock, pipes, sidewalks and just about anything in their path, many people who use them feel they are indestructible – and they are not. Proper use and care will go a long way in the profitability and long-term investment of a high-quality grinder.

Also, it has been our experience that if you can clearly identify how you will be using your stump grinder it can save you a lot of time money and aggravation. Whether you will be using it for land clearing, residential grinding, hard-to-reach stumps, small stumps, large stumps or all of these scenarios, it goes a long way in carefully selecting the right machine for the right use. Don’t get the biggest machine if you’re only going to do small, hard to reach stumps. Or vice versa. Don’t get a small machine if your plan is to work up into land clearing. Get a machine that fits your applications. You may not have the biggest grinder in town but you might well be the most profitable grinder in town. Size does matter!

Finally if you are only going to do a few stumps now and then, you may want to consider not buying your own machine and instead finding a reputable cohort to grind stumps for you. The machine cost and maintenance is a lot to justify when only doing a few stumps a year. Again, you may not be the one who owns all the fancy tree care equipment in your town, but by playing it smart you may well be the one who is making the most tree care money in your town. Which would you rather be?

When the manual says to wear a helmet and safety glasses, then do not go without either of these unless you think you would be more attractive wearing an eye patch the rest of your life or having a metal plate screwed onto your skull to hold it together.

Tim “Bo” Snell
### Vermeer

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Part No.</th>
<th>Knife Description &amp; Size</th>
<th>SALE Price</th>
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<tbody>
<tr>
<td>BC1000</td>
<td>KCH20109</td>
<td>Double Edge 9&quot; x 4-1/2&quot; x 5/8&quot;</td>
<td>$29.25</td>
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<tr>
<td>BC1800XL</td>
<td>KCH20112</td>
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<td>BC1220-BC1250</td>
<td>KCH20002</td>
<td>Single Edge 8&quot; x 3-1/2&quot; x 3/8&quot;</td>
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<td>BC1400</td>
<td>KCH20110</td>
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<td>BC1800-BC2000</td>
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### Morbark

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<td>100, 200, 290</td>
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<td>10, 13, 17, 2050</td>
<td>KCH40001</td>
<td>Double Edge 10-1/2&quot; x 5&quot; x 1/2&quot;</td>
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### Brush Bandit

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<tr>
<td>90XP, 280XP</td>
<td>KCH10004</td>
<td>Double Edge 5-3/32&quot; x 4&quot; x 1/2&quot;</td>
<td>$21.60</td>
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<tr>
<td>100XP-250XP</td>
<td>KCH10003</td>
<td>Double Edge 7-1/4&quot; x 4&quot; x 1/2&quot;</td>
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<td>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>$25.50</td>
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<tr>
<td>1890 Intimidator</td>
<td>KCH20103</td>
<td>Double Edge 10&quot; x 5-1/2&quot; x 5/8&quot;</td>
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### Asplundh

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<td>12&quot; Drum</td>
<td>KCH30001</td>
<td>Single Edge 12&quot; x 3&quot; x 3/8&quot;</td>
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<td>16&quot; Drum</td>
<td>KCH30002</td>
<td>Single Edge 16&quot; x 3&quot; x 3/8&quot;</td>
<td>$19.75</td>
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USA
James Bellis, owner
Tree-Tech Inc., Mount Freedom, NJ

Reduced vibration can come with more teeth and more pockets; it pays to analyze this prior to purchase. Also, change and keep teeth sharp.

Common mistakes: Most common mistake with new operators is they do not clean away the grindings while they work. This can cause the grinding to go too deep in places, thus wasting time and missed edges and flares, causing go-backs.

Simple practices or techniques: Keep equipment tight – all bolts, belts, etc. this can reduce vibration and breakage to the machine.

Clear the work area of rocks – look for underground lines – prior to starting.

Find a machine that can do it all, or most of it anyway – small stumps, backyard stumps and larger ones as well. Two trips to the same location is a sure money waster.

Colin Milde, owner
Ramapo Tree & Shrub Care,
Mahwah, NJ

Small machines vibrate more than big ones. Broken or missing teeth will cause vibration. Dull teeth cause vibration. Taking to big of a bite will make the machine bounce around. Proper maintenance and a good operator reduce vibration.

Common mistakes: Stumper grinders have come a long way in recent years. (Our machine is) heavy and has a thick cutting wheel with super teeth. It does not bounce around. It is easy to use and maintain. It has plenty of power. The only down side is the purchase price.

Techniques that improve efficiency are simple. Read the manual. Replace dull teeth. Grease the machine according to the manual. Take a couple of minutes to clear away debris, i.e. rocks. Don’t grind deeper then you need to. We use a large folding screen with big feet (like hinged plywood) to deflect flying debris. Wear a hard hat, ear muffs, a face shield and good heavy boots. Use your head.

Most common mistake with new operators is they do not clean away the grindings while they work. This can cause the grinding to go too deep in places, thus wasting time and missed edges and flares, causing go-backs.

James Bellis

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To get this contract, you’ll need impeccable credentials.

Retired Concert Pianist Loves Nature
She’s well off and well travelled and she’s all business when it comes to running her household. The children are grown with families of their own, and she and her husband look forward to visits from their six energetic grandchildren.

They’re retired, and while he golfes, she enjoys music, quilting, knitting, basketry and, most of all, gardening. The grounds surrounding their estate contain an orchard, extensive lawns, a pond, a scenic meadow, a groomed hedge, vegetable and flower gardens, and a woodland garden sheltered by century-old trees. She loves the calm, protected areas of the property and values the natural character and beauty of the forests and land for their elegant and comfortable accommodation. Her next project is to have selected areas of the grounds floodlit during the evening.

Cleanliness Next to Godliness
The demands of the property are significant. She used to employ a full-time groundskeeper that arranged all the contracting, but his health has forced him to retire and his son has moved away. She made a false start with a service recommended by a neighbor. The owner was pleasant and well dressed when he visited, but when his men came to work, three days after the promised time, they were slovenly. Their truck leaked oil on her drive, they left lunch wrappers behind and bits of twigs and brush on the pathways. When she called to ask them to come back, a young woman was curt with her. When she received a separate bill for the cleanup, she promptly fired them.

Does Her Homework
Later in life, she has studied interior design, fashion merchandising and, luckily, the internet at a local technical college. She uses the Internet to research services in her area that can help with the maintenance. She wants to employ a well-established company that has a good reputation. One that will treat her fairly and whose employees take pride in their work. She wants a company she can trust.

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Elms were once considered the perfect urban tree because of their beauty, fast growth, durability and versatility. The perils of over planting and prevalence of shared root systems caused the elms to be efficiently devastated when Dutch elm disease arrived in many American cities.

Dutch elm disease is caused by a fungus that affects the vascular tissue of elm trees. The fungus is spread predominantly by an elm bark beetle during its feeding in the upper canopy, but it can also be spread by shared root systems of trees, or root grafts.

The fungus that causes Dutch elm disease creates a reaction in the vascular system that prevents water and nutrient movement into the crown. This produces a typical “wilted” appearance. Evidence of an infection can also be found by removing the bark of a limb to check for brownish staining.

Often you will see a progression of wilting from branch tips down a limb. This pattern indicates that the fungus was introduced by a beetle, and is referred to as an overland DED infection. A progression of wilting down a limb helps differentiate a DED infection from natural mortality or storm damage. If a tree takes on a more uniform wilted appearance, this is a clue that the infection likely came through a root graft. Identifying Dutch elm disease can be complicated by the fact that occasionally an infection will not become symptomatic as the tree struggles to contain the fungus.

As Dutch elm disease made its way through the Midwest, Minneapolis and St. Paul, Minn., were able to learn from the experiences of other areas that had previously dealt with the disease. David French, a plant pathologist at the University of Minnesota, was instrumental in sounding the alarm as DED approached. His work centered on best management practices for DED on a municipal level, as well as the unenviable task of attempting to push funding through legislature. French stated that, “the simple answer to the control of Dutch elm disease is sanitation.” This entails the identification of diseased trees through multiple annual inspections, and the prompt removal of diseased trees to reduce or eliminate the risk of root graft infections to neighboring elms. Good sanitation strives to eliminate elm bark beetle breeding grounds, leaving fewer beetles to carry fungal spores.

The effectiveness of the management
program carried out in many Twin Cities-area municipalities is proven by an elm population that remains substantial. Nearly 55,000 elms remain in Minneapolis alone. At its peak in 1977, DED claimed 32,000 trees or roughly 15 percent of the elm population in Minneapolis. For nearly 20 years loss rates hovered around 3 percent. Mortality rates increased 2002, however, and continue to climb to nearly 15 percent in 2004 after years of being held in check. There are several likely reasons.

The most widely accepted reason for the resurgence is a decrease in vigilance in sanitation programs. This is by no means an indictment of these programs, but a demonstration of the difficulty in managing the disease. With a smaller population of elms the disease is less visible, (even if mortality climbs), so there is a decrease in public awareness. The prevalence of other exotic insects and pathogens on the horizon, such as sudden oak death, gypsy moth, and emerald ash borer to name a few, make it more difficult to obtain funding for a program that has been considered successful for so long.

Other theories for the resurgence center on the climate, or the pathogen and its vector. Milder winters have prevailed in the area over the last five years, which could have allowed more beetles to overwinter successfully. There are at least two species of fungi that are proven to cause DED in Minnesota, and the introduction of another more aggressive strain of fungus is not impossible. A different vector that could possibly be more efficient at transmitting the disease could be to blame as well.

One company’s program

Although municipal programs controlled Dutch elm disease fairly well after the initial outbreak, some homeowners with particularly large or valuable trees began to search for additional protection from the disease. Macro-injections using systemic fungicides showed promise in protecting an elm from overland DED infections, but are not economically feasible on a large municipal scale. Top Notch Treecare, a TCIA member company in Plymouth, Minn., began using a propiconazole-based fungicide called Alamo in 1995 to prevent Dutch elm disease. The label rate at that time was 10 ml per diameter inch. One
year later the dosage rate was increased to 20 ml per inch. The goal of a preventive injection is to get the proper amount of fungicide into the tree, achieving even distribution throughout the canopy, while doing the least amount of injury possible. All three of these components are critical to the long-term success of the injection, as well as the ability to administer the treatment repeatedly. Fungicide injections can be done therapeutically with some success but this article refers only to injections performed on trees not infected by DED. Preventively, Top Notch warranties most elm injections for three growing seasons against overland DED infection. No known fungicide offers protection from a root graft DED infection. The first year of injection does count as a season, so, in essence, the warranty covers about 2½ years.

Throughout our first 11 years of protecting elms, Top Notch has performed over 3,100 preventive injections while honing our program, which has four key
components:

1) Training of the applicators and sales staff
2) Chemical selection
3) Method of application
4) Follow up and monitoring

Training

Field applications of chemicals are often handled by the newest employees in arboriculture. It can be dirty, hard work that is seen as fairly simple to perform. This is certainly not the case when administering fungicides for Dutch elm prevention. Because of how rapidly DED can progress in a tree, field diagnosis and the ability to communicate well with clients about disease biology is critical to the success of our program. Any time lapse between the sale and the application can create very different site conditions, so the final diagnosis is often the duty of an applicator. Applicators must be able to differentiate symptoms at different times of the growing season from naturally occurring tree disorders. They also must be able to identify and document additional threats to a treated tree’s warranty, such as nearby disease issues. This is often the only leg that we have to stand on if Top Notch needs to prove that a failure is the result of a root graft infection. There also must be a willingness to get second opinions on questionable trees throughout an organization. Dutch elm disease can fool even the most experienced arborist.

Cohesion between the salesperson and applicators is vital to the efficiency and effectiveness of the injection program.

Chemical selection

The pioneers of our Dutch elm disease program had some experience with thiabendazole hypophosphite, (trade name of Arbotect 20-S). Arbotect has a good record of success in preventing DED and was the industry standard at the time. However, some concerns with the product were raised. Thiabendazole hypophosphite has a very low pH (2.7 in a 1 percent solution), and therefore had to be mixed with a lot of water (often 30-40 gallons) to make the solution less acidic. Soft water was also required to put this product into suspension. It often took nearly an hour to administer the injection, and the equipment required to handle the liquid volume was somewhat cumbersome. Research by Alex Shigo also showed significant damage near injection sites using thiabendazole due to acidity.

Top Notch searched for other or alternatives. Dave Apple, a pathologist from Texas A&M, did a study on inter-vascular injection of propiconazole in 1992 for the prevention of oak wilt. Oak wilt is caused by vascular wilt fungus very similar to Dutch elm disease. Propiconazole is closer to pH neutral (5.8 to 6.8 at a 1 percent solution), and could be applied and mixed in smaller volumes.
Early research using bioassay with propiconazole failed to show that the chemical moved into newly formed wood, leading some to think that the injections would need to be done every year. Disease protection did last longer than one year in the field, which created more questions than answers. Propiconazole is a triazole compound that has plant growth regulator properties associated with increased tolerance to such things as drought, salt and frost damage. It has been suggested that growth regulator properties may play a role in the ability of propiconazole to inhibit the growth of the fungus causing DED. There remain many questions about propiconazole use in treating for DED, but its effectiveness has been demonstrated.

I think the track record of thiabendazole and propiconazole are pretty similar in that both fungicides are effective. The injection program at Top Notch Treecare is very effective, not only because of what we use but how we use it. The most effective cancer fighting drug in the world would not work if administered improperly. For political reasons a lot of focus in commercial DED management is centered on what product is used with very little attention paid to how it is injected, which I assert has even greater importance.

### Method of application

It is often said that arboriculture is art and science, which is especially true in dealing with macroinjections. Choosing injection sites on an elm tree is crucial to achieve even chemical distribution in the crown. In 1986, Minnesota pathologist Mark Stennes found that 2.25 is the optimum number of injection sites per diameter inch. Fewer sites may not yield adequate distribution, while more sites could be considered unnecessarily injurious. Injection sites should be concentrated in major root flares and distributed as evenly as possible circumferentially.

Stennes also found that the preferred area to inject a fungicide was into the root flare tissue of an elm. This area is known to have greater ability to withstand and compartmentalize injury, vital for a process that must be repeated every third year. Exposing the root flare by 3 to 6 inches allows the optimum amount of injection sites to be achieved, increasing the likelihood of even chemical distribution in the canopy of an elm.

It has been documented that fungicide solutions can cause cellular dieback near the injection sites. Therefore we teach our
Follow-up

Protecting an elm from Dutch elm disease is only partly done once the injection is complete. Every year Top Notch loses a few trees under warranty that might have been saved if we had caught the disease sooner. If we notice that an elm under warranty has become symptomatic, we can treat this tree (at our cost) and hopefully remove the existing infection by pruning. Monitoring treated trees and recognizing hot beds of DED activity is essential to minimizing losses. If an area has a high incidence of DED, Top Notch may also recommend injecting some protected trees on a shorter rotation, as well as document root-graft risks posed by other infected elms.

Monitoring is very important in limiting our company’s risk, as well as adding value to the service that people have hired us to perform. Monitoring also fosters a good relationship with the local forestry department. They monitor for disease more extensively than anyone, so by notifying inspectors which trees we have treated, we increase our chances that an infection can be caught early. Cooperation with municipalities lends credence to our program, and more inspections help us limit our failures.

Several of the key components in the Top Notch Treecare injection program – particularly the need to excavate a tree, flushing the fungicide from the injection site, and monitoring – are very costly from an efficiency standpoint of a business. Any business owner or manager knows that 10 minutes here or there adds up very quickly at the bottom line. These components are not eliminated to make us more efficient because they need to be done to make our injection program effective in preventing Dutch elm disease.

Conclusions

Data shows that injecting elms with propiconazole to prevent Dutch elm disease is effective, but it is not a silver bullet. We do issue refunds to customers whose trees have died under warranty every year. Top Notch has analyzed these losses to ascertain any trends.

Over half of the losses that we have experienced in the last 11 years have occurred due to inadequate chemical distribution in the crown. We have found two main reasons for this failure:

1. the inability to inject into the root flare adequately due to a physical obstacle or previous mechanical damage (often a fence, deck, or wound at the base of an elm).
2. a compromised root flare due to damage or biotic reasons that affect many urban trees.

This information allows us to be more exclusive with our warranty, in turn limiting our liability with trees that are more prone to fail.

Arboriculture is a very dangerous and difficult profession. We deal with plants that are almost always compromised due to their environment. Arborists are often confronted with unrealistic expectations from clients. Part of our job is to educate the public so they can make sound decisions for their trees in the future. We can only do so if we are aware of all of the tools that our profession has at our disposal. Arborists can and should recommend planting disease-resistant elms for the future of the species, however, maintaining the already mature specimens and the value they provide to the urban forest is another critical component to our success.

Jay Gough is plant health care division manager at Top Notch Treecare in the Minneapolis/St. Paul area of Minnesota, focusing on fertilization and disease and insect control, mostly working on Dutch elm disease management. Top Notch has earned TCIA Accreditation. This article is from a presentation he made at TCI EXPO 2005 in Columbus, Ohio.
As you probably already know, your trees are a buffet of leaves, flowers, twigs, bark, roots and wood for myriad hungry insects. No tree is safe from the ravages of millions of ravenous mouths that bombard them relentlessly. However, there is good news; you have allies to assist you in the war against these voracious appetites – other insects and spiders that make a living hunting in your trees.

Your trees are miniature war zones of combatants that employ many tactics such as camouflage, deception, mimicry and chemical warfare. All of these strategies have been around for millions of years, and some have developed into such strange behaviors that even the best science fiction writers couldn’t dream them up. Having a basic knowledge of some of these beneficial bugs in your trees is critical if they are to be used as allies.

All insects and spiders (along with some other critters) are clumped into the broad scientific division called Arthropods. Basically, these are all creatures that have an outer skeleton (exoskeleton), jointed legs and have to molt their exoskeleton to grow. Insects and spiders are different from each other in that insects have three main body segments and spiders have two. Insects have three pairs of legs and spiders have four. And most insects have wings and spiders have none. Spiders produce silk that comes out of special glands, called spinnerets, located at the end of their abdomen. Insects also go through an amazing transformation called metamorphosis.

There are two kinds of metamorphosis, complete and incomplete. Complete metamorphosis is a life cycle that starts with an egg, then larvae, pupa and finally adult stage. Butterflies, beetles, flies and bees are just a few groups that have complete metamorphosis. Insects such as dragonflies, true bugs and grasshoppers go through incomplete metamorphosis. Going from an egg to nymph (smaller wingless version of the adult) then adult is the life cycle of incomplete metamorphosis.

Insects and spiders are further divided
into other scientific divisions based upon various physical characteristics. So all grasshoppers are clumped into a group, or Order, called Orthoptera; true bugs belong to Hemiptera, and so on. Orders are further divided into Families, and then comes Genus and Species. So enough of the science lesson; let’s go over some of the beneficial bugs.

Most people think of flies as dirty nuisances that make you sick after they land on your potato salad during a picnic. However, the scientific group of flies, Order Diptera, contains many predatory and parasitic flies that prey and parasitize countless tree pests. These flies include robber flies, hover flies and tachinid flies.

Robber flies are the aerial hunters of the insect world. With their acute vision and excellent maneuverable flight, they grab other insects out of mid-air and stab them with their piercing mouthparts. Most have very fuzzy “beards” to help protect their face when snatching prey and they have large spiny legs to help grasp the prey while in flight. Most are somewhat territorial and like to perch on the same leaf or twig to await their next victim. Some robber flies are quite large and may allow a close approach for inspection. Some also are convincing mimics of bumble bees.

Another convincing mimic is the hover fly, or sometimes called syrphid fly. They can be very credible bee or wasp look-a-likes. These small to medium flies are commonly found obtaining nectar from flowers. And everyone has seen them hovering perfectly in one spot only to quickly dart to another spot at the slightest movement of the observer. As larvae, some hoverflies specialize in feeding on aphids.

A common specialist sure to be in your trees is the tachinid fly. Some of these flies are bumble bee mimics and tend to be a little more robust and fuzzy. Each species has its own set of pests, such as grasshoppers and caterpillars, that are on the menu for their young. Tachinid flies approach their victim and lay an egg on it. The egg hatches into a larva which then proceeds to bore into its prey and devour its still living meal from the inside out.

Another pest devouring group of insects that also have the word “fly” in their name are dragon flies and damselflies. These fascinating creatures however are not flies and belong to the insect Order Odonata. Dragonflies and damselflies have excellent eyesight and scoop up their prey when they fly by forming a basket with their specially modified legs. Renowned for their mosquito-hunting ability, I’ve also seen many a moth and leaf hopper dispatched in the powerful jaws of one of these amazing aerial hunters.

A pest-dispatching ally that all tree specialists should know about is the lacewing. Lacewings belong to the insect Order Neuroptera. Most people have seen these insects as adults flying around outdoor lights at night. These delicate lime-green insects with clear wings are voracious predators of aphids. Lacewing larvae are not seen as often as the adults and look like little green alligators with sickle-like mouthparts. They use these mouthparts to skewer their aphid prey and suck out the juices.
Ladybird beetles, also known as ladybugs, are also ferocious hunters of aphids. These beetles belong to the insect Order called Coleoptera. Everyone knows what a ladybug looks like and most know they are beneficial insects that dispatch countless hoards of aphids. All insects that feed on aphids sometimes run into aphid bodyguards, ants that protect the aphids for the sweet honeydew the produce. The ants repel all predators including ladybugs. However, ladybugs have a trick up their sleeves. The ladybug pupa has ridges along the back. If an ant touches the pupa with its antenna, the pupa will snap the ridges closed and pinch the ant’s antenna. You can actually buy ladybugs in some garden shops. I’ve heard mixed reviews as to their effectiveness, since most will fly away once they are released. Apparently, it’s difficult to force them to target your aphid pests; better off to just let them work naturally.

Another very effective predator that targets pests in your trees is the assassin bug. These insects are in the Order Hemiptera and include some strange looking bugs. Some have long spindly legs and a long beak-like snout that they use to pierce their prey and suck out its juices. Like all true bugs, assassin bugs use incomplete metamorphosis and some have nymphs that look remarkably like ants or even wasps. The nymphs gain protection from this mimicry because ants and wasps bite and sting.

Another tactic used by some assassin bug nymphs is to group together in tight clusters. The species that do this usually are unpalatable and advertise this with colors such as black and red. A predator that eats one is not likely to try another. Assassin
bugs lurk in your trees waiting for a pest to come along. They have powerful saliva that acts as a poison and quickly subdues even large dangerous prey such as grasshoppers.

The final insect group we will discuss are ichneumon wasps. They belong to the Order Hymenoptera. Female ichneumon wasps typically have a long (sometimes very long) ovipositor at the tip of their abdomen. The ovipositor is a “stinger like” appendage that is actually used as an egg laying device. Ichneumons specialize in finding their prey by using visual cues and chemical detection with their antenna and even the tip of their ovipositor. Some species have very long ovipositors that are used to probe deep into the trunk of a tree seeking out the correct pest grub. They can even sense, through the tip of their ovipositor, if the grub has already been parasitized. When the female has received all of the correct cues, she will lay an egg through the ovipositor and into the host where the egg will hatch into a larva and consume the host.

There are many other pest consuming insect allies, such as praying mantises, wasps, ants and more that would take many volumes to go over. However, another very interesting group of allies that have to be mentioned are spiders. There are several types of spiders and all of them fall under the scientific Order Araneae. They can be roughly divided into those that use a web to hunt and those that don’t.

The common web builders in your trees include orb weavers, cobweb spiders, sheet-web spiders and funnel-web spiders. Some of the creations produced by these spiders, such as orb webs, are some of nature’s most artistic. Most orb weavers construct their web at dusk and take them down at dawn. They use their webs for capturing flying insects such as beetles, moths and other tree munching pests. Sheet-webs and funnel-webs are similar in appearance to each other. Both are flat silken sheets but sheet-web spiders hang upside-down underneath its sheet waiting for prey to land above and to pull it through for dispatching. Funnel-web spiders make a tunnel at one of the corners of its sheet where they wait. When a prey item lands on the sheet, the funnel-web spider rushes out from its hiding place on top of the web, grabs the victim in its fangs, and drags it back to the hole for consumption. Cobweb
spiders build messy looking snares that capture a wide range of crawling pests such as beetles and grasshoppers. All of these web builders can be found throughout all parts of your trees, from exposed roots up to the canopy.

Hunting spiders, which are also found throughout your trees, include jumping spiders, wolf spiders and crab spiders. These spiders do not use silk to make webs to capture prey. However, some do use silk as a safety line, called a dragline, when hunting. They play this out behind them where ever they go and if they miss their mark when pouncing on their prey, the dragline will save them and they can crawl back up to their starting point.

Jumping spiders are day-loving, large-eyed predators that actively hunt for prey. Most are very small, less than ½ inch, and will peer up at you when you get down to their level to look at them. These spiders are ferocious hunters of small insects. If they were the size of cocker spaniels, I’d be afraid to go outside.

Wolf spiders typically hunt at night. They are usually camouflaged but can be easily found at night by using a flashlight or headlamp. When in the beam of the light, their eyes will shine back like little blue diamonds, almost like a cat in your car headlights. Female wolf spiders are sometimes found carrying their egg-sack around attached to their spinnerets. When the baby wolf spiders hatch, they climb up on their mother’s back and are carried around for a while. Wolf spiders chase down and pounce on their prey.

Crab spiders, on the other hand, wait patiently for prey to come to them. Some lurk on tree bark and blend in perfectly. Others wait on the surface of leaves. Once a tasty morsel comes close, the crab spider seizes it with lightning speed and dispatches it with its fangs.

Crab spiders, along with all of the other critters mentioned in this article, are working night and day to help control the myriad of hungry mouths wanting to ravage your trees. With just a basic knowledge and understanding of these amazing animals, you can enlist the help of these remarkable allies.

Bryan E. Reynolds is a photographer and freelance writer living in Lexington, Oklahoma.
Arborist Licensing – Texas style

I read with great interest the article on licensing in your December 2005 issue. I am a certified arborist in Austin, Texas, and have owned and operated my company here for 23 years. I agree with the sentiments expressed by the tree service owners in the article that a stringent state licensing program will reduce (but not eliminate) bad tree care, injuries and fatalities. Licensing programs with no enforcement, such as the Rhode Island “registration” program described, obviously accomplish nothing – except perhaps some pocket change for the state.

“As far as the probability of statewide licensing in Texas, it will never happen in this so-called right-to-work state with comparatively little consumer or environmental protection. It will have to be federal to exist in Texas.”

For seven years I sat on our city’s forestry board, and was co-author of an ordinance that, while not a licensing program, requires that trees on public property be cared for by industry standards, and that commercial arborists working on public trees (typically on rights of way) receive city permission in advance or apply for an annual permit and submit basic data when such work was done. It is interesting to note that the biggest opposition to such a nominal process came from the “corporate”-style tree services in town.

“You’re penalizing the people who are doing things right,” was the party line, “because the hacks aren’t going to play by these rules.” I often wonder how committed such folks are to the trees they espouse such love for.

Now, nearly 10 years after this ordinance passed (after a three-year lobbying process), I’m afraid it hasn’t made much impact. The reason: no enforcement. The city just will not impose the fines mandated by the ordinance, even when catching hacks in the act.

As far as the probability of statewide licensing in Texas, it will never happen in this so-called right-to-work state with comparatively little consumer or environmental protection. It will have to be federal to exist in Texas. And I have a good guess as to who the biggest opponents would be to that.

On the enforcement issue though, our own industry has some work to do. There is at this time no process for the revocation of ISA’s certifications, although many certified arborists in several states have asked for one. Does TCIA have a revocation process for their Accreditation? I also wonder where the Voice for Trees-PAC stands on this issue.

I enjoyed the article, and hope to see it generate many responses.

Guy LeBlanc, owner
Arbor Vitae Tree Care, Austin, Texas

Editor’s note: TCIA Accreditation does indeed have a renewal and revocation process built into the program. The Voice for Trees political action committee, TCIA’s lobbying arm in Washington, is a federal PAC and is prohibited by statute from directly lobbying on state or local issues.

Also, a letter to the editor entitled Licensing Clarification in the January 2006 issue of TCI, responding to this same licensing article, contained two misspellings in the headline and one in the body of the letter, all due to an editor’s error. We apologize to the letter writer and will strive to avoid such mistakes in the future.
Having worked in both the private and public sectors, I’ve learned that there are arborists who are in the business of caring for trees, and there are contractors who run a tree care business. One thing that contractors should be aware of with communities and municipal arborists who contract out their tree maintenance services is that they are looking for that arborist who is in the business of caring for trees. More than likely they will continue doing business with the arborist who is in the business of caring for trees and re-bid the contracts that have been awarded to contractors running a tree care business.

The term “privatization” can invoke different meanings. For the contractor, it means an opportunity for municipal contracts where add-ons can be picked up, and an opportunity to gain a foothold in a community. For the municipal arborist it means a chance to implement elements of their urban forest program not feasible with in-house staff or affordable within budget limits.

In the broadest of terms, privatization means relying on private entities to provide public services. More specifically, the private sector takes responsibility for a service that was previously provided by a government agency.

Privatization is certainly not new. Christopher Columbus was a contractor to King Ferdinand and Queen Isabella... Columbus successfully sold his services to them and was awarded the contract.

In the 1980s, during the Reagan administration, privatization became a way to provide increased services for less money—usually more efficiently than traditional government services. Through the ’80s and into the ’90s the practice evolved into competition for city services with the trend moving away from strictly privatizing specific services. Where we are today is not about public versus private, but about a municipality providing efficient, quality services regardless of whether provided by the public or private sectors, and in some cases by a joint effort.

Typically, privatization occurs in new cities that have just become incorporated and do not have the staff to provide essential services. In other cases, small cities or bedroom communities cannot afford to pay for full-time staff or do not have the specialized equipment. Large cities will also contract out to supplement their in-house services.

The primary types of privatization are:

- **Contracting Out** (“outsourcing”). The government competitively bids out contracts to private organizations, either profit or non-profit, to provide a service or part of a service.

- **Management Contracts**. The operation of a facility is contracted out to a private company.

- **Public vs. Private Competition** (“managed competition” or “market testing”). When public services are opened up to competition, in-house public organizations are allowed to participate in the bidding process. (In many cases, the contractor can under-bid the public agency because they have more options for adjusting their overhead. A municipality’s overhead is substantially fixed, and the change process cumbersome.)

- **Franchise**. A private firm is given the exclusive right to provide a service within a certain geographical area. This often occurs with services such as refuse collection. (However, I see no reason a full-service tree care firm could not also be awarded a franchise for urban forest management.)

- **Internal Markets**. Departments are allowed to purchase support services such as printing, maintenance, computer repair and training from in-house providers or outside suppliers.

- **Commercialization** (“service shedding”). Government completely stops providing a service and lets the private sector assume the function.

Some cities will contract out virtually all their public services while other cities will contract specific services such as refuse, storm drain cleaning, utility services, street lighting or transportation management. Public safety for the smaller communities is
sometimes contracted out to state or county law enforcement or fire protection agencies.

Public works administration can be provided by management firms with civil or structural engineers that provide design and/or administrative services. There are also specialized services, such as tree care, vehicle towing, snow plowing and other services that are easy to outsource because of limited or seasonal demand – or simply because of dramatic service results.

Although the contractor takes on the majority of the liability for these service operations, the municipality maintains some exposure and is usually the “deep pocket” in the case of an accident or lawsuit. With tree removals, the liability is typically associated with damaged property when dropping a limb or a section of the trunk. Even when all reasonable precautions are taken, accidents can happen. If that’s the case, the contractor pays for the repairs. But if they don’t or can’t pay, the city could end up paying a claim and then attempting to recover that expense from the contractor.

In other cases, municipalities will try to transfer liability to the contractor whenever they can (subrogation). It’s important that you, as the contractor, do not get blamed for something that wasn’t your fault. Contractors with an established procedure for their field staff to follow can help you avoid that transfer of liability.

Pre-job site inspections with a site inspection sheet and/or photos are good ways to protect yourself.

Why privatize? City officials will give reasons such as reducing costs to provide essential services, to improve services, or to reduce the number of in-house staff and associated costs in their budgets. One of the by-products of staff reduction is the reduction of union influence on city business. In other cases, the intent is to reduce or limit legal liability. In cases of enterprise operations, such as concessions in parks or golf courses, it’s to increase revenue. Most importantly for tree care, privatization often results from a lack of specialized staff and the fact that contractors can meet the seasonal demands of a municipality’s workload.

Advocates for privatization will argue that using outside contract personnel will save a municipality anywhere from 20 to 50 percent in costs.

Advocates for privatization will argue that using outside contract personnel will save a municipality anywhere from 20 to 50 percent in costs. An extensive study of cities in the Los Angeles area conducted several years ago indicated that municipal costs for tree care and turf maintenance was higher by 37 percent for tree care and 40 percent for turf maintenance.

Equipment costs are dramatically reduced with the use of contract services. Most contractors will invest in the latest equipment and can do so at will, especially if their budgets (or credit line) allow it, or if they land a good contract that justifies the purchase. Municipalities don’t have that luxury. They are generally tied to a regular capital replacement budget that is determined by an administrative analyst and incorporated into the city’s vehicle & equipment replacement program.

Consistent labor force

Although the demand on a municipal forestry program increases and drops periodically throughout the year, most municipalities have a set staff and usually cannot increase their labor force when service requests increase with a particular season. One of their best options is to rely on contract staff to increase their labor force in response to these seasonal, temporary demands.

Privatization eliminates the need for specialized staff. Although many cities have Certified Arborists on staff and are probably qualified to diagnose or analyze pest identification or hazard tree evaluations, they don’t always have the time to address difficult or complex problems that require samples for lab analysis, hazard evaluation reports or tree appraisals because some resident illegally removed a public tree. In other cases, specialized staff is required when a publicly owned tree is targeted for removal and the municipal tree manager gets an objection from the public. The public often doesn’t see the problems with the tree.

Using an independent consultant will provide the public with an outside, objective opinion on the tree.

And then there is the need for experts in legal cases. This occurs quite regularly, and I actually see an increase in demand for this service as urban forests planted just after WWII are beginning to reach maturity. They are aging to the point of becoming hazardous, leading to liability claims against the city. In some cases, a municipality has been cutting funds out of the municipal forestry program only to end up in court because they weren’t adequately addressing their hazardous trees.

Typically the municipal arborist takes calls from residents and business owners on a daily basis. The complaints and/or service requests roll in constantly, about everything from debris falling out of the tree, to view obstruction, to dead trees. Normally, the requests are simply scheduled and a service crew will do the work. In cases where the city has more requests than they can handle, the municipal arborist can rely on their contract crews to address service requests. This results in a wider area of the community being serviced, more satisfied residents and a generally improved public image of the management of their community. This is an important area where contractors can capitalize on privatization.

When it comes to providing service – the contractor’s biggest supporter is the public. When a contractor moves into a neighborhood and starts pruning trees that haven’t
been addressed for several years, the residents are going to be happy – especially if the trees are pruned well and the contractor cleans up well after their work. Contractors that can garner public support in the form of letters of thanks to the city council and/or city management will quickly become recognized as an asset to the agency.

Grid pruning is where specific streets in a city are targeted for pruning and every tree on the street is pruned. The work is performed with a large crew that is directed to prune every tree within a defined area. Not necessarily the same way, but at the same time. The actual workload is generated from the city’s computerized inventory. The on-site supervisor will record all the work that was performed at the individual addresses, and submit it to their office so that data can be entered into the inventory program as a permanent record.

Service requests are taken by the municipal arborist every day. For the most part, an in-house crew for a small city could have a three to four week backlog of work. In the case of a large city or a mid-sized city, residents could have an even longer wait. Contractors who can provide a service crew to help relieve that back log can make the municipal arborist’s job a lot easier – and make a lot of residents happy. Satisfied residents can be of amazing value to the contractor, as well as the city.

It is important to keep your front line staff aware that residents are our biggest supporters. Contractors who interact with resident groups or provide specialized service for individual residents will garner much needed support in the form of letters of thanks to the city council. This also makes it easier to drum up support for related programs and budgets at city council budget study sessions. This is where the city council will take input from the public on where they think public funds should be spent. Having the public that supports its community’s urban forestry program, and even the contract firm that does the work, at a city council budget session can have a huge impact on that program’s budget as well as the contract firm when it comes time for contract renewal.

There is a potential downside to privatization, and I would be remiss if I didn’t point out that the initial and obvious arguments against privatizing are:

- higher costs
- poor or apathetic service
- missed deadlines
- potential for corruption & waste.

There are those cities that have had bad experiences with contracting out municipal services – and tree care is no exception. I would encourage all of you who are interested in or already providing contract services to municipalities to keep these in mind. On the plus side of these bad experiences is that the subsequent contracts that go out for bid are usually tighter, with much clearer specifications for the contractor to follow.

There are two standard types of municipal contracts:

**Standard Service Contracts** include maintenance services that are routinely provided to a client city with published unit rates for those services. Sometimes service contracts may be tailored to meet specific needs, but usually they are standard boiler plate contracts. Typical service contracts are: extermination services, equipment maintenance, laboratory testing services, courier services, landscape maintenance or tree care. Usually these types of contracts are with companies rather than individuals.

**Professional Services** are customized services consisting of specialized or creative expertise based on the skills or perhaps the ideas of a professional that are provided for a fee, which may be determined individually with each customer for each service contract. Examples are artistic design services, editorial services, and consultants.

Individuals or firms are likely to be providers of these services. Some reasons to purchase professional services are limited or one-time use of specialized or creative skills, unique areas of expertise, rapid access to the latest technology and experience in its application or access to unique problem solving alternatives.

Professional service agreements are what I like to refer to as “from the neck up” type of agreement. That is, your services are being employed for your intellect and your ability to define the service as opposed to a service contract that just gives you the specifications and timelines in which to do the work. In Santa Monica I have two Professional Service agreements with two separate Consulting Arborists – one to do a hazard tree assessment and one to provide Plan Check services.

Other areas of expertise as far as our industry is concerned are tree inventories or vegetation management programs – how to design one, how to use it, how to collect and categorize the data that’s collected. Also, access to unique problem solving alternatives – this could apply when municipalities have problems with wide-
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spread pest infestations that cause significant death of trees such as the EAB in Michigan, the Asian longhorned beetle in the greater Chicago area or the red gum Lerp Psyllid (a pest of Eucalyptus species) in Southern California. Tree care firms that have the resources to implement a massive removal and replacement program could consider a professional services agreement instead of a regular service contract.

So what do municipalities need when it comes to urban forest management?

There are numerous market opportunities in the municipal field. Whether they have a formalized plan or not, municipalities need their urban forest plan to be implemented. This involves everything from standard grid pruning or filling service requests to tree removal and replacement programs. There are specialized contracts as well, designed to remove hazardous trees or, in the cases of municipalities in the southern Michigan area, removal of thousands of dead ash trees.

For the cities that recognize the value of tree inventories, they’ll need the specialized firms that can provide tree inventory services and, in some cases, with software programs that are tailored to meet the needs of the client city. To supplement that service, the data in the inventory program can be managed by the tree care firm as part of that service.

Other specialized services are grant writing and/or public education programs. This can be a great revenue source because contractors can write into the grant application requests for the money they need to administer the program as well as to implement it.

Then there are sidewalk repairs. Municipal Arborists are now beginning to write root pruning specifications into public works contracts for sidewalk repairs and are requiring the sidewalk contractor to use an arborist to do the root pruning. For most general contractors that perform sidewalk repair contracts, this is a whole new field and they either don’t want to follow detailed root pruning requirements or they don’t know how to do the work cost-effectively. Tree care firms that are aligned with general contractors who work on street and/or sidewalk repair programs can be a great asset to the municipal arborist. Also, it can be a pretty good revenue source for the contractor.

End Part 1

In an upcoming issue: Contracting with Municipal Agencies, Part II: Winning the Bid – Keeping the Contract, will discuss getting and keeping municipal contracts.

Walt Warriner is community forester in Santa Monica, California. This article is part of a presentation he made at TCI EXPO 2005 in Columbus, Ohio.
The 2005 Excellence in Arboriculture Awards were presented at TCI EXPO in Columbus, Ohio, in November.

**Tree Maintenance**

*Grand Award*
F.A. Bartlett Tree Expert Company
National Arboretum Tree Restoration

*Award of Distinction*
Wachtel Tree Science & Service, Inc.
Dechant Tree Improvement

*Award of Distinction*
Collier Arbor Care
Oak Ridge Estates
Featured in November 2005 TCI

*Award of Distinction*
Hartney Greymont, Inc.
Helping to Restore a Giant

*Honorables Mention*
Living Tree Care, Inc.
Oak Wilt Protection

*Honorables Mention*
McCullough’s Tree Service, Inc.
Dawes Arboretum Expansion

*Honorables Mention*
Tamke Tree Experts, Inc.
Hickman Residence

*Honorables Mention*
TreePro Professional Tree Care
Michael Hall Park

*Honorables Mention*
Wachtel Tree Science & Service, Inc.
Gazebo Hills

**Line Clearance, ROW**

*Award of Distinction*
Winkler’s Tree & Landscaping, Inc.
Chicago Railroad
Featured in Feb. 2006 TCI

**Habitat Restoration**

*Award of Distinction*
Greenskeeper Environmental, LLC
Miller Dobson Mitigation Site

*Honorables Mention*
Winkler’s Tree & Landscaping, Inc.
Wagner Home

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**Technical Rigging**

*Judges Award*
F. A. Bartlett Tree Expert Company
Capitol Holiday Tree
Featured in Dec. 2005 TCI

*Grand Award*
Downey Trees, Inc.
Dead Oak at Cell Tower

*Grand Award*
Downey Trees, Inc.
Speed Line

*Award of Distinction*
Trees Unlimited
Dr. Brock Oak

**Tree Relocation**

*Grand Award*
Bozeman Tree Service, Inc.
Yellowstone Club
Featured in March 2005 TCI

*Grand Award*
The Tree Doctor Pty. Ltd.
Hollywell Fig

*Award of Distinction*
Arborwell
Santana Row

*Award of Distinction*
Center Pointe
ValleyCrest Tree Co.

**Construction Site Tree Preservation**

*Award of Distinction*
R-TEC Treecare
McLean Residence

*Grand Award*
Wachtel Tree Science & Service, Inc.
Wisconsin Lutheran College

*Grand Award*
The Care of Trees
Miller Residence

*Honorables Mention*
R-TEC Treecare
Morningside Residence

*Honorables Mention*
S & S Tree & Horticultural
The Pines of North Oaks

TCI magazine has featured several of the Excellence in Arboriculture projects in articles in the magazine, and will continue to do so through 2006. For those already run, a notation with the awards listing above indicates the issue in which a project was featured.
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Understanding Tree Growth Regulators

Using paclobutrazol to reduce tree growth, enhance tree health, and build a more profitable business

By Tom Prosser

There are two kinds of tree growth regulators. Type one growth regulators were invented in the 1950s. These materials stop cell division on contact. Many of the herbicides used today are made from these materials. Type one growth regulators can be very effective for preventing unwanted sucker sprouts or water sprouts. If applied systematically, they will cause disfigurement. Therefore, they are best applied through aerosol sprays.

Type two growth regulators were developed about 20 years ago and work quite differently than the type one variety. Instead of inhibiting cell division they inhibit cell enlargement. The cells remain wholly intact, except for their size. The number of cells produced by the tree also remains the same. Thus the whole plant remains the same, just smaller. Paclobutrazol is a type two growth regulator. Arborists know this product as Cambistat.

Who uses paclobutrazol?

Paclobutrazol has been widely used in the horticulture industry since the early 1990s. Treated plants are greener, more drought tolerant, have a larger root system, more flowers, are more disease resistant, and are more compact. Utility companies and cities use paclobutrazol to reduce maintenance costs. Treated trees have an average growth reduction of about 63 percent; thus, trimming cycles can be extended significantly and a lot of money is saved. (Image 1) Paclobutrazol is also widely used in the agricultural markets of South America and Europe. Treated orchards have greater fruit and nut production as well as healthier trees.

What do arborists use paclobutrazol for?

In the arborist industry, a brief survey has shown that about 300 to 500 companies are now using paclobutrazol. They are using this material for a number of reasons, including preventing re-growth after pruning, increasing tree drought tolerance, increasing disease resistance, increasing root size and health, and helping trees survive longer when growing in tight places. Other uses include the treatment of declining trees, however this use must be included as part of a tree health protocol and is not effective for rapidly declining trees or trees that are severely injured. If you are going to use paclobutrazol for injured trees, make sure you investigate this further as it may be a waste of money. Because you are dealing with a declining tree, your client may not be happy with poor results. Further decline could be blamed on you, if the treatment does not work, so be careful.

Using paclobutrazol for size maintenance

Utilizing paclobutrazol to maintain the crown size of a tree is probably the most widespread usage of the product. People use it to hold crown shape longer for trees growing near buildings, trees that are growing near power lines or patios, or blocking views – basically for trees that need frequent pruning.

What do treated trees look like?

When applied correctly, treated trees will turn darker green, show less growth and increased health. In some cases the leaves will be slightly smaller. Overall, the crown will become more compacted and the branches will have shorter internodes.

Image 1 - Treated trees have an average growth reduction of about 63 percent; thus, trimming cycles can be extended significantly and a lot of money is saved.
What are the risks?

It is extremely important to utilize the application guide and rate chart that comes with the product, and to make sure you have the most current rate charts and application guide, as it is constantly updated with information coming from companies using the material. When used incorrectly – (too much material, poor application technique) it can make a tree grow too slowly. This results in small leaves and a look we call the “poodle” effect – where the tree looks like a newly clipped French poodle. The tree will not die, and it will eventually grow out of this condition, but customers become alarmed and upset when this happens. The goal of the rate chart is to remove any possibility of over-regulating a tree.

Greater fruit and flower production

Another potential negative side effect is an increase in fruit and nut production. Treated sweetgums could have more sweetgum balls and oaks may have more acorns. Crabapples and other flowering trees may have more flowers, but these will be followed up by more fruit.

Why it benefits a tree to grow slowly?

It all comes down to energy allocation. Slowing down the growth of a tree conserves energy. Less energy is spent on top growth, which means more is available for reserves, roots, defense, etc. Clive Jones, from the Institute of Ecosystem Studies in Millbrook, N.Y., has done a lot of work on tree growth rates and the differences between faster growing trees and slower growing trees. (Figure 1) To summarize, slower growing trees need fewer resources to stay healthy, have a greater root-to-shoot ratio, endure stressful situations better, and live longer. One of the myths that some people have about trees is that fast growth is a sign of health. Fast growth is just that – fast growth. Health from a tree’s perspective is more related to energy than growth. Slower growing trees tend to have higher levels of energy than faster growing trees of the same species. Bigger trees require more energy to maintain.

Why urban trees have limited lives

Urban trees are surrounded by underground obstacles that prevent their root systems from becoming as large as the tree would have in unconstrained situations. Add to this the problem of poor quality soil (compaction, low organic matter, herbicides, nutrients) and it becomes clear very quickly why tree’s lives are so greatly limited by this situation. A tree’s lifespan is not determined by a biological clock but by its ability to make enough energy to support its living mass. As trees grow, they require more energy to support their living mass. Once they reach a “critical size,” they become too large to be supported by the environment in which they live. They then begin to decline.

How to extend the life of urban trees

Yard soils have a poor capacity to support tree roots. Turf is so competitive that tree roots in lawns are literally half as abundant as in the forest. This limits how large a tree can get before it will start to decline. Research has shown that laying down a 3-inch layer of mulch under the trees canopy and removing the turf will double the root system in that area. A healthier soil will increase the capacity of the yard site to support a larger and healthier tree. The tree will also be able to grow significantly more roots.

Stimulating roots

One of the positive benefits of using paclobutrazol is the reallocation of energy

Image 2

A ponderosa pine shows a substantial difference in root growth between an untreated sample, at left, and treated, at right, after three years.
away from the crown and the stimulation of fibrous root growth. There have been a number of studies that have shown paclobutrazol increases root growth on treated trees. Anecdotal evidence substantiates this, even in pines. Ponderosa pine (Image 2) showed a substantial difference in root growth between a treated and untreated after three years. Similar results have been observed in many other species of tree as well. An increased root mass will increase the root-to-shoot ratio, which is generally accepted as being of high value for the health of a tree. Stimulating root growth is also useful for certain tree injuries and for trees that have root system related chlorosis.

How does paclobutrazol work?

A tree’s subapical meristem is located at the base of each and every bud throughout the tree. This is the location where the tree manufactures certain tree hormones and chlorophyll. Basically, paclobutrazol reduces the amount of gibberellic acid produced and causes the plant to generate more chlorophyll and increased levels of a hormone called abscisic acid. The effect of the additional chlorophyll is greener leaves. Higher levels of the abscisic acid is believed to be responsible for the increased root growth, thicker leaves and the increased drought tolerance exhibited in the treated trees.

Changes to the leaves of treated trees

Significant positive changes occur to the leaves of trees treated with paclobutrazol. They are darker green from increased chlorophyll, they become thicker, and they have a substantial increase in trichome protective hairs at their undersides. Electron microscope images show that treated trees’ leaves become thicker (Image 3) and show an increased number of trichome hairs. (Image 4) In another study performed at the University of Minnesota (Image 5), red oaks show significant differences between treated and untreated trees. An interesting observation in these treated red oaks is in the resilience of the leaves despite a drought. The crown of the treated tree is more compact and the leaves are closer together.

Drought tolerance impacts

There has been a number of research studies on plant species treated with growth retardants, including paclobutrazol. One by Dr. Bill Chaney at Purdue University with floraprimidol, a very close cousin to paclobutrazol, found the treated trees held onto their water about 50 percent longer than the non-treated trees. In greenhouse studies, both paclobutrazol and floraprimidol showed similar drought-enhancing results.

There are theories as to why these
Reduce Growth

Trees growing near foundations, driveways and streets have limited amount of resources, and may eventually outgrow their site and decline.

Growth reduction on walnut three years after one application

Improve Health

Cambistat enhances the production and development of fibrous roots as shown here three years after treatment.

Why Cambistat?
For trees growing in challenging sites, reducing growth can significantly improve their ability to manage resources. Cambistat reduces canopy growth 40% to 60% over 3 years allowing the tree to redirect energy to fibrous root production, defense chemicals, and other uses.

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growth retardants give plants protection from drought; one is that the thicker leaf has more water holding capacity. Thicker leaves have a smaller percentage of exposed tissue than thinner leaves, and because treated leaves have a lot more trichome hairs covering the stomata, you may have physical obstruction to water loss.

Leaf disease impacts

A number of studies have shown that paclobutrazol can have a positive impact on disease infection of leaves. While the exact mode of this protection is not known, there are two theories that may explain this.

The first theory is that the morphological changes of the leaves of treated trees (thicker, more trichome hairs, more chlorophyll) change the disease leaf interaction. Many tree diseases are highly specific to certain kinds of trees, so by changing the leaf morphology there may be a lack of “recognition” or susceptibility of that leaf to the disease that used to infect it. A second theory is that the increase in trichome hairs creates a physical barrier to disease infection. To understand this, first understand how leaves catch fungal infections. Basically, a fungal seed called a spore comes through the air and lands on the leaf. It sits there waiting for moisture. When it gets moisture from rain or other sources and the temperature is right, it hatches and a little tentacle (mycelia) comes out and grows in an attempt to get into the leaf before the moisture disappears. If the moisture is present long enough and the fungus is successful, you have what is called an “infection period.” One of the benefits of having all of that spaghetti like tri-comb hairs on the leaf is that it creates a more difficult journey for the mycelia. It doesn’t prevent infection, but it can delay significantly the time needed to infect.

Apple scab – inconsistent results

A recent study at the Morton Arboretum showed significant improvements in trees treated with paclobutrazol. There was an error in this study, however, in that only one species of crabapple was used. When looking at the results, you would be led to believe that they had found the ultimate treatment for apple scab. Further field trials showed that the there is a wide range of results depending on the crabapple variety being treated. While some of the field trials achieved similar results to the Morton crabapples, many of the trees still showed significant apple scab infections. An interesting note is that while every tree showed improvement in scab tolerance, many of the trees lost at least half of their leaves to the disease. There are many varieties of crabapples and each appears to respond differently.

Our company protocol for treating crabs is to treat with paclobutrazol, then spray twice with propiconizole (Alamo/Banner) mixed with different systemic fungicides. The reason we use propiconizole is because it has a 96-hour kick back. We only have to do two sprays this way and we get very good control.

Bacterial leaf scorch

A study by Bartlett Tree Research Labs in 2001 with paclobutrazol on oak trees infected with bacterial leaf scorch showed very promising results. While the study was somewhat anecdotal, it showed that paclobutrazol suppressed the decline associated with this disease in five different trees. In a follow-up study done in New Jersey, results were not as positive and, while there was a slight impact noted, it did not suppress the disease symptoms enough to be of benefit. This disease application needs more work. The trees in New Jersey were much larger than the Bartlett trees, and did not show any signs of growth reduction from the treatment.

An interesting note is that the treatment had no impact on the bacteria itself in either study. The bacterial population was unaffected. It is speculated that by changing the morphology of leaves and making them more drought tolerant, the bacteria’s effect of dehydrating the tree was reduced. This may explain why the Bartlett treated trees were able to coexist with the bacteria without showing symptoms. Future studies will include treating larger trees with higher doses of material.

Tom Prosser is a scientist with Rainbow Tree Care in Minneapolis. His company has been researching and studying paclobutrazol for the past five years and has treated over 10,000 trees with this material. This article is excerpted from a presentation at TCI A EXPO 2005 in Columbus and summarizes university research. Another excerpt from the presentation will appear in an upcoming issue of TCI.
The world’s largest tree care trade show is coming to Baltimore Convention Center

**EXHIBITORS:** This show will sell out quickly, call Sachin Mohan at 516.625.1613 to reserve your booth today!

[www.tcia.org](http://www.tcia.org)
Since 1912, when the first Better Business Bureau opened its doors, consumers have trusted the BBB to steer them toward reliable providers of goods and services – and away from the troubled companies with lists of complaints. More recently, the BBB has been working to prevent marketplace problems by educating consumers.

A recent collaboration between the Tree Care Industry Association and the Better Business Bureau produced a consumer-protection brochure that tells your potential clients how to choose a reliable company to care for their trees. It also stresses the importance of seeking out credentialed companies that adhere to safety standards. “How to Choose a Tree Care Company” is now for sale to TCIA Members for use in their business promotions and consumer education efforts.

“We work hard to inform our prospects of the importance of licensing and Accreditation,” says Terry Schroder, sales manager of Swingle Lawn, Tree and Landscape Care in Denver. Swingle was one of the first companies to order the brochure. “Our sales people use handouts for both commercial and residential clients, but we have to use them selectively. The Better Business Bureau Brochure is a good tool for them because it helps consumers compare apples to apples when looking at costs.”

Mark Rusnell, general manager of Owen Tree Service in Attica, Mich., says the brochure gives them an advantage in winning bids. “We include it in the bid packages, and we’ll be using it as an insert in our newsletters,” he relates. “The arborists are impressed with it, and we think it sways consumers in certain bidding situations, especially high-end customers like golf courses.” Rusnell notes that it will make a good handout for the spring trade show season.

If you would like to use the Better Business Bureau brochure in your marketing efforts, please call TCIA at 1-800-733-2622 to place your order. The brochure can be ordered in lots of 100.

TCIA, in cooperation with the Occupational Safety and Health Administration, is proud to announce a web-based assistance tool for workers and employers in the tree care industry.

This new page provides useful information that will help employers, employees and businesses stay safe, healthy and successful. Peter Gerstenberger, TCIA’s senior advisor for safety, standards & compliance, and David Marren, legislative and regulatory advisor to TCIA, worked with OSHA’s Web specialists on the site. After an internal review by OSHA compliance officials, which resulted in extensive changes, the new tree care safety and health topics page launched in December.

“The tree-care industry topics page is a great example of how an effective Alliance can leverage our joint resources to improve worker safety and health,” said Jonathan L. Snare, Acting Assistant Secretary of Labor for OSHA.

Users can access information to develop and implement comprehensive safety and health programs, and learn how to recognize and address potential industry hazards, including overhead power lines, falling branches, and faulty safety equipment, to name just a few of the dangers.

The page also provides information and links to OSHA standards, compliance directives, interpretations of OSHA standards, and national consensus standards related to the tree care industry.

Employers are responsible for providing a safe and healthful workplace for their employees. OSHA’s role is to assure the safety and health of America’s workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov/SLTC/treecare/index.html.

TCIA/BBB brochure helps consumers choose a tree care company

Safety, health information on OSHA Web site
Accreditation growing for all sizes of companies

Accreditation should not be viewed as optional. It is the only program available for our industry that puts an entire business management system in place and provides owners with a way to measure ongoing progress with their employee team.

Accreditation is not only for big companies. Of the 95 companies currently in the program, 30 gross $500,000 or less, 58 gross between $500,000 and $5 million, and only seven gross more than $5 million.

Accreditation is not solely for companies that have a large enough staff to delegate it to somebody. It’s for every single company that wants to be well run, wants to increase its profits, wants to have a safety program in place, wants to be recognized as professional by consumers, and most importantly – for every arborist running a company who has ever desired to be considered a professional.

Knowing how to care for trees is not enough when you’re running a complex business with local, state, and federal legislation and regulations that you must comply with. It’s not enough to dish out a hard hat and some ear protection. It’s about putting in place a culture of safety for your entire company. It’s about having a business plan in place and on paper that can help you grow your company, meet with your bank, and communicate with your team about where you’re all trying to get. It’s about operating professionally. The tree care industry has been its own worst enemy – wanting recognition for being professional, while not behaving that way.

TCIA has taken the lead in putting in place a path that companies of all sizes can all follow to create an industry that adheres to best practices and employs professionals. Congratulations to these companies for a tremendous achievement and for their commitment to professionalism for our industry.

“Accreditation is the best thing I have ever done for my company. It’s the most important professional advancement for our industry to embrace in order to establish consumer credibility for our profession and to operate top-performing businesses.”

Tim Harris, Buckley Tree Service

Accredited Companies By State

California
Finch Tree Surgery, Inc. – San Gabriel
Bill’s Tree Care – Santa Barbara

Colorado
The Natural Way, Inc. – Englewood
Swingle Tree and Lawn Care – Denver
Arborworks By Swingle – Fort Collins

Connecticut
SavATree – Norwalk
SavATree – Old Saybrook

Idaho
Grace Tree Service – Hayden

Illinois
Winkler’s Tree Service – Bellwood

Kansas
Shawnee Mission Tree Service – Shawnee

Maryland
Mead Tree and Turf Care, Inc. – Lisbon

Massachusetts
C.L. Frank & Company – Northampton
Tree Specialists, Inc. – Holliston
Hartney Greymont, Inc. – Needham
SavATree – Beverly
SavATree – Lincoln

Michigan
Owens Tree Service – Attica

Minnesota
Top Notch Tree Care – Plymouth
Rainbow Tree Care – St. Louis Park
S & S Tree & Horticultural Specialist, Inc. – Saint Paul

Missouri
Hansen’s Tree, Lawn & Landscaping – O’Fallon

Montana
Bozeman Tree Service, Inc. – Bozeman

Nebraska
Terry Hughes Tree Service – Gretna

New Jersey
SavATree – Wyckoff
Tamke Tree Experts, Inc. – Liberty Corner

New York
SavATree – Mamaroneck
Wonderland Tree Care – Oyster Bay

North Carolina
Heartwood Tree Service, LLC – Charlotte

Ohio
McCullough’s Tree Service – Zanesville

Pennsylvania
Collier Arbor Care – Clackamas

South Carolina
Schneider Tree Service/Terracare – Taylors

Virginia
RTEC Tree Care – Falls Church
Big ‘O’ Tree & Lawn Service, Inc. – Staunton

Wisconsin
Buckley Tree Service, Inc. – New Berlin
Wachtel Tree Science & Service – Merton
St. Croix Tree Service, Inc. – Roberts
American Tree Experts, Inc. – New Berlin

“Accreditation is the best thing I have ever done for my company. It’s the most important professional advancement for our industry to embrace in order to establish consumer credibility for our profession and to operate top-performing businesses.”

Tom Golon, Wonderland Tree Care, Inc.
Improving Safety Through Certification

Last month, the Reporter announced TCIA’s new safety certification program, called Certified Treecare Safety Professional (CTSP). Its purpose is to improve worker safety by empowering and encouraging employers and employees to develop and nurture a culture of safety within their organization.

Our shared goal with you is to eliminate work-related fatalities, injuries and illnesses as well as their associated costs. As an organization employing one or more CTSPs, you will have taken an important step toward creating a sustainable safety culture in your business. “Sustainable” means that your company can and should reap the benefits of its safety investment indefinitely.

Path to CTSP certification

What will it take to obtain your Certified Treecare Safety Professional certification? There are four steps to obtain and maintain the credential:

- CTSP Application
- Safety Fundamentals Study & Exam
- Core Workshop & Exam
- Recertification

To be eligible to enroll in CTSP, an applicant is required to have three (3) years of arboricultural experience. One (1) year must be safety-related. The CTSP Application process is a little like a registration and a little like a job application, and takes only a few minutes. All areas of the application must be completed. There is a non-refundable application fee of $50 per person for employees of TCIA member firms.

Once your application is approved, you have an 18-month window in which to complete the rest of the CTSP requirements. TCIA will promptly send you the CTSP Safety Fundamentals Study Guide and exam forms so that you may get started.

After fulfilling the Safety Fundamentals Exam requirement, you will receive an authorization number and be provided with a list of Core Workshop/Exam sites and dates.

CTSP exam methodology

The Safety Fundamentals Exam and Core Exam collectively cover four major subject areas or domains. Each domain represents a major job function of safety professionals:

- Domain 1 - Safety & Health Management/Engineering
- Domain 2 - Regulatory Compliance
- Domain 3 - Safety & Health Information Communications, Behavioral Psychology, Adult Learning Theory
- Domain 4 - Professional Conduct and Ethics

The CTSP Council will periodically validate the domains by examining the responsibilities, knowledge, and skills exhibited by CTSP safety professionals. This review of domains and responsibilities will cause the distribution of questions on both the Safety Fundamentals Exam and Core Exam to change from time to time.

When you complete all CTSP requirements you will receive a certificate and wallet card, and earn the right to use other CTSP identity products. Your information will be entered into the CTSP database. TCIA is building a search function and other Web-based functionality around this credentialing program to enable consumers and other interested parties to find CTSPs, and to facilitate networking among CTSPs.

Next month’s Reporter will provide you with the opportunity to enroll. In the meantime, if you have any questions or concerns about the CTSP process, please contact Peter Gerstenberger at 603-314-5380 or via e-mail at peter@tcia.org, or visit the CTSP Certification Program Web page at www.treecareindustry.org.

TCIA seeks Certified Treecare Safety Professional Council

Similar to the Accreditation Council which monitors the TCIA company credentialing program, TCIA is establishing the Certified Treecare Safety Professional (CTSP) Council. TCIA expects to have both external and internal expertise on this Council for credibility and breadth of knowledge so this credential has validity for the profession as well as for the government and public.

Therefore, the Board of Directors has approved the following representation on this Council:

- Seat 1: OSHA
- Seat 2: DOT/FMCSA
- Seat 3: National Safety Council
- Seat 4: Independent Safety Consultant
- Seat 5: One large tree care company member (as defined by the gross tree care revenue dues structure)
- Seat 6: One medium-sized tree care company member (as defined by the gross tree care revenue dues structure)
- Seat 7: One small tree care company member (as defined by the gross tree care revenue dues structure)
- CTSP Advisor: Independent academic advisor

The Board retains the right to make adjustments based on the availability of parties identified to serve. TCIA will begin appointing these positions this month. Interested parties should contact Cynthia Mills at mills@treecareindustry.org.
THE TREE CARE INDUSTRY ASSOCIATION WOULD LIKE TO THANK YOU THE 2006 Partners Advancing Commercial Tree Care

Crown Partners

Root Partners

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Governor accepts cert. of Minnesota state forests

Minnesota Governor Tim Pawlenty in January accepted documents of certification for the Minnesota State Forestry Lands, Wildlife Lands, Lake County Fisheries Lands and Land Utilization Project Lands. Collectively, the forests represent the largest certified lands in the United States.

The certification from NSF International Strategic Registration, Ltd. (NSF-ISR) includes over 4.8 million acres of state lands. Developed by foresters, conservationists and scientists, the Sustainable Forestry Initiative (SFI®) program is a comprehensive system of performance measures that combines the perpetual growing and harvesting of trees with the protection of wildlife, plants, soil and water quality.

“We are committed to managing the state forest lands in a responsible manner that maintains the integrity of the forest while meeting the desires of our citizens,” says David Epperly, Division of Forestry director at the Department of Natural Resources. “Certification validates what we are doing right and offers us a tool for making further progress.”

Forest certification is a process in which the lands are audited by an independent third-party organization such as NSF-ISR. Certification was awarded through both the SFI and Forest Stewardship Council (FSC), the two most widely accepted forest certification systems in North America.

Cork’s living forests

A recent study by the Royal Society for the Protection of Birds shows that the use of natural corks by the world’s wine industry sustains a variety of rare wildlife in the cork forests of Southern Europe.

These cork oak woodlands, known as “montados” in Portugal, have been used to produce cork and graze livestock for centuries, making them a haven for wildlife. Forty-two bird species depend on them, including the endangered Spanish imperial eagle (with a global population down to 130 pairs), as well as rare species such as the black vulture and black stork. Smaller birds, such as robins, finches and song thrushes, migrate to the Iberian Peninsula’s cork forests from northern Europe, along with blackcaps from the United Kingdom.

In spring and summer, the cork forests are home to a rich variety of butterflies and plants, with more than 60 plant species recorded in just one square meter. In more remote parts of these protected lands, the rare Iberian lynx can still be found.

The Society of Municipal Arborists named Kentucky coffee tree (Gymnocladus dioica) its 2006 Urban Tree of the Year. It’s drought tolerant, has yellow fall color, reaches 60 feet high and is suitable in USDA Hardiness Zones 3-8. While adaptable, it’s rarely grown in nurseries because it’s a slow grower and unattractive until maturity. Ten-year-old trees are typically about 15 feet high. SMA refers to the tree as an “ugly duckling” at 2 inches in caliper, but at 5 inches it becomes a “gorgeous, well-balanced, strongly branched tree.”

Florida growers warned of root-knot nematode

Florida tree growers have been warned to watch for pecan root-knot nematode (Meloidogyne partityla), which attacks pecan, hickory and walnut. The pest has been reported in Texas, New Mexico and Georgia, but 2005 marked its first occurrence in Florida. It was discovered in a Madison County nursery. Infested trees were stunted, had extensive galling and rotting of the root system and could be pulled from the ground relatively easily compared to non-infested trees.

USDA launches online, interactive EAB map

Growers in Michigan, Ohio and Indiana wanting detailed information on the whereabouts of known emerald ash borer infestations can go to a new Web site put together by the USDA’s Agricultural Research Service and Michigan State University. The map shows the tri-state area, and users can zoom to the exact locations where infested trees have been found.

For more, visit www.rspb.org.uk and type “cork” in the search box.
Forests adapting to 20th century climate change

Trees in Russia are adapting to a warmer and wetter environment, according to a team of researchers from the United States and Europe. The typical shape of trees in Russian forests has undergone significant transformation in the latter half of the 20th century, adapting to climate changes brought on by industrialization in the Northern Hemisphere, according to the article from the December issue of Global Change Biology. The paper, “Acclimation of Russian forests to recent changes in climate,” suggests that mature trees in Russian forests have increased green parts (leaves and needles) but trunk size has diminished.

“The changes in tree growth patterns was observed on a continental scale,” said Andrei Lapenis, an associate professor of climatology at the University at Albany’s Department of Geography and Planning at the College of Arts and Sciences and lead author of the study. “Overall, modern mature trees have a greater percentage of leaves and needles than trees of the same age and species just 40 or 50 years ago,” said Lapenis. “This thinning of trunks and spread of canopy represent a physiologic adaptation of trees to changing climate. The applications of these finding are quite wide, from the interpretation of satellite data to global carbon budget and evolutionary theory.”

Among the findings:
“... Relationship between climate and tree rings has changed. Modern trees are less sensitive to climate variations than the same trees about 40 years ago.
“... The ‘light green’ coniferous such as pine and larch demonstrate greater phenotype plasticity and range of adaptations than deciduous species.
“... Recent warming of climate significantly reduced ability of Russian forest to absorb atmospheric carbon dioxide.”

The paper is available at www.albany.edu/news/pdf_files/GCB_1069.PDF.
From the Field

True or False – The Bottom Line

By Edward Kennedy

We had been contracted to trim two large silver maples and on the appointed day, we arrived at the site, donned our gear, and each of us climbed one of the trees that grew close together enough for us to talk freely as we worked.

It was not long before I noted a lot of damage to some of the smaller branches in the upper crown of the tree I was trimming and my queries about similar damage to the other tree brought a positive response from the other climber. I had seen this type of damage before and the culprits were squirrels, but these trees were heavily hit.

Looking around closely I saw in an outer reach of the crown a squirrel nest and moved toward it to remove it. In the interim I had been conversing with the other climber, referring to these animals as “glorified climbing rodents,” unaware that I had a secret listener on the ground below, in the neighboring yard.

As I moved toward the mess of leaves and twigs, I watched for any indication of squirrels but saw nothing. Close enough to reach it, I slowly leaned over to look into the top of it and found it empty. Satisfied, I reached to remove it when I heard a voice from below asking me what I was doing. Wondering who was watching me, I looked down to see a middle-aged woman looking up at me questioningly. I told her I was removing the nest of a climbing rodent. She took immediate umbrage at my intention of removing not just one but several nests in the crown.

The other climber had been much amused at the exchange and I opined how the public has an odd perception of reality. Squirrels cause a lot of damage to trees, but many people encourage their presence by feeding them.

The perception of squirrels as being harmless is false. There is a right and best way to do anything in this business. We need to be consistent, holding fast to that particular way of doing our job that is correct, in spite of any who influence us to take a different tact.

Carrying this bent a bit further, I never cease to be amazed at the so called “cabling” methods I see. In practically every case where someone has attempted to strengthen a co-dominant situation, the methodology used has involved a small, threaded rod installed in the crown and no bar at the defect – and no cable installed the correct distance from that defect. Again, this is a misconception, that a single bar installed in the crown is the acceptable solution for co-dominant weakness/defect.

Other misinformation perpetrated by unscrupulous operators, ignorance or the combination of both includes the falsehoods that:

- ants in trees are harmful and need to be sprayed;
- all trees close to houses will cause foundation damage because their roots will grow through cracks in the blocks;
- tree branches not touching, but over the roof, will damage shingles;
- stumps will rot quickly if drilled and oil poured on them;
- wood ashes dumped around trees are beneficial;
- tree spikes used to climb trees do not cause damage;
- evergreen branches with needle loss caused by shade will “come back”;
- tree root zones can be filled with feet of soil as long as the trunk area has a well to keep soil from contacting the bark;
- topping does not hurt trees.

The bottom line is that the public fails to realize there are three opinions on any issue, namely the right, the wrong, and the Canadian.

So what do we do? We continue to counteract the disinformation even if it results in us being labeled (or libeled) with any knee-jerk names. We not only have a responsibility to perform our work to industry standards in an ethical manner, but also a duty to correct misconceptions relative to our arboricultural profession.

The serious reality is that what the public does not know will, in fact, hurt all of us, because if you consider who is losing business to hackers and wannabes, the finger points at legitimate operators and their workers. Do we dare to, as Francis Bacon quipped, “Be so true to thyself as thou not be false to others?” ‘Nuff said.

Edward Kennedy is owner/operator of Meadow Green Tree Experts & Certified Arborists in Harrowsmith, Ontario, Canada, and writes about issues affecting the tree care industry.

TCI will pay $100 for published “From the Field” 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.
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