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The boards for the Tree Care Industry Association and the Professional Landcare Network (PLANET) met in December to examine the potential for new organizational relationships in order to provide increased value to the green industry. On January 4, the boards issued the following statement: “We are excited by the potential of a new association that would unify our industry’s voice and increase our ability to serve and advance the interests of our members, our businesses, and the green care industry.”

Why is TCIA looking at unification with PLANET at this time? Is the association in financial trouble? What’s the difference between unification and a merger? What is PLANET? Will I keep getting Tree Care Industry Magazine? Is TCI EXPO still on for Pittsburg in November? What does this mean for my Accreditation?

These questions and more have been pouring in since the announcement that the boards of TCIA and PLANET had met and decided to explore unification of the two organizations.

At its most basic level, the board of TCIA and the board of PLANET are exploring creating a new organization to increase the value of membership. That is all that has been decided. Now, the hard work begins to refine the proposed core values, purpose, structure, programs and name of the new association. Nothing is final until the memberships have an opportunity to be informed and involved and are able to comment and vote on any changes.

Both parties will continue discussions to create and design the plan for a new organization that will maintain the current community structure. This includes keeping PLANET’s specialty groups in place and keeping the TCIA community together, while also maintaining the positive characteristics that have made both organizations successful. To this effort, both boards have made a good faith commitment to create a new industry organization that would replace the existing associations; and together design a successor organization that will increase value to everyone and be approved by both memberships.

In answer to some of the questions posed above:

- PLANET and TCIA have been working on projects and programs, such as legislative events and safety programs, dating back to 2004. The boards met in Baltimore in mid-December to continue examining the potential for new organizational relationships that would provide increased value to the green industry.
- TCIA is financially strong. We’ve been nicked up a bit by the recession, as most of you probably have, but our association is sound, stable and riding out the economy better than most comparable associations.
- Unification is not a merger or a takeover. Unification is the formation of an entirely new organization designed to create more value to the membership of the old organizations.
- PLANET emerged in 2005, when the Associated Landscape Contractors of America (ALCA) and the Professional Lawn Care Association of America (PLCAA) joined forces to become a more encompassing network of green industry professionals.
- Nothing has changed with respect to TCI EXPO, TCI Magazine, Accreditation, CTSP or all of the products and programs offered to the members and the tree care industry.

TCIA and PLANET have embarked on a journey to create a unified association that will advance all of the companies doing business in the green industry. And we want to hear from you. We encourage you to make your voice heard as the process continues.

Mark Garvin
Publisher
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Principles and Components of Integrated Pest Management for Landscape Ecosystems
By Michael J. Raupp, Ph.D. and John A. Davidson, Ph.D.

Life On the Bright Side of Climate Change
By Jeremy Barrell

New Age IVM: A Green Approach for ROW Management
By Richard A. Johnstone

Wisdom of Trees III: Bringing Stones to Life
By Jack Phillips

Today’s Stump Grinders Cut a “Green” Swath
By Rick Howland

Growing of A Green Company
By Don Staruk and Joseph Doccola

Outlook
By Mark Garvin
TCIA and PLANET discuss unifying efforts.

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

Industry Almanac
Important regional and national meetings and activities

Washington in Review
By Peter Gerstenberger
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Integrated pest management (IPM) has been defined as the selection, integration and implementation of pest control based on predicted economic, ecological and sociological consequences\(^1\). Today, perhaps more than ever, this approach is relevant to all landscape managers responsible for pest control.

Societal concerns about pesticide use have never so greatly affected the day-to-day operation of the landscape industries. At the time of this writing, most states have enacted legislation requiring the posting of signs to areas treated with pesticides. Several states require written notification to neighbors or pesticide-sensitive individuals adjacent to application sites. Changes in legislation occurred largely in response to societal concerns related to pesticide use. They clearly affect the economics of managing pests in landscape systems. In addition to societal concerns, ecological considerations associated with pesticide use have become increasingly important in shaping management decisions and practices in landscapes.

Unwanted ecological consequences occur when pesticides are not managed wisely. For example, Georgihiou and Mellon\(^2\) provided examples of more than 30 insect and mite pests of landscape plants known to be resistant to one or more pesticides. In addition to the evolution of resistance, pesticides may have undesirable ecological effects. Pesticides can disrupt the activities of natural enemies such as predators and parasitoids that play important roles in reducing pest problems in landscapes\(^3,4,5,6\). Outbreaks of secondary pests, particularly scale insects and mites, have been observed in many urban and suburban landscapes following the use of pesticides\(^6\).

Bottrell\(^1\) outlined several principles fundamental to the development of an IPM program. First, the pest manager must accept the idea that potentially harmful species (pests) will continue to exist in the system. The usual goal of a pest management program should not be the eradication of all pests from the system. No landscape can be kept totally free of pests such as aphids, mites or caterpillars for extended periods of time. The cost of materials and labor to eliminate all pests is not justified. A more reasonable management objective is to maintain pest populations below a damaging level. Low levels of pests provide food for beneficial organisms in the managed system. These beneficial organisms may help to control pests at a later time\(^1\).

A second fundamental principal of IPM is that the entire landscape is the management unit and should be viewed as an ecosystem\(^1\). Landscapes are complex ecosystems composed of interacting populations of plants, animals and fungi. Abiotic factors, such as temperature, rainfall, irrigation, soil structure and nutrients, affect associations among the living organisms found in landscapes. Managers have the ability to alter many of these associations to the benefit or detriment of pests. For example, impervious surfaces and compacted soil reduce infiltration of water creating conditions that mimic natural drought stress. Mattson and Haack\(^7\) and Raupp et al.\(^6\) provided compelling explanations why outbreaks of insect pests were often associated with drought stress in woody plants.

A third basic premise of IPM is that the use of natural control agents is maxi-
mized. A great diversity and number of beneficial organisms inhabit landscapes\(^4,5,6\). The number and activity of natural enemies may be enhanced in landscapes that are diverse\(^4,6\). When chemicals must be used to control tree or shrub pests, there are several ways to reduce potentially adverse effects on beneficial organisms.

First, treat only plants or portions of plants requiring treatment. This practice of spot treatment has been shown to greatly reduce unnecessary pesticide use in a variety of ornamental plant systems\(^6,7,8\). Second, apply materials at the time when they will be most effective against the target pest. For example, do not spray scale insects when most of the population is in the egg stage. Wait until the more vulnerable crawler stage is present. Most pests have specific times in their life cycle when they are relatively immune to control by pesticides. Pesticides should not be applied during these times. Third, select pesticides that are least disruptive to the beneficial organisms found in the landscape ecosystem. Recently, there has been great interest in developing biorational pesticides for landscapes. Formulated biological control agents, such as bacteria (\textit{Bacillus thuringiensis}) and nematodes (\textit{Steinerimema spp.} and \textit{Heterorhabditis spp.}), and pesticides with short periods of residual activity, such as soap and oil, may be less disruptive to beneficial organisms found in landscapes than conventional synthetic organic pesticides\(^9,10,11,12\).

A fourth principle of IPM is that any management procedure may produce unexpected and undesirable effects\(^1\). For example, McClure\(^13\) demonstrated that fertilization greatly increases the injury caused by hemlock woolly adelgid by enhancing its performance on fertilized trees. Despite the widely held belief that fertilization in some way retards the activity of insect and mite pests, there is overwhelming evidence that many kinds of insect and mites enjoy greater survival, enhanced development and higher levels of reproduction when woody plants are fertilized\(^14\). These examples show how a single management action can have an unexpected and unwanted effect on the ecosystem.

A fifth and final tenet of IPM is that the management approach should be interdisciplinary\(^1\). This simply means that the most important to control tree or shrub pests, there are several ways to reduce potentially adverse effects on beneficial organisms.

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A fifth and final tenet of IPM is that the management approach should be interdisciplinary\(^1\). This simply means that the most
effective programs will be developed through the cooperation of people trained or experienced in several disciplines, such as entomology, pathology, weed science, agronomy and economics, and by interested clientele groups, including arborists, urban foresters, nursery owners, sod producers, golf course managers, lawn maintenance firms, landscape designers and landscape managers. The IPM approach has formed the foundation for pest management in many agricultural crop systems for more than five decades. This concept is especially relevant for landscape managers now that concerns of environmental contamination of ground water and pesticide use are the focus of public attention. Moreover, the IPM approach is a sound alternative to control programs that encourage the development of resistance by pests and have unwanted and unnecessary effects on beneficial, non-target organisms. The IPM approach has moved from the domain of the farmer and demonstrated its utility in several ornamental plant systems, including home grounds, city-owned plants, urban forests, parks, corporate landscapes and commercial nurseries9, 10, 11, 12, 19, 20, 21.

Components of IPM Programs

Several components must be implemented if an IPM program is to be effective. First, the pest manager must have a thorough knowledge of the key pests, key plants and key locations in the managed system. Key pests are those found in damaging levels year after year and usually involve a relatively small number of insects, diseases, weeds and nematodes. Some of these pests are the same over broad geographic regions, but others vary in different locations. A sound knowledge of the identification, biology and control of these pests greatly simplifies the manager’s job.

Key plants are those most likely to incur damage and require treatment year after year22. Knowing the cultivars and species most susceptible to pests, managers can reduce losses by growing resistant materials and by focusing their monitoring and management activities on pest-prone plants. Trees and shrubs vary widely in their susceptibility to insect pests and diseases and in their response to environmental stresses. Key locations also occur in landscape ecosystems. These are locations that have a history of pest problems or are especially likely places for problems to develop. For example, in Maryland, lace bug problems usually appear first on azaleas planted in locations exposed to full sun23. Such problem prone areas should be identified, recorded and monitored closely.

Monitoring is the regular inspection of plants to detect the presence of damaging insects, weeds, diseases, nematodes or other adverse environmental conditions24. Monitoring provides the information to pinpoint the location of pests and apply controls in the most effective and timely way, provides information on the presence and activity of beneficial organisms that may eliminate the need for other controls, and tells the manager how effective previous controls have been.

Monitoring is accomplished by visual inspections and a variety of trapping devices and may be facilitated by recording environmental data, such as temperature, rainfall and humidity. If a problem is detected, the pest manager must go through a decision-making process that involves the following minimum considerations. First, is the problem severe enough now or does it have the potential later to cause true damage? Is control most effective at this time or would another time be better? What is the best combination of control tactics to provide results that are
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Going green with IPM

(Continued from page 9)

Once the decision has been made to control a problem, the pest manager combines one or more control tactics, such as cultural controls, mechanical controls, biological controls, resistant plant materials and/or chemical controls, into an integrated management plan or strategy. Now is an exceptionally exciting time in the development of alternative control tactics for managing pests in landscapes. Many cultivars of landscape plants resistant to insects and diseases are now available. Current research in biological control agents, such as Bacillus thuringiensis, entomopathogenic nematodes, and predatory insects and mites will provide a better understanding of pest management in landscapes.

ing caterpillars, gypsy moth caterpillars, bagworms, tussock moth caterpillars, clearwing borers such as peachtree borer and rhododendron borer, birch leafminer, and lace bugs. Sold under the name Acelepryn, it is so safe it carries no signal word.

Pymetrozine – By a mode of action not completely understood, this pesticide disrupts the normal feeding behavior of insects and causes them to die. It is available under the brand name Endeavor and is labeled for use against aphids and whiteflies on landscape plants. It bears the signal word caution.

Spinosad – Derived as a fermentation product of a naturally occurring microbe, spinosad affects the normal function of the nervous system in insects. It kills caterpillars and larvae of sawflies, and leaf mining flies. The reduced-risk formulation of spinosad is sold under the brand name Entrust. This product with a caution label is used for producing certified “organic” crops.

Tebufenozide – This insect growth regulator is specific to caterpillars. It causes a lethal disruption of molting. It is very safe to beneficial insects and many other non-target organisms. The supplemental label allows use on ornamental and shade trees for control of gypsy moth, bagworm, elm spanworm, fall cankerworm, fall webworm, tent caterpillars, hemlock looper, puss caterpillar, certain tussock moths, spruce budworm, pine tip moths, and Zimmerman pine moth. This product bears the signal word caution and is marketed under the brand name Confirm. Confirm may not be labeled for use in all jurisdictions, so check the label and local ordinances before use.

In addition to EPA’s reduced risk insecticides and miticides, several other pesticides fit nicely into IPM and plant health care programs due to their short residual activities, safety to humans and relatively limited impacts on beneficial insects. Insecticidal soaps and oils are two such compounds. Insecticidal soaps are made of a potassium salt of fatty acids. Insecticidal soaps are specifically formulated for use against insects and mites with special attention to reducing risks of phytotoxicity to plants. Insecticidal oils come from petroleum oil. They are specially refined to remove impurities that would be phytotoxic to plants. Soaps and oils disrupt the insect’s or mite’s abilities to exchange gases and also interfere with their cuticle and membranes. To kill a pest, soap and oil must directly contact the pest, and repeated applications are sometimes necessary.

Formulated microbials are living organisms or products of organisms that can be applied with conventional equipment and kill insects or mites. Their specificity makes them very safe for use around humans and non-target organisms such as pets. A bacterium called Bt, short for Bacillus thuringiensis, is widely used against caterpillars and other pests. Bt sprays contain the bacterial spores or toxins produced by the bacterium. The spores kill by producing compounds such as a crystalline protein that destroy cells lining the gut of the insect. The most commonly used variety of Bt is Bt. kurstaki. This strain kills caterpillars such as gypsy moth and cankerworm. Another variety called Bt. tenebrionis controls leaf beetles such as elm and viburnum leaf beetles. Certain mass-produced fungi are also insecticides. Beauvaria bassiana marketed under the brand name Naturalis-O is a mycoinsecticide, or fungus that targets certain insects. Fungal spores contact a mite or insect and during a period of high humidity, they germinate, infect and kill the target, and spread. Tiny roundworms, nematodes, usually in the genera Heterorhabditis and Steinernema, are also formulated microbials. Nematodes infect specific soil-dwelling, boring, or leaf-feeding insects with bacteria, which kills the pest. After multiplying and killing one host, they seek, infect, and destroy others. Nematodes have a long list of targets, with some species of nematode attacking over 200 species of insects.

A new era of environmental awareness is at hand. Fortunately, arborists interested in “going green” have more tools and techniques than ever before to help them get there.

We thank Dan Gilrein of Cornell Cooperative Extension for assistance in preparing this story. “Managing Insects and Mites on Woody Landscape Plants: An IPM Approach” by John Davidson and Michael Raupp, published by TCIA, was used as a reference.

To learn more about reduced risk pesticides and other “green” products, please visit the following Web sites: www.epa.gov/opp00001/health/reducing.htm www2.entomology.cornell.edu/Extension/Woodys/ReducedRiskPesticides.htm

eco-north.com

We refer you to the Eco-north.com website for additional information on IPM practices and products.

Eco-north.com is a website dedicated to the promotion of integrated pest management. This site contains a wealth of information on the latest developments in IPM, including case studies, how-to articles, and links to other resources.

Eco-north.com is a valuable resource for anyone interested in learning more about IPM and how to implement it in their landscape.
Going green with IPM

(Continued from page 9)

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We thank Dan Gilrein of Cornell Cooperative Extension for assistance in preparing this story. “Managing Insects and Mites on Woody Landscape Plants: An IPM Approach” by John Davidson and Michael Raupp, published by TCIA, was used as a reference.

To learn more about reduced risk pesticides and other “green” products, please visit the following Web sites: www.epa.gov/opp00001/health/reducing.htm www2.entomology.cornell.edu/Extension/Woodys/ReducedRiskPesticides.htm

Economically and environmentally sound? At the present time, pest managers must rely on their own experience and information from many sources in making these decisions. The decision-making process will be greatly improved when quantitative thresholds are developed for the key pests of trees and shrubs.

Once the decision has been made to control a problem, the pest manager combines one or more control tactics, such as cultural controls, mechanical controls, biological controls, resistant plant materials and/or chemical controls, into an integrated management plan or strategy. Now is an exceptionally exciting time in the development of alternative control tactics for managing pests in landscapes. Many cultivars of landscape plants resistant to insects and diseases are now available. Current research in biological control agents, such as Bacillus thuringiensis, entomopathogenic nematodes, and predatory insects and mites will provide a better understanding.
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of the efficacy and utility of these agents in landscapes.

The final component of IPM is an evaluation plan. This plan allows the manager to determine the efficacy of control actions, the cost-effectiveness of monitoring and control tactics, and the overall value of the management program. Integrated pest management programs conducted by the University of Maryland with homeowners, communities, arborists, commercial nurseries and Christmas tree growers have demonstrated the feasibility of this approach for some members of the green industry. Similar programs for homeowners have demonstrated the feasibility of the IPM approach for residential lawns. Benefits have included substantial reductions in losses resulting from pests on many crops, reductions in the overall costs of pest control, and dramatic reductions in the unnecessary use of chemical pesticides9, 10, 11, 12, 19, 20, 21. These results were achieved without a reduction in quality of the crop and with a high degree of client satisfaction10, 19.

**Conclusion**

The implementation and adoption of the IPM approach will not occur overnight. It will not be immediately feasible in all situations. However, because of ever-present societal concerns regarding the use of pesticides, a more comprehensive understanding of the ecology of landscape ecosystems, and the reality of economic constraints, IPM will provide a viable alternative to conventional pest management approaches for many arborists and landscape managers.

**References**

This article was excerpted from "Managing Insects and Mites on Woody Plants, an IPM Approach," by John A. Davidson, Ph.D. and Michael J. Raupp, Ph.D., and available from TCIA at secure.tcia.org/store.

**Literature Cited**

Vermeer Helps Make Tree Care Easier. Whether you're facing daily maintenance, right-of-way clearing, or storm cleanup, Vermeer and our global dealer network will be right beside you. We know the conditions you face are demanding — that's why we make sure our equipment is up to the task. Our complete lineup of brush chippers and stump cutters are designed to take on your tree-care challenges. So when it's tough going out there, look to Vermeer — the trusted name for proven equipment and reliable support.
By Jeremy Barrell

It would be easy to get carried away in the despair of climate change, but times are tough and people have additional worries. In the UK, just as in the U.S., we have a massive national debt, with no prospect of paying it off in less than decades, and weather extremes are already pushing our fragile lifestyle to the brink of collapse. With the merchants of doom preaching fiercer storms, frequent floods, hotter cities, evaporating water supplies and spiraling social instability, one could be forgiven for being consumed by the futility of it all! But, there is a bright side and, although environmental catastrophe may be near, we are not quite at the point of no-return yet. Indeed, trees provide a great opportunity to tip the balance back in our favor and, as tree managers, arborists (including urban foresters) can have a central role in pulling humanity back from the precipice.

From a global perspective, each of us can contribute to climate mitigation by reducing the amount of carbon we cause to be pumped into the atmosphere. Contrary to the scaremongers’ propaganda, this does not have to be a big drama or that painful or require costly changes to our existing lifestyles, but it does need an understanding of the problem and the will to make change happen. As consumers, we hold great power in the way we spend our money and individuals supporting collective shopping trends are a force of great influence. It is called ethical buying, and suppliers of goods and services are acutely sensitive to it. You can make a dramatic difference by spending your money on products that are ethically sourced and delivered; everything from insurance to soap to energy. Individuals applying ethical values to their buying habits have the potential to make a big difference for a very small personal sacrifice.

Turning to arboriculture, how can individual arborists as a collective profession contribute to this international effort? Well, we should be under no illusion about climate mitigation; it is beyond our reach as a profession to make any significant impact on escalating carbon emissions. Planting trees in the urban realm has no realistic potential to mitigate, and we should not be concerning ourselves with it on a professional level. However, increasing canopy cover where we live and work has tremendous potential to make life more comfortable during the expected weather extremes. Climate adaptation holds a strong and vibrant future for arborists because tree benefits are numerous, the public has an instinctive affinity toward trees, and we have the management expertise to deliver green relief when it will be most needed. The raw currency of climate adaptation is square yards of canopy cover; within the bounds of the capacity of an urban area to support trees, the more canopy cover there is, the greater its resilience to climate change. No one else can do this; that is why arborists matter.

In the UK, this is a daunting challenge; there will be no extra money, but the need is pressing and any delay in maximizing our urban tree stock will have uncomfortable consequences within our lifetimes. Our response has been to analyze urban canopy cover trends and to construct a strategy based on optimizing the potential of what we already have through minimizing waste and improving efficiency, all within existing budgets! A tough task at the best of times, made all the more difficult by the preliminary indications that our national urban canopy cover has been reducing for the last 20 years – and the rate of loss is escalating. The UK has an urban deforestation crisis now and reversing that trend is our immediate priority. The U.S. is facing similar challenges to its urban canopy.

So far we have identified multiple causes of canopy cover loss in the UK, but no single reason stands out. Instead, widespread and consistent tree losses, driven by the convenience of removal as opposed to solving perceived problems, have gradually eroded this valuable urban resource without us realizing! Big mature trees are being replaced with hedgerow/border trees; highway trees are being felled and not replaced; good trees are not properly protected during development; newly planted trees are dying; existing trees of importance are not properly managed; city managers are not realistically factoring the value of trees into their decision-making processes; and the list goes on. The result is that lots of small losses over a long time...
have had a big adverse impact on our ability to cope with climate change; we are not in good shape!

There are many interesting problems and potential solutions that our investigations have thrown up, and some of those lessons may provide valuable pointers for the U.S. in its efforts to combat climate change. For example, we identified that one of the major causes of canopy cover decline is the failure of newly planted trees, directly linked to tree production in the nursery and inadequate maintenance after planting. It is tough on the streets for trees and many never make it to middle age or maturity for a host of reasons. We think that small improvements in the way trees are selected, grown in the nursery and planted in the ground have the potential to wipe out planting failures and dramatically reduce establishment costs.

Traditionally, nursery production has focused on the fastest growing trees in the smallest space to maximize the financial return at the nursery gate. The problem is that tall, thin trees reliant on intense watering and fertilization regimes are not well equipped to cope with harsh street conditions and often die or never flourish. One of our most promising avenues of research is into producing “tough trees” that can hit the streets running and cope with whatever is thrown at them. Genetically selecting provenances that can cope with poor urban soils, growing them at a wider spacing to increase stem taper and minimal watering in the nursery is proving to be a recipe for survival. They are more expensive to produce, but deliver dramatic savings during their life in the streets because they grow better, with much less maintenance.

The lessons so far are that big changes are tough to do because they cost money, existing legislative frameworks need updating and people have to alter their lives. In contrast, small changes are not so hard; an adjustment here, increased emphasis there, better understanding of the reason to change and a coordinated approach are not going to have a dramatic impact on everyday lives. However, together their cumulative impact could be very effective indeed. Localized big changes are not necessary; widespread and coordinated small changes are a low impact strategy with the potential for a high impact result.

Ultimately, successfully arguing the case for trees hinges on them being more valuable alive than dead. The challenge for arborists is to organize and extend the emerging body of evidence on the value of trees, and successfully communicate that to all those who can destroy them. Tree benefits are many and obvious, but there is no hope of delivering this potential without arborists and their expertise fronting the cause.

Jeremy Barrell, of Barrell Tree Consultancy, is an international speaker and writer on trees, planning and climate change, based in southern England. He will be delivering the keynote at this year’s Ohio Tree Care Conference & Trade Show, sponsored by the ISA Ohio chapter, in Columbus February 14-16. This article is a preview of his message of hope and the bright future ahead for arborists that he will be presenting at the show.

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**Toro stump grinder attachment**

The Toro stump grinder attachment for use on Dingo compact utility loaders has a 17-inch cutter wheel that features 12 cutting teeth, a wheel speed of 2,000 rpms and a tooth-tip speed of 148 feet per second. To ensure all stump material is sufficiently removed, the unit offers a 36-inch, above-grade maximum cutting height and 16.5-inch, below-grade maximum cutting depth. Operators can position the wheel index at a 30-degree angle to efficiently tackle troublesome roots. The grinder utilizes the Dingo loader’s hydraulic system, which produces 11.2 gpm of flow at 3,000 psi of hydraulic power (tracked units) or 10.8 gpm of flow at 3,250 psi (wheeled units). The grinder quickly and easily attaches to any of the compact utility loaders in the Dingo line by simply turning two locking pins and connecting two hydraulic lines. Because the Dingo loaders with stump grinder attachment feature a compact design, users can maneuver into confined areas. Contact Toro via www.toro.com.

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**AzaGuard EC Botanical Insecticide/Nematicide**

BioSafe Systems’ new AzaGuard EC Botanical Insecticide/Nematicide for the agricultural, turf and ornamental markets is a 3 percent Azadirachtin formulated growth regulator offering broad spectrum insecticidal control of more than 300 insect species. AzaGuard EC works to prevent molting between larval, pupal and nymphal stages while also repelling insects on treated plants, resulting in the reduction of insect damage. It is a natural botanical pesticide derived from the extract of neem seed. Unlike other Azadiractin-based products, AzaGuard EC extract retains not only Azadirachtin but also related triterpenoids, making it a powerful natural pesticide over a broad range of pests. This natural formula does not induce any mutational resistance in target pests. Contact BioSafe Systems, LLC via www.biosafesystems.com.

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**Vermeer biomass Fuel Chip Attachment**

The new Vermeer Fuel Chip Attachment allows the use of one grinder to process wood waste into mulch one day and biomass the next simply by changing out the cutting mechanism, in about four hours. Designed for use with Vermeer HG6000 or HG6000TX horizontal grinders equipped with the Series II Duplex Drum, the attachment changes the action of the cutting drum from ripping and shredding to a chipping action, offering the ability to produce a more uniformly sized end product. Each biomass end-user requires that their chips meet stringent specifications in terms of size, shape and quality, as an improperly sized or low-quality chip may adversely affect the efficiency of the furnace and overall facility operation. This attachment provides the flexibility needed to produce chips that meet varied specifications and helps create new opportunities for users. Vermeer also developed a new screen system to help produce a consistently sized chip. Operators can also adjust the intake speed using the SmartGrind system to help fine-tune the material size. However, the quality of the final product also depends on the stock material; logs produce a more uniform end product than does brushy material. Contact Vermeer Corporation via www.vermeer.com or salesinfo@vermeer.com.

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**Terex “green” chipper body**

Terex Utilities in 2009 introduced a chipper body for the tree care industry made of recycled fiberglass. The body, developed in collaboration with Astoria Industries, provides an alternative to heavier steel bodies to save weight and reduce fuel consumption. The newly redesigned recycled fiberglass body was created to provide excellent load handling capabilities while at the same time reducing its environmental impact. The body is built to complement Terex’s standard forestry packages. By using a chipper body that weighs 1,400 lbs less than a comparable steel body, users will be able to mount the unit on a non-CDL chassis (25,999 pounds gvwtr) and carry the same volume of chips as a standard 33,000 pound gvwtr chassis, which provides cost savings on the chassis, while increasing productivity. Also, by utilizing corrosion-resistant aluminum flooring along with recycled fiberglass, there is decreased need for periodic repair and re-painting. The recycled fiberglass body carries a limited 5-year warranty. Contact Terex via www.terex.com.

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Big Jonsered pro saw

Jonsered’s newest professional saw model is also its largest and most powerful. The new CS 2188 is designed to deliver high performance for felling and cutting large timber. A new engine design provides more power over a wider rpm range, with greater torque under load. Engine displacement is 88cc’s, developing 6.5 hp at 9,600 rpm. The CS 2188’s chain oiler was specially developed for use with long guide bars and flow rate is easily adjusted with a slot screwdriver. Other features include a decompression valve, side-access chain tensioner, quick-release filter cover, coil spring anti-vibration and a rubber inset in the rear handle for a better grip. The saw’s carburetor is insulated from both heat and vibration for added reliability. The CS 2188 is designated an “Ulticor” model by Jonsered. Ulticor signifies Jonsered’s most advanced models, designed for full-time professional use. The Ulticor range includes chain saws, brushcutters and clearing saws. Jonsered products are sold through authorized dealers, who provide parts, accessories and service. Contact Jonsered via www.usa.jonsered.com.

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SherrillTree Log Ox

Environmentally friendly by its lack of an engine or hydraulics, SherrillTree’s Log Ox allows tree services that resell clean, straight logs to lumber mills to get them to the curb whole. Other users may simply like toting long sections to the curb or chipper, saving the time and labor of cutting them into firewood-sized stubs to be hand-carried. Newly redesigned for heavy payloads, maximum log diameter and ultra-portability, SherrillTree’s Log Ox is not only heavier-duty but quickly storable with its telescopic handle and quick release wheels. The Log Ox is a simple yet powerful device for rolling heavy lengths of lumber (up to about 15-feet long) including logs, steel beams, railroad ties and the like. The T-handle is now able to accommodate left or right side adjustment for one or two workers. A steel loop at handles end allows pulling with four-wheeler or light tractor. The Log Ox comes with steel tongs for quickly grabbing wooden cargo within 14-inch diameter. For larger loads or steel beams, a chain (included) can be wrapped and hooked almost as quickly. It fits through standard 36-inch gate. Contact SherrillTree via sherrilltree.com.

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Teupen USA new president

German aerial lift manufacturer Teupen has appointed Scott Reynolds as the new president of its U.S. subsidiary, Teupen USA, Inc. Reynolds has more than 20 years experience in the equipment industry serving in sales, sales management and general management roles in national rental, manufacturing and dealer/distributor organizations. He most recently served as director of sales for Teupen USA.

“Scott has gathered vast experience in his business life in terms of sales and marketing as well as general management in sales driven business units,” states Michael Wotschke, Teupen Group CEO. “We feel his leadership, corporate and industry experience are ideally suited to move Teupen USA forward. Scott’s main focus in the coming years will be to profitably grow Teupen market share with our LEO products in the North American region.”

Reynolds will serve as Teupen’s primary representative and chief spokesperson in the North American markets. He succeeds Roderik Wiedemeier, who was responsible for the setup and organization of the new company in Charlotte, N.C., for most of 2009.

Mitchell joins Altec

Richard “Rich” Mitchell has joined Altec Industries, Inc. as an account manager serving the tree care industry in the Northeast. In addition, he will service the municipal and utility markets in Connecticut, metropolitan New York City and Long Island.

Previously with Aerial Lift, Inc., he has More 34 years experience specializing in supplying aerial devices and working with the tree care industry. He has been a long standing member of TCIA, ISA and the Connecticut Tree Protective Association. He has also been involved with the CTPA Safety Committee and has been a sub committee member of the ISA Certification group, helping design and create the Certified Lift Operator test and standards to help promote and improve safety in and around aerial devices.

SavATree acquires Audet-Chasse Tree Service

SavATree in January merged with Plantsville, Connecticut-based Audet-Chasse Tree Service. Audet-Chasse has been providing tree health care for more than a decade. “We chose to join forces with SavATree because of their expertise, customer focus and arboricultural Jean Paul Chasse, president of Audet-Chasse.

“This merger represents a strategic step to grow our business and increase the breadth of comprehensive landscape services for customers,” said Daniel van Starrenburg, president of SavATree, is a TCIA-accredited company. “We are delighted to partner with a company built on top-notch service, which ties directly to our goals and what our clients expect from us.”

Log splitter recall

The U.S. Consumer Product Safety Commission and Health Canada, in cooperation with MTD Products Inc, of Cleveland, Ohio, announced a voluntary recall of the following log splitters. Consumers should stop using recalled products immediately unless otherwise instructed. About 26,000 of the splitters were sold in the United States and 2,100 in Canada.

The potential problem is that the control handle of the log splitter could fail to automatically return to the neutral position as it should and could fail to stop the splitting wedge from moving forward, posing a risk of amputation to users’ hands and fingers. No incidents or injuries have been reported.

The following brand names and model numbers are included in this recall. They were sold in red, black and yellow in 21, 25, 27 and 33 ton models. The model number is located on the frame near the engine. Log splitters manufactured from November 2008 through October 2009 are included in this recall. Only models with certain serial numbers are included in this recall:


Additional recalled log splitter models were sold in Canada. See the Canadian press release with Canadian model information.

For more information, contact MTD via
ACRT names safety guru

ACRT, Inc. appointment Gerald Conn to safety and workers’ compensation manager at its headquarters in Akron, Ohio. Conn joins ACRT with more than 15 years of experience in safety and compliance for a variety of industries.

ACRT is an independently operated and 100 percent employee-owned utility vegetation management company for the utilities industry.

“With more than 400 employees, many of whom operate in the field, safety is extremely important to us as a company and as individuals,” said Mike Weidner, president and CEO for ACRT. “Gerald brings to this role a great deal of knowledge and experience, as well as innovative ideas and programs to ensure the safety of our employees.”

Conn’s primary areas of expertise include developing company-specific safety processes that focus on employee involvement and recognition, as well as implementing OSHA-compliant safety procedures that encompass both employee safety and safe vehicle operation.

Conn earned a BS in conservation from Kent State University and is an OSHA-authorized trainer. He has been a member of The National Safety Council for six years and participates in continuing education opportunities, completing courses in hazardous waste operations, emergency operations and powered industrial trucks.

Conn’s personal goals in his new position are to raise the level of safety awareness across all aspects of the company, develop a consistent and thorough nationwide training program and to recognize employees who are proactive in their personal safety.

Swanson elected MNLA president

Bert Swanson, owner of Swanson’s Nursery Consulting in Park Rapids, Minnesota, was recently elected as president of the Minnesota Nursery and Landscape Association. Swanson was first elected to the MNLA board in 1998. He was a key player in the development of the MNLA Certification Program and serves on the MNLA Nursery Committee, the Commercial Seedling Committee, and the Commercial Arborists Committee. Outside of MNLA activities, Swanson has been active in the American Nursery and Landscape Association and the International Plant Propagators Society along with other regional and national activities.
**Events & Seminars**

**February 3-5, 2010**
New England Grows
Boston Convention & Exhibition Center
Boston, MA
Contact: (508) 653-3009; www.NewEnglandGrows.org

**February 7-11, 2010**
Winter Management Conference 2010
Big Island of Hawaii, HI
Contact: 1-800-733-2622; cyr@tcia.org; www.tcia.org

**February 13, 2010**
Long Island Arboricultural Assoc. Annual Tree Conf.
Farmingdale State College, Farmingdale, NY
Contact: Jean Brown (516) 454-6550; www.longislandarborists.org

**February 14-16, 2010**
Ohio Tree Care Conference & Trade Show
Greater Columbus Convention Center
Columbus, OH
Contact: (614) 771-7494; www.ohiochapterisa.org

**February 16, 2010**
Plant Health Care and Prescription Fertilization
Rutgers University Cont. Prof. Education
New Brunswick, NJ
Contact: (732) 932-9271 ext. 648, www.cpe.rutgers.edu

**February 17, 2010**
Tree Planting and Installation
Rutgers University Cont. Prof. Education
New Brunswick, NJ
Contact: (732) 932-9271 ext. 648, www.cpe.rutgers.edu

**February 18, 2010**
Hazardous Tree Identification
Rutgers University Cont. Ed., New Brunswick, NJ
Contact: (732) 932-9271 X648; www.cpe.rutgers.edu

**February 19, 2010**
Municipal Shade Tree Management
Rutgers University Cont. Prof. Education
New Brunswick, NJ
Contact: (732) 932-9271 X648; www.cpe.rutgers.edu

**February 23-24, 2010**
NYSTA Southeast Regional Conference
Holiday Inn Suffern, Suffern, NY
Contact: NYSTA (518) 783-1229

**February 25, 2010**
Tree Pruning
Rutgers University Cont. Prof. Education
New Brunswick, NJ
Contact: (732) 932-9271 X648; www.cpe.rutgers.edu

**February 25, 2010**
ELA Conference & Eco-Marketplace
MassMutual Center, Springfield, MA
Contact: Ecological Landscaping Association
www.ecolandscaping.org;

**February 27-26, 2010**
ASCA 2010 Consulting Academy
Rohnert Park, CA
Contact: (888) 339-8733; dcarter@isasouthern.org; www.wcisa.net

**March 2, 2010**
Professional Turf, Plant & Tree Conference
Nassau Suffolk Landscape Gardeners Association
Nassau Veterans Memorial Coliseum, Uniondale, NY
Contact: Patricia Voges (631) 665-2250; nslga2@optonline.net

**March 2-3, 2010**
MGIA Annual Trade Show & Convention*
see ad on page 25
Rock Financial Showplace
Novi, MI
Contact: (248) 348-5600; www.landscape.org

**March 24-25, 2010**
ArborMaster Level 1 Tree Climbing Methods
Biltmore Estate
Asheville, NC
Contact: Info@ArborMaster.com; 860.429.5028 x 701
www.ArborMaster.com

**March 27-30, 2010**
ISA Southern Chapter Conference
Embassy Suites & Concord Convention Center
Concord, NC
Contact: (888) 339-8733; dcarter@isasouthern.org; www.wcisa.net

**April 23-25, 2010**
4th Annual Wildland Fire Litigation Conference
Silver Legacy Resort and Casino
Reno, NV
Contact: www.wildlandfire-litigation.com

**April 28-May 1, 2010**
ISA Western Conf. & Trade Show
Doubletree Hotel Reid Park
Tucson, AZ
Contact: (559) 784-8733 www.wcisa.net

**November 11-13, 2010**
TCI EXPO 2010 Conference & Trade Show
Pittsburgh, PA
Contact: 1-800-733-2622; cyr@tcia.org; www.tcia.org

* Indicates that TCIA staff will be in attendance

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Small Business got a boost when President Obama signed the U.S. Department of Defense appropriations bill on December 19, 2009. That is because the appropriations measure included $125 million to continue, through February 28, the enhancements made possible through the American Recovery and Reinvestment Act (ARRA) to the Small Business Administration’s two largest loan programs.

The SBA estimates the additional funding will support $4.5 billion in small business lending through its 7(a) and 504 loan programs.

New approvals of loans with the higher guarantee and reduced fees made possible by ARRA are expected to have begun by the time you read this. Loan applications from borrowers who chose to be placed in the SBA’s Recovery Loan Queue were to be funded first, followed by new loan approvals beginning on or before December 28, 2009.

Apparently the Administration and Congress recognize that these key programs have been successful in helping jump-start the economic recovery for America’s small businesses. According to SBA, the increased guarantee and reduced fees on SBA loans has already helped put more than $16.5 billion in the hands of small business owners and brought more than 1,200 lenders back to SBA loan programs. The extension of these programs through February is important to continuing our path toward recovery and will mean thousands more small business owners have access to the credit they need.

In early December 2009, President Obama laid out key aspects of his jobs plan, including significant ongoing support for small businesses. As part of ARRA, SBA received $730 million, which included $375 million to increase the SBA guarantee on 7(a) loans to 90 percent and to waive borrower fees on most 7(a) and 504 loans. The funds for these programs had been exhaust ed as of November 23, 2009.

If there is any bad news in these developments, it is that there is a wait list for the money. The SBA created a “Recovery Loan Queue” as part of its transition back to pre-ARRA lending on Nov. 23 because previously approved loans are sometimes canceled or never disbursed for a variety of reasons. Eligible small businesses, in consultation with their lender, could choose to be placed in the queue for possible approval of an ARRA loan if funding became available. At press time, there were 1,069 loans totaling almost $530 million in the Recovery Loan Queue.

For non-ARRA 7(a) or 504 loans funded during the transition period, this extension does not provide a retroactive guarantee or waived fees. Loans that were funded under non-ARRA terms cannot be canceled and resubmitted to take advantage of the ARRA extension provisions. This extension does not affect other SBA ARRA programs, including the America’s Recovery Capital (ARC) loan program or the agency’s microloans. ARRA funding remains for both of those programs.

The 7(a) Loan Program is SBA’s primary program to help start-up and existing small businesses obtain financing when they might not be eligible for business loans through normal lending channels. The name comes from section 7(a) of the Small Business Act, which authorizes SBA to provide business loans to American small businesses. SBA itself does not make loans, but rather guarantees a portion of loans made and administered by commercial lending institutions.

7(a) loans are the most basic and most commonly used type of loans. They are also the most flexible, since financing can be guaranteed for a variety of general business purposes, including working capital, machinery and equipment, furniture and fixtures, land and building (including purchase, renovation and new construction), leasehold improvements, and debt refinancing (under special conditions). Loan maturity is up to 10 years for working capital and generally up to 25 years for fixed assets.

The CDC/504 Loan Program is a long-term financing tool for economic development within a community. The 504 Program provides small businesses requiring fixed asset (“brick and mortar”) financing with long-term, fixed-rate financing to acquire major fixed assets for expansion or modernization. A Certified Development Company (CDC) is a private, nonprofit corporation set up to contribute to the economic development of its community. CDCs work with SBA and private sector lenders to provide financing to small businesses.

To learn more about these programs or to apply for one of these ARRA-funded loans, visit www.sba.gov.

Peter Gerstenberger is senior advisor for safety, compliance & standards for the Tree Care Industry Association.
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By Richard A. Johnstone

A look at one project in Tennessee demonstrates how integrated vegetation management can reduce long-term environmental impacts on both the ROWs and surrounding environments.

The project

Columbia Gulf Transmission must maintain vegetation on its 180-foot wide natural gas transmission corridor through J. Percy Priest Recreation Area near Nashville, Tennessee, to provide safe and reliable natural gas energy services, and to meet FERC and DOT regulations for testing and leak inspections. This has been routinely accomplished with annual mowing of rights-of-way vegetation in mainland areas accessible to tractors, with exception being the 4.5 acre crossing of Pig Island.

The island vegetation, accessible only by air or boat, had been maintained with periodic hand cutting approximately every four years. The hand cutting method was chosen as a means to minimize adverse impact to riparian buffers along the lake and to public aesthetics, but the hand cutting encouraged coppice plants with increasing stem density, especially from trees that regenerate from cut stumps, surface and subsurface roots (root suckering). It also increased population density of invasive plants; such as ailanthus, autumn olive and multi-flora rose. These plants degrade the ecosystem and inhibit access necessary for the performance of cathodic and leak testing, which threatens the integrity of the pipelines and poses a hazard to the public and environment. Wood debris from repeated cutting operations also inhibits access and testing procedures.

Columbia Gulf personnel asked the Army Corp of Engineers for permission to

The objective of the IVM plan was replacement of the trees and shrubs that inhibit access and integrity of the natural gas pipelines, and provide access for maintenance.
use aerially applied herbicides from helicopters to control vegetation on Pig Island, but this posed additional problems. Since the lake is heavily used for recreation, an aerial herbicide application of tall trees and shrubs would produce dead stems that would adversely impact aesthetics for the many recreational uses of the lake. The requested herbicide for this application was one routinely used on natural gas ROW, but is a restricted use product that is not registered for use in close proximity to water or on limestone soils, thus the herbicide application request was denied.

**IVM proposal**

Columbia Gulf contracted with VMES, LLC consulting to meet with Army Corp personnel in the spring of 2006 to develop an effective and economical vegetation management plan that provides for access, testing and reliability needs of the natural gas transmission corridor, while meeting the aesthetic and ecosystem requirements of the Army Corp of Engineers. After a tour of the ROW crossing J.Percy Priest Reservoir, the consultant met with the Army Corp of Engineers, along with a Columbia representative, and recommended an IVM approach prescribed according to the existing conditions and desired outcome.

Various vegetation management techniques were proposed for the Columbia Gulf ROW on Pig Island to convert the vegetation from incompatible trees and brush, some of which were invasive, to low growing species compatible with safe and reliable natural gas transmission and a benefit to wildlife. The plan called for the use of manual and mechanical cutting of all vegetation within the ROW corridor, followed one year later with a ground broadcast herbicide treatment to the resprouted brush, and with a subsequent selective herbicide treatment of any missed or reseeded incompatible plants the next year. This combination of techniques would effectively eliminate the problem plant species and allow germination of desirable, low growing plants. These plants, and the wildlife that feed and nest in them, will develop the cultural and biological controls that minimize the need for future maintenance while preserving or improving aesthetics, wildlife habitat and recreational opportunities.

My company, IVM Partners, Inc., was hired to provide a case study of the plant community changes mapped on Geographic Information Systems (GIS) and documented by a trained botanist, who would establish permanent transects before and after the vegetation management interventions and document changes for two consecutive years. The procedures and results will then be shared with the Army Corp of Engineers and Tennessee Department of Natural Resources, as well as the Tennessee Valley Authority. In addition to converting vegetation to species compatible with safe and reliable natural gas transmission and improved wildlife habitat, the best management practices are also expected to reduce long-term vegetation management costs.

The Army Corp of Engineers was very receptive to this IVM approach, especially in controlling non-native invasive plant species and improving wildlife habitat, since they met their primary objectives of habitat management around the reservoir. They were also pleased that the best management practices (BMPs) developed would be documented and shown to the Tennessee Valley Authority, which has similar vegetation management issues for operating high voltage electric transmission lines from the dam’s hydroelectric facilities.

**Mowing**

Pig Island’s dense population of incompatible trees and invasive brush required reclamation of the entire corridor to restore access for safety and reliability of the pipelines, and allow germination of low growing compatible plants. This was accomplished in winter 2007 when a Columbia Gulf crew was transported to the island by pontoon boat with a tractor-mounted brush-hog mower and chain saws to cut all vegetation within the 180-foot-wide ROW.

**Broadcast herbicide treatment**

An ATV mounted with a Widecast spray nozzle was transported by pontoon boat to the island to broadcast herbicide treat the resprouted plants on the entire corridor. Thinvert was used as the herbicide carrier to eliminate spray drift and applied at a calibrated volume of 5 gallons per acre. Treatment was performed in the fall of 2007 to minimize aesthetic concerns, since an autumn treatment allows plant coloration due to loss of chlorophyll from herbicide action to coincide with normal fall coloration. The treatment was divided into three parts:

The ROW centerline area over the three...
pipelines, about 150-feet wide received an ATV Widecast treatment with three herbicides – Garlon 3A (triclopyr), Escort (metsulfuron) and Milestone (aminopyralid) – that select for broadleaf plants and invasive spotted knapweed and Canadian thistle while releasing for growth warm season grasses.

ROW borders (approximately 15-feet wide on each wood edge) were ATV Widecast treated with Krenite (fosamine), Escort (metsulfuron) and Habitat (imazapyr) herbicides to try and develop a native shrub border. This should encourage a three-tiered plant community of grasses transitioning to shrubs and then trees, the optimum habitats for various wildlife species.

The ROW riparian buffer – approximately 50-feet from lake shore waters edge across the entire 180-foot ROW – were selective backpack treated with water-approved herbicides Accord (glyphosate) and Habitat (imazapyr) in Thinvert to remove targeted plants and develop a riparian buffer to minimize washing of sediment into the water.

The 2007 treatment efficacy was adversely impacted by the occurrence of rain toward the end of the ATV Widecast treatment of the west side border zone, and overall skips due to spray equipment quality control and minimal employee training. The spray crew was not well versed in the use of the ATV Widecast application technique, thus the spray pattern was not always monitored to insure operation at its full potential. This was noted but not documented until botanical inventory was conducted in 2008.

Botanical documentation was performed by Haggie Consulting, prior to herbicide intervention in August 2007, to establish baseline plant community inventory along permanent transects in both the centerline and border (lateral) zones of the ROW. These transects were established in a low lying “valley area” and replicated in a high “hill area” to track relative differences of wet and dry growth conditions.

2008 backpack treatment followed the plant inventory performed in September 2008, which revealed that the 2007 herbicide application failed to meet the efficacy expectations, especially in the “hill area” due to the rain occurrence and spotty application. This necessitated a more thorough follow-up backpack application across the entire ROW in October 2008, using a standard herbicide mixture of Accord (glyphosate) and Habitat (imazapyr) to enable treatment on either riparian or dry locations. A professional herbicide application contractor, Progressive Solutions, donated their backpack crew complement to perform this work.

Results

The objective of the IVM plan was the conversion of the plant community from trees and shrubs that inhibit access and integrity of the natural gas pipelines, to grasses and herbs that provide access for maintenance and protect the pipes with a minimum of inputs and costs. Another botanical documentation was performed on Pig Island in July 2009 and found that the follow-up backpack treatment had achieved efficacy of 90 percent or better control of the targeted plants.

Economics

Hand cutting: A three-man crew with chain saws spent about a week to cut the 4.5-acre ROW at a cost of approximately $4,000, or about $900 per acre.

Mowing: A mowing crew with chain saws spent about a day to cut the ROW at a cost of approximately $1,000, or about $200 per acre.

ATV: The ATV Widecast crew spent about two-thirds of a day to spray the ROW at a cost for labor, equipment and herbicides of $1,500, or about $325 per acre.

Backpack: The backpack crew spent about 1/2 day to spray the ROW at a donated cost for labor, equipment and herbicides of $700, or about $150 per acre.

Future: Subsequent plant community inspections will determine the threshold of need for future herbicide treatments, but due to the success of the vegetation management plan in restoring low growing compatible plants, only a selective backpack treatment should be needed in 2011. The expected future cost of touch-up backpack treatments, once every three or four years, is $500 or about $125 per acre.

Lessons learned

Natural gas corridors that are easily accessible to mowers can be routinely maintained with annual mowing at a cost of about $80 per acre. This practice effectively maintains a “grass-like” habitat that is easily accessible for inspections and equipment maintenance, but tree species and invasive plants continue to grow and can increase in number and density, especially if they have the capability to root-sucker. The timing of the mowing can also adversely impact nesting birds and
mammals and reduce populations of desirable species, if flower tops are cut off prior to seed set. Heavy mowing equipment can also damage sensitive wetlands by rutting soil or leaking of oil and fuel, and pose erosion and stream sedimentation problems. This can prevent a ROW from reaching its full habitat potential, especially for providing flowers and nectar to pollinators, such as bees and butterflies.

Relying on cutting is also aggravated in areas not easily accessible to mowers, since steep slopes and marshes must be periodically hand-cut at 10-times the cost per acre. With more stringent safety regulations for natural gas pipelines, this expensive and hazardous hand cutting will need to be performed on a more frequent basis. Chain saws also add to noise pollution and can pollute air and water with hydrocarbons. At a time when efforts are being made to decrease the carbon footprint of maintenance practices, solely relying on cutting as a maintenance strategy defeats this effort.

The Pig Island Case Study points to an alternative strategy of converting the ROW plant community to low growing species that allow unimpeded access for inspections and maintenance through judicious use of selective herbicide treatments. One broadcast treatment may be necessary to convert from dense populations of undesirable plants, but once the desirable plant community is established, it can be managed with periodic selective backpack herbicide treatments. While initial plant species conversion may be more expensive than mowing, it is more than offset by desirable plant communities decreasing future maintenance expenditures. Periodic backpack treatments, about once every three or four years, replace wholesale disturbance of the entire ROW ecosystems, and at a net annual cost of less than $50 per acre.

Conclusions

This case study project demonstrates that proper vegetation management can improve wildlife habitat, control invasive plant species, and improve ecosystem management, while providing for safety and access needs of an energy corridor and showing that a utility ROW can be beneficial to the environment. Proper use of IVM techniques can establish a plant community dominated by compatible plants. These in turn can provide food and habitat for various mammals and birds that will assist in vegetation management through consumption of tree seeds and seedlings. The result is a self-sustaining ecosystem that will only require periodic interventions to maintain it in a healthy state, compatible with the facility maintenance needs of electric, oil and natural gas transmission. This can improve relations between utilities and the regulatory agencies making future capital construction permits easier to obtain, while also demonstrating to the community that an energy corridor is consistent with recreational and environmental quality.

Richard A. Johnstone is president of IVM Partners, Inc. in Newark, Delaware.
All tree workers describe their work in different ways; most who have been in the business long enough know what the others are talking about. When the subject of removal jobs comes up, everyone has a story about particularly nasty or involved operation that tops the last one discussed, and most are more than willing to describe it in tedious detail. This is fine for the casual discourse at the bar or tailgate bull session, but when salesmen or production managers get involved, some sort of rating system seems appropriate.

The way a salesperson communicates the day’s or week’s work to the crew he or she is managing is often not as clear as some foremen would like, and more often than not the foreman or production manager is left to his or her own devices in deciding how to complete a given job. This leads to confusion and chaos when the salesperson tells the client one thing and the crew does another. We in the tree business should develop a rating system for communication between the client and crew that the salesperson or manager may use to avoid costly mistakes.

This system I propose uses hazards and conditions present on the jobsite to put jobs into one “class” or another, which then allows the crew to decide how to proceed—or at least what equipment and tools are needed for the job. When two or more crews must share limited tools and trucks, this system will help avoid unnecessary trips back to the site to finish jobs and ultimately produce more jobs more profitably. It may also prevent collateral damage to the landscape and perhaps save lives.

When the salesperson sells the job, he or she doesn’t need to brief the client on the system; rather the salesperson should describe how the job will be done by the crew within the confines of the system. Any good salesperson will, of course, communicate this information to his or her client, but not always to the crews. The following rating system gives the salesperson a vocabulary to clearly define how he or she sold the job.

**Class 1** – “Just notch it and cut it!” The jobsite is wide open and no rigging is needed other than perhaps a tagline or towrope to guide the falling tree. This simplest of tree removals is of the class that the beginning crew member could most easily handle.

**Class 2** – The site is too small or a ground hazard prevents just felling the tree, so it must be topped or limbed and topped so as to fall within the space allowed. The hazard might only be a road or line of shrubs, and a good crew will always avoid damaging these or encroaching on a public street. A rope may be used to guide the top or trunk, but no pulleys or friction devices are used. This class may well be a rookie climber’s first test.

**Class 3** – This is a slightly tougher job in that it may require a third crewmember to keep the rigged tree parts away from ground hazards. The turf itself may be a ground hazard, since most homeowners take pride in their lawns. Most of the tree parts must be lowered to the ground, though a short log or trunk may be felled without significant damage. Pulleys and friction devices may be used, though natural crotches and trunk wraps with the lowering rope still classify this type of job as a Class 3.

**Class 4** – All tree parts and all trunk sections of whatever size must be lowered to the ground safely with a rope and rigging, either natural or applied. The advent of applied rigging devices, such as pulleys or blocks, and friction devices, such as the Port-a-Wrap or bollards, has made this type of job much safer and more efficient. Significant ground hazards are present and cannot be moved out of the way, so this is almost always a three-man job. This class...
also includes trees worked with a zip line.

Class 5 – This is a “crane job,” where nothing can be dropped and even the trunk would be difficult to rig safely. Very seldom can this job be done otherwise, owing to the limited experience of the crew or limited equipment available. When a nearby tree is used as a spar or crane, this classification is still used to describe the job since bollards are readily available. Whether the crane is used primarily to lift pieces out or load them onto a truck, the classification sticks, since the cost of the equipment remains.

When I last worked as a commissioned salesman for a large national tree care concern, it was my task to not only sell the work contracts, but also to manage the production of the crews doing “my” jobs. The crews were rotated among us salespeople, and the “rotation” often amounted to a decision by the office manager, my boss, that he needed our best crew more than I did. The crew I often drew was composed of our less-than-exemplary employees, and their performance showed it.

Briefing these men in the morning was a daunting task as they often did not have the experience to take on a Class 4 job with Class 2 skills and equipment. Often frustrated with my circumstances, I just sent them out and hoped for the best. I seldom got it. I can remember more than once waiting in my office for my crew to come in at quitting time and dreading their report. There was always some kind of collateral damage, or overtime, or truck damage resulting from their perception of the job as sold.

“We couldn’t do it any other way!” was their mantra.

One particular event, I believe, inspired this article more than any other, and I will always remember it. One afternoon the crew foreman came in and threw the work order on my desk violently while screaming at the top of his lungs, “Are you out of your mind? There is no way two men could do this job in one day! I QUIT!” His declaration was not quite that brief, owing to the cursing that peppered his vocabulary.

Slamming the metal door on his way out, profaning me and my generations all the way through the building, he hardly ever spoke to me again. He did return to work however, and made my sales experience even more uncomfortable as I continued to draw his crew on a daily basis.

Being a rookie salesman, I took this advice rather hard, and was always concerned with how the foremen perceived my work orders. Until I started my own business and installed my own personnel policies, I never felt comfortable directing others to do my work. Less than two months later I decided to give up the sales position and return to my comfort zone as a production foreman. That was the summer of 1989 in Charlotte, North Carolina. In September, Hurricane Hugo blew into Charleston, South Carolina, and ripped down trees and power lines in a 300 mile wide swath all the way to the Virginias. The young woman who took over that position made more than $100,000 that year. I often wondered what might have been if only I had been able to communicate better with the crews.

Murville Alleman is city arborist for the City of Ocean Springs, Mississippi.

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Warning on doubled-rope ascension systems

Regarding the article, “The Single-Handled Dual Ascender: A concept device,” in the November 2009 issue of TCI, a warning in using this type of doubled-rope ascension system. The handled ascenders push the friction knot up the rope to advance the climber, and in doing so will cause the friction hitch to relax open. In the event of either or both of the mechanical cams failing, the friction hitch will be too loose to grab the rope and will result in the climber falling.

Individual climbers are expected to thoroughly understand each component of their climbing system, and what could cause them to fail. There are many methods and instructors available to teach them to climber’s trying out new systems.

Mark Adams, CTSP
Downey Trees, Inc., Roswell, Georgia
(As told to Tchukki Andersen, TCIA staff arborist)

The author of the article, Jim “The Tree Machine” Clark, responds: The picture referenced was included simply to give credit to the first guy I’d seen who paired two Ascensions together.

Use of a friction hitch or ANY backup is not recommended. It is this climber’s feeling that the more pieces, the more complications. The necessary backups are claimed to be intrinsic on the ascender itself. The ascender concept here goes beyond backing up, to a point where the ascender design itself backs itself up redundantly. This ascender is the safest ascender ever attempted.

I’m afraid there are no instructors demonstrating these concept ascenders, and this is because they do not currently exist. Doubled static technique (DbRT) is practiced with great infrequency because ideal ascenders have not been created, nor has the ideal descent piece been created for this rope method. To be created they must be proposed. This article proposes they should be created.

Sling capacity questioned

On going through your technical literature on slings (“Safe Work Practices When Using Cranes to Remove Trees,” by Norm Hall, TCI, June 2009), I think that your statement that the sling’s “rated capacity” reduces or changes with the angle of inclination, is not correct. The rated capacity is fixed, except for reduction over time with use. It is the lifting capacity of the rope that changes with the angle of inclination. This is an important concept and needs to be corrected.

Hope you find this suggestion useful.

S. Saran
General Manager (Env. & Safety) Retd.
Visakhapatnam, India

Norm Hall responds: It is the load on the sling that increases with the angle. The point I was trying to make was, reduce the slings rating when the sling is loaded at an angle. I have included a Web site that has the “sling angle load chart.”:

www.rigstar.com/anglechart1.html. (It is also in TCIA’s “Best Management Practices for Crane Use in Arboriculture,” available for purchase at www.tcia.org.)

Peter Gerstenberger, TCIA’s senior advisor for safety, compliance & standards, comments: I understand what Mr. Saran is saying, but I’m not sure it’s completely accurate. For instance, the rating of a sling does change depending on the way it is affixed to the load; i.e. basket hitch, vertical hitch, choker hitch. I think it would be more accurate to say that the sling angle affects the force exerted on the sling.

Also, time and use don’t alter the rating a sling was given, but obviously they do affect its strength.
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Life on Earth is made possible by plants. They convert solar energy into food for themselves and the creatures with whom they share the planet. They also give breath to every living thing – including themselves – by generating oxygen through the same process – photosynthesis. While all plants (and other photosynthetic organisms) sustain life by synthesizing carbohydrates and releasing oxygen, trees possess the accumulated evolutionary “wisdom” to do this, literally, above and beyond other plant forms.

Photosynthesis (“synthesis powered by light”) is at the heart of botany and is taught to almost every human in every culture at a tender age. But there is another sun-powered process by which plants make life on earth possible, not as well known or as completely understood. Every terrestrial organism requires minerals derived from soil. Plants are the earth’s miners and alchemists – using solar energy to gather and transform solid minerals and other essential elements for themselves and for other creatures. And just like harvesting the sun, trees are extraordinarily good at bringing stones to life.

Old stories and new science
Prior to the flowering of Greek philosophy, the ancient Mediterraneans held that events in nature were caused by the caprice of the gods. This view changed with Aristotle and other philosophers of his fourth-century B.C. milieu, who believed that all things consisted of earth, air, fire and water. Nature was now out of the hands of divine beings, who were relegated to the realm of the supernatural. The Greek philosophical view held up in the western world for around 2,000 years, until the discovery of multiple elements in 18th century Europe and the later development of the periodic table that hangs in every high school science classroom.

Before it was understood that plants take essential elements from soil, it was believed that animal energy was transferred to plants through manure and other organic “humors.” Biochemistry and modern plant physiology have revealed the mechanisms of photosynthesis and the processes by which essential elements are acquired by plants from soil. Energy flows and mineral elements cycle through living things by the workings of plants. We exist because we are able to eat earth and sun by eating plants or animals that eat plants.

Written long before biochemistry and even before Greek philosophy, primal creation stories from diverse cultures reveal an awareness of the intimate connection between soil and flesh. In many of these accounts, the first humans were fashioned from the ground. The Mayan creation story Popol Vuh provides an interesting variation on this theme. The gods first attempt to make humans from clay, but find it lacking in stability and resilience. The second try
employs wood, but the gods find the stick people to be heartless and stupid. They then confer among themselves and discover “what must enter into the flesh of men.” Wild animals bring forth gifts of white and yellow maize – the cherished food of the gods – and humans are thus born of grain. The humans made from vegetation prove to be wise and fertile.

It seems that the ancient Mayans intuitively understood that solar energy and mineral nutrition enter the biosphere through plants, and that animal and plant tissues are therefore made from the same basic materials. Primal stories, old philosophies and new science are all important because they give our attempts to become better gardeners and arborists a broad context. Trees function in much the same way that they always have, and we can learn from earlier insights into their biological wisdom.

**Lively fertility**

People have long wondered how plants get what they need from soil, and thinking about what soil actually consists of helps to provide an answer. Native soils that support plant populations have an upper litter layer made of plants’ and animals’ shed parts. Immediately below is the fermentation layer, where litter begins to break down. In this layer, twigs, leaves, bones and other organic components are altered, but are still partially intact. Humification characterizes the next layer below, where organic material is broken down into minerals and compost. The resulting humus is rich in oxygen, essential elements, humic acid, carbon dioxide and high in moisture. The vast majority of tree roots occupy the fermentation and humification layers. These layers teem with countless numbers of multi-celled and microscopic organisms. Humus is dynamic, complex and alive.

The fertility of soil is measured by the availability of 16 essential elements. These elements are required for metabolism and structure and are referred to as mineral elements because they are acquired from soil. The three elements that are found in the greatest concentration in plant tissue are obtained from water and from the atmosphere. These are hydrogen, carbon and oxygen. With adequate sunlight and water, every compound that plants need to live and grow can be made from these 19 elements. Other creatures can get everything they need from eating plants or eating animals that eat plants.

The availability of mineral elements depends on the rate at which mineral cations (atoms with a positive charge) can be exchanged for other cations (usually hydrogen) on the surface of inorganic and organic soil particles. This is the cation exchange capacity of soil (CEC). Organic soil particles are found in high concentration in humus because they are the result of fermentation and humification, or in other words, the decomposition of litter. Hydrogen cations are liberated in this process and the CEC is increased. The fertility of soil depends on the presence of essential elements in the form of ions and the concentration of hydrogen cations. When hydrogen trades places with mineral ions attached to soil particles, these cations can be acquired by root tips. The concentration of hydrogen is called pH.

Trees help create the soil fertility they depend on. While all plants do this to some extent, trees are really good at making humus and increasing CEC. Trees modify their environment by depositing huge amounts of shed parts that are converted to humus by decay organisms, such as fungi and bacteria, and herbivores, such as rodents, earthworms and insects. Trees shed parts both above and below ground. Root tips and mycorrhizae are shed on an annual basis by compartmentalization, in manner similar to that of leaves. The forest soil organisms that are fed by trees create and maintain soil structure by their movements as well as by “manuring” the soil. When we speak of decay we are really just referring to digestion, and one important result is an increase in hydrogen concentration.

Trees also directly increase fertility in soil
by exuding sugars into soil. Mucigel is created from these exudates and serves to lubricate root tips for easy movement through soil and to feed microscopic organisms. Sweet exudates also facilitate beneficial infections by mycorrhizal fungi and nitrogen-fixing bacteria. These infections are also encouraged by chemical signals produced by the tree. The mycorrhizal in turn collaborate in the production of another sugary mucus called glomalin, which is an essential component of healthy soil structure. In addition to these vital contributions and manipulations, root tips export hydrogen ions directly into soil in exchange for mineral ions.

**Bringing stones to life**

Fertility requires the proper range of hydrogen concentration for cation exchange, but the mineral elements must also be in good supply. In addition to acidifying soil (low pH means high hydrogen concentration), trees also increase the concentration of minerals in the soil by contributing raw materials from above. Leaves, twigs, root tips and other cast-off parts contain residual minerals that are released into the soil through decomposition. The recycling of essential elements from organic materials is the process of mineralization. But most of the minerals in soil come from a different source.

Long before Dmitri Mendeleev composed the first periodic table of elements in nineteenth-century Russia, before Aristotle had inherited his earth-air-fire-water theory from his Greek philosophical predecessors, and before the Mayan gods had clay, sticks or corn to play with, matter from exploded stars came together to form Earth’s crust. The minerals that all living things need are bound in hard particles of various sizes from boulders to grains of sand. In order for plants to acquire and use these elements, they must first be reduced to small enough particles to be dissolved in water.

One way this happens is by weathering. Temperature fluctuations, shifts in the earth’s crust and other geological and atmospheric phenomena break and grind rocks together or wear down hard surfaces. Water carves out crevices and canyons and releases minerals. But weathering can only do so much before roots take over. Tree roots grow into openings in rock and break them as they elongate and expand. They also secrete rock-dissolving acids through root tips. Trees help transform mineral
and knees, and what is good for slugs and fungi is also good for trees. When it came time to harvest roots for study, we knew right where to look. If you want to know where roots grow and how they function, look for living soil that wiggles in your hands and always smells like spring.

Resources

Jack Phillips is a Registered Consulting Arborist and teaches tree biology and care for Arboriculture Canada Training and Education. He consults and gives workshops throughout North America.

Soil is alive. Photo by Jack Phillips
By Rick Howland

The green movement, that is, the concept of environmental responsibility, has permeated every facet of our business, including the stump cutter. Certainly, it’s easy to see how the application of more fuel-efficient power plants contributes to the green initiative. (That goes for both diesel and gas engines.) But in our research into how “green” has affected stumpers, we also came across some quite interesting concepts, some intended, some not; some obvious, some not. They all bear thought as you look into buying new machines or trying new green marketing angles to promote the business.

If the concept of fuel-efficient and low-emission engines is obvious, perhaps the not-so-obvious would be the application of those engines – often higher horsepower units, in smaller, more compact chassis. How can this be green? It has to do with using less raw materials, such as steel, to get the same amount of work done. It also means getting a smaller machine into tighter spaces for more accessibility, with more capacity and more throughput. It means using less fuel to get the stump grinder to the work and less fuel to motivate it around the worksite – in addition to it being more fuel efficient to process the stump.

Using a more compact stumper with a lighter chassis means one may no longer have to get it to the worksite using a more expensive, higher fuel-consumption half- or three-quarter-ton truck or flatbed. It means utilizing a more fuel-efficient, lighter-duty truck or truck-and-trailer setup. And that in turn means less demand for raw materials at that end.

The point is that even a single step in the direction of designing, building, purchasing and operating a modern, environmentally friendly stump grinder has a positive, cascading effect in multiple related areas of the business.

Jason Morey, marketing specialist with Bandit Industries, says virtually all new Bandit stump grinder models – especially those in the popular midrange – are far more efficient than their predecessors. “For example, the new midrange Model 2450XP is a highly productive, self-propelled machine,” says Morey, “weighing in at about 1,950 pounds, and can be run with remote or man-

The new Bandit Model 2450XP comes with the same features as the Model 2150XP, plus a turbocharged Kubota 44.2 hp Tier 4i (interim) diesel engine comes standard, providing maximum torque for grinding larger stumps more efficiently.
ual controls, meaning the operator can be next to the machine or operate it from a remote location, depending on the job.” He explains that one of the green benefits of remote control can be the ability to get in quicker and closer to the work and get the job done faster with less physical effort.

More importantly, the new stump cutter offers more torque and power than the Model 2150XP, a compact unit with slightly lower horsepower options. The 2450XP is still compact yet features higher horsepower from a Tier 4i (interim) diesel engine. “This engine is more efficient, energy-wise, and cleaner than previous models, an interim technology between Tiers 3 and 4,” says Morey. It exemplifies the trend in stump cutters – and, in fact, most machines in the industry – which is for lighter, more compact machines with greater speed, capacity and overall throughput.

Furthermore, the unit can be ordered with our Super Sweep option, which allows the cutter wheel to back away from the cut as it loses engine RPMs, allowing the machine to run more efficiently. An added benefit is that the machine gets less wear and will last longer. Longer life means less environmental pressure for raw materials used in manufacturing.

Another initiative from Bandit is the offering of Greenteeth technology on all models. According to Morey, “These teeth have had an overwhelmingly good response from customers with regard to how they cut and also maintenance costs. They can be rotated (presenting a new, sharp surface) three times before a full change out, and they’re easy to change.”

Morey notes that if the teeth have significant damage, they should be replaced. “The teeth are low cost, efficient cutters and very productive. It’s better to replace them if damaged ... to keep the stump cutter operating at optimum efficiency.”

Quality construction in any equipment, stumpers included, is also somewhat of a “green” initiative, giving the machines longer life, says Morey. He adds that Bandit has a number of chippers in the field today with well over 10,000 hours on them, and this same philosophy is being applied to their stump grinder line.

Sean Dwyer, Husqvarna’s global product manager for the commercial turf group, says the company promotes only one stump unit, the SG13. This is a smaller, light unit, not self-propelled, but pushed into position. The low rating of 13 hp means the SG 13 is, by definition, a low-emissions machine. “It’s been out for a decade and is a proven design,” asserts Dwyer.

Dwyer cites the use of a new cutter head, based on the Leonardi Manufacturing M1 technology, which eliminates pockets and reduces the number of teeth required to do the job. “This is usually found on much larger stumpers. This is the first time it has been implemented on a smaller scale,” he explains.

Pointing out the “Husky” green angles, Dwyer says, “This head is 50 percent lighter than the older technology, and cuts very aggressively. That makes it more efficient all around. Next, the old head has eight cutting teeth that took considerable time to swap out. Our new head is down to three teeth designed in a triangle, each tooth with three separate cutting edges. When an edge is dulled, the operator need only loosen a bolt and rotate it to present a new, sharp cutting edge. Previously, with the old head, the process meant taking out the tooth completely to grind it or replace it. The new head and tooth means a new edge in minutes.”

“The new tooth is about the size of a 50-cent piece by a half inch thick, versus the old one about the size of an index finger, with a carbide tip. That means utilizing far less raw material,” he explains. “The old head was heavier, which takes longer for the equipment to spool up to speed and more time to spool back up once it lugged down in heavy work. Coming back to rpm means less black smoke (engine inefficiency) and better fuel management,” Dwyer says. “We were not necessarily chasing environmental benefits. We want materials to make better use of available horsepow-
er, which is the critical thing. The green benefits were a by-product,” he adds.

In a similar vein, John Bird, vice president at J. P. Carlton says, “The biggest thing we have done to make our machines greener is the addition of the Sandvik Dura Disk technology. The reason I say this is that it improves the cutting efficiency of the disk by 50 percent. That translates to overall efficiency. It also results in lower fuel consumption and less runtime to get the job done and, of course, overall less cost to run the machine.”

“Then there’s the fact that increased efficiency means longer machine life,” he adds. Regarding overall lightening of each unit, Bird explains, “We are careful about removing material due to the inherent nature of a stump cutter. We do not feel it lends itself to that kind of approach.”

The company manufactures both gasoline and diesel versions. “We are seeing a shift more to the diesel engines,” Bird observes. “That’s likely due to fuel efficiency and long life of the engines and also to longer service intervals. Plus, diesel-powered stump cutters provide more torque and therefore more power to the cutting wheel, which also increases efficiency,” he adds.

Jason Showers, sales manager for Morbark, says the company’s major initiatives are utilizing efficient, low-emissions diesel engines on its four models, two of which are self-propelled wheeled units, the other two tracked editions. The D52SPH wheeled machine is powered by an efficient 35-44 hp Kubota gas engine. The D76SPH 4-by-4 wheeled and both tracked machines, the D76 and D86, run Caterpillars. The wheeled and tracked “76s” are 62 hp; the 86 is an 86 hp unit.

Morbark has also adopted much of the Leonardi M1 cutting system technology with the lighter-weight, see-through wheel and fewer teeth, all of which, Showers says, results in less material use and, because of the reduced weight, less drag and friction on the running equipment over time.

J.R. Bowling, Rayco vice president, says, “The most visible thing we’re dong is making sure we are up to date on all our engine emissions standards and selecting fuel efficiencies when we do develop new machines or make an engine change. All stump cutters with anything less than 99 hp have an Interim Tier 4-compliant diesel engine. Over 99 hp units carry Tier 3-compliant engines. We have made a lot of progress to clean up emissions on stump grinders and brush cutters,” he says.

“Another thing we are doing, and I can only hint at it right now, is that we are talking to engine suppliers about biodiesel fuel. We’ve gotten the OK from some engine suppliers to allow use of biodiesel and still maintain fully warranties from the manufacturer. Similarly, we have gotten approval from most of our hydraulic manufacturers to run biodegradable hydraulic oil. But, one has to be careful of temperature ranges, especially cold weather where you never want to shut off the machine. The biodegradable hydraulic oils do not have temp range of traditional or synthetic petroleum-based oils,” he explains.

“We brought out a couple of machines in size classes we typically have not been in, concentrating on small- to mid-sized stump grinders,” Bowling says. “We released a new 35 hp stumper on tracks, which was on display at the last TCI EXPO. We are looking to launch a couple others in that 30-70 hp range. This is where operators get a lot of bang for their buck; a lot of power without having to buy a giant machine. It’s a matter of improved performance in smaller, lighter packages. They use less materials and it takes less fuel to haul them.”

Bowling continues, “Another thing we have done in the past year is introduce a tandem axle trailer to haul the self-propelled machines. The tandem axle means you can haul more weight with a lighter tow vehicle and get better fuel mileage from the tow vehicle. Now, instead of a three-quarter to one-ton truck, you can haul with standard half ton without squatting suspension to the limit. With the use of the tandem axle trailer, you can pretty easily haul a 4,000 pound stumper with a standard pickup. You could do that before, but it was a bit of a challenge.”

One of the things Vermeer has done, according to Todd Roorda, environmental solutions specialist, is to lighten the load, with the idea being that lighter materials make the machine “greener” to move and operate. “First of all, as far as manufacturing of our machines, we are utilizing a lot more plastic components. And they are

Operators get a lot of bang for their buck with smaller units, such as Rayco’s RG1635 Trac Jr., which use less material to make and less fuel to haul and operate.
made from recycled ABS plastic,” Roorda says. “By the same token, all steel components are from recycled steel. From a manufacturing standpoint, we are into the green movement.”

Vermeer places a lot of emphasis on its cutting-tooth technology. Roorda says, “Two years ago we came out with our Yellow Jacket Cutting system. By utilizing this system, we are getting twice the wear from our teeth. You are able to flip a tooth over and get a second edge. We also worked on the pockets that hold teeth, engineering them for less wear or washout. They last longer. And all pockets are designed to be reversible. Reversible pockets and flippable teeth mean the operator gets more time from existing pockets and teeth, speeding up the process and using less material.”

Recent innovation with Vermeer stump cutters has focused on productivity. Roorda explains, “Our auto sweep system maximizes horsepower to get the cutter to run more efficiently. If the stump cutter takes too big a sweep on a large stump, the engine monitoring system determines if rpm has dropped too low and will slow the sweep down. That will maximize fuel efficiency by now allowing the engine to work at a max load as often. This improves cutting efficiency; the job won’t take as long and there is less pounding of the equipment in the long term.”

He also noted the ability to run some stump cutters with remote controls. “If you get in awkward positions, utilizing a remote and standing at a different angle helps the operator work the machine more efficiently as well as more safely.”

Vermeer, as with its competitors, continues to install engines with cleaner emissions on its seven stumper models. Some units are a customizable, for example with backfill blades to fill chips back into the grinding hole or into piles for scooping up and removal. Roorda says the company is starting to see operators pick up ground wood waste. He knows of one customer who takes it to a compost facility. “The demand for this waste by compost yards is just starting,” he says. Is this another green trend in the offing?

In 2009, U.S. Praxis expanded its line of stump grinders with the PRX240, a 24-hp, self-propelled unit. This model features a 16-inch diameter cutter wheel and utilizes two sets of the company’s patented 12-tooth (tungsten carbide tipped) quadrublade along with a transaxle that provides forward, reverse and pivoting without locking a tire. ATV tires allow for an aggressive stance that’s easy on the turf and improves visibility of the cutting shroud. An optional compact, highway-rated trailer is also available.

Recognizing the inherent safety and economic value in properly maintained equipment, especially blades, U.S. Praxis offers customers a sharpening program intended to help control labor and material costs. A sharp blade not only improves production, but when maintained regularly will extend the life of your blades and contribute to longer machine life, argues Jim Cornelius, company president. It will also lead to greater fuel efficiency.

“The sharp blade makes cutting most efficient, with less drag on the engine, so you will use less fuel,” says Cornelius. “The fact our teeth are spaced so close together means there is less pounding and less vibration transmitted to the engine and operator. Since our blade cuts like a router, not like a traditional stump cutting blade, you will see a lot more fuel efficiency. The most critical part of a stump grinder’s efficiency lies in those sharp blades – as soon as they get dull, your productivity will drop like a rock.”

So, as the venerable stump grinder industry evolves with the times, clearly its various green initiatives can be good for the environment and good for the bottom line.
Business Assistance for 2009 Tax Returns

Five-year net operating loss carry back extended

By Mark E. Battersby

The Worker, Homeownership and Business Assistance Act signed into law early in November 2009 gave a new lease on life to two popular but temporary tax incentives: the first-time homebuyer credit and an expanded five-year net operating loss (NOL) carry back.

Changes in the new law have extended the five-year carryback period of NOLs to include NOLs from 2009. Those changes further expanded the five-year carryback’s availability to include more businesses (not just small businesses as under earlier legislation). The new rules are tricky, however, and include a new 50 percent limit on the amount of a NOL that can be carried back to the fifth preceding tax year, at least for 2009 NOLs.

To pay for the estimated $40 billion in tax breaks contained in this legislation, lawmakers ramped up the requirement that some tax returns must be filed electronically, increased the penalties for failing to file partnership and S corporation returns, and accelerated estimated tax payments certain large corporations are required to make.

Net operating losses

Under the new law, it is the availability of quick refunds from 2008 and 2009 net operating losses that are most likely to provide a huge boost to tree care businesses trying to survive. Usually limited to business losses, a NOL is defined as an excess of allowable deductions over gross income.

Generally, NOLs may be carried back two years and forward for as many as 20 years. The NOL is first carried back to the earliest tax year for which it is allowable as a carryback or a carryover, and is then carried to the next earliest tax year. A tree care professional can also choose to forego the entire carryback period for a NOL and instead carry it forward.

In other words, a tree care professional or business that incurs a NOL pays no taxes in the current tax year, claims a refund of taxes previously paid, and then carries over any unused NOL to offset future taxable income. The American Recovery and Reinvestment Act that became law early in 2009 allowed eligible small businesses (with average gross receipts of $15 million or less) to elect to carry back net operating losses from 2008 for three, four or five years rather than the standard two years.

The new law provides a similar election for all U.S. businesses of every size to carry back NOLs up to five years, but with a 50-percent income limit on NOL offsets in the fifth year. The new, expanded election is available for NOLs incurred in either 2008 or 2009, but not for both. However, an eligible tree care business that elected under the 2009 Recovery Act to carry back 2008 NOLs may make the election for an additional year, enabling a qualified small business to carry back NOLs from both 2008 and 2009 for up to five years.

A tree care professional or business that carries back a NOL to a prior profitable year can obtain a quick refund from the IRS for that prior year. As mentioned, NOL refunds will provide additional cash that can be used by the professional or business to pay expenses, maintain operations and make new investments – at least according to our lawmakers.

Under the new law, a NOL can be carried back to the fifth year before the loss is limited to 50-percent of the available taxable income for that year. Any remaining NOL can, of course, fully offset taxable income in the remaining four carryback years.

It should be noted that the 50-percent limitation does not apply to an eligible tree care business that chose to carry back its 2008 NOL under the 2009 Recovery Act. It does, however, apply to 2009 NOLs.

Jones Company, for example, has profits of $50,000 each year from 2004 through 2008. For 2009, Jones Company has a net operating loss of $100,000. Jones Company can elect to carry back the 2009 NOL five years, to 2004 and subsequent years.

For 2004, Jones Company can claim a NOL deduction of 50-percent of its 2004 taxable income, or $25,000. The NOL balance of $75,000 can be used to fully offset Jones’ 2005 income of $50,000. The remaining NOL of $25,000 can then be deducted against 2006 income, reducing the NOL to zero.

A tree care professional can use the tentative (or “quick”) carryback procedure to expedite the recovery of the refund for his or her business. Thus, taxpayers can recover a refund attributable to a NOL carryback before the IRS processes the return filed for the year the NOL arises. Using the tentative carryback procedure, the tree care business will not have to wait until the IRS processes the tax return for the NOL year in order to get the refund.

Payroll tax bite continues

The 0.2 percent FUTA (unemployment) surtax, first enacted in 1976, was most recently extended in the Emergency Economic Stabilization Act of 2008 through year-end 2009. The new law extends the FUTA surtax through June 30, 2011. Thus, the total FUTA tax on employ-
Electronic filing mandate
The new law requires paid return preparers to file individual returns electronically. Return preparers who prepare or reasonably expect to prepare 10 or fewer individual returns are exempt from mandatory e-filing.

The bill maintains the current requirement that corporations and tax-exempt organizations with assets of $10 million or more and that file at least 250 returns during a calendar year, including income tax, excise tax and employment tax returns as well as information returns (such as Form 1099s), to e-file their Form 1120 and 1120S income tax returns and Form 990 information returns.

Confusing corporate estimated taxes
Generally, corporations must make quarterly estimated tax payments of their income tax liability. Congress passed the Corporate Estimated Tax Shift Act of 2009 (Shift Act) in July 2009, which revoked provisions of the Tax Increase Prevention and Reconciliation Act of 2005 (TIPRA) with regard to corporate estimated tax payments.

The Shift Act increased estimated tax payments for corporations in the $1 billion-plus class to 100.25 percent for estimated payments due in July, August and September of 2014. The Act allowed large corporations to reduce their subsequent estimated tax payments in 2014 by the increase.

The new law increases the required corporate estimated tax payments factor for large corporations for payments due in July, August and September 2014 by 33 percentage points. This will have the effect of accelerating government revenue for the affected fiscal year.

Penalties
Effective for returns for tax years beginning after December 31, 2009, the new law increases the penalties for failure to file a partnership or S corporation return. The penalty for failure to file a partnership return increases from $89 to $195. Similarly, the penalty for failure to file an S corporation return increases from $89 to $195.

Between 2011 and 2019, this provision is projected to raise $642 million (partnership penalties) and $587 million (S corporation penalties). Whether these projections will stand up, remains to be seen. The huge percentage increase in the amount of the penalty (almost 120 percent) could cause even more taxpayers than anticipated to comply with the filing requirement so that less revenue will be realized than projected.

Other than business
The new legislation provides 14 additional weeks of benefits to all unemployed people who exhaust their benefits. It also gives six additional weeks of benefits to unemployed people living in states with an 8.5 percent unemployment rate or more. The total cost of this package is $2.4 billion and will be paid for with an extension of the federal unemployment tax surcharge (FUTA) until June 30, 2011.

The new law also extends the $8,000 tax credit for first-time homebuyers through April 2010 and allows a reduced credit of $6,500 for new buyers who have lived in their current residence for five years or more.

Designed to make it easier for individuals to buy a home, the changes also make it easier to sell a home. In general, the new law gives a new lease on life for the homebuyer credit, allowing a new lease on life for the homebuyer credit, extending it to homes bought before May 1, 2010. The homebuyer credit may also be claimed by existing homeowners who are “long-time residents,” such as empty nesters who “move down” by buying a smaller home. The homebuyer credit is now available to higher income taxpayers, with a new phase out range of between $125,000 and $145,000 for individuals and $225,000 and $145,000 for those filing a joint return. And, there is also a new home-price limit for the homebuyer credit, allowing homes with a purchase price of under $800,000 to qualify.

For many tree care business owners/operators, the availability of quick refunds from 2008 and 2009 NOL five-year carrybacks will provide a badly-needed infusion of cash. The new rules for NOLs alone will benefit businesses by nearly $34 billion in 2010 (but balancing out to $10.4 billion over Congress’s archaic 10-year reckoning period).

Keep in mind, however, that in order to pay for this, the first-time homebuyers credit and extended unemployment benefits, the new law increases the penalties for failing to file partnership and S corporation tax returns, accelerates estimated tax payments for some large corporations and extends the federal unemployment tax surcharge.

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What started out as a tree service much like any other in New England, evolved into a tree healthcare enterprise. For Peter Wild, owner of Boston Tree Preservation and Arborjet Inc., both in Woburn, Massachusetts, part of the evolution and his success can be attributed to his passion for trees. They might also be attributed, in part, to good timing or pure luck. But, there is no denying his knack for seeing opportunities and acting on them.

In 1975, at age 22, Wild launched The Eager Beaver Tree Service. Two years later, within a week of graduating from the Stockbridge School of Agriculture at the University of Massachusetts in May 1977, an unexpected snow storm hit just as trees leafed out. The heavy, wet snows brought tree limbs crashing and “911” calls in. Equipped with a ’73 Chevy Blazer, a chainsaw, and two employees – one full-time and one part-time – his business took off.

Gypsy moth or mana from heaven
The very next year, a gypsy moth outbreak in nearby Winchester, Mass., defoliated trees and another type of “911” call came in. This time the business branched into insect control. Wild traded in his ’73 Chevy Blazer for a 20-year-old Bean Agricultural Sprayer. Armed with the “new” rig and pesticides, the crew sprayed oaks for gypsy moth intensively from 1978 to 1982. During that period, the business grew to 10,000 customers. The size of his crew grew as well. Eager Beaver became Winchester Tree Service.

The chemistries available in the late 1970s were, Carbaryl, a carbamate, and Malathion, an organophosphate insecticide. Both are non-systemic, broad spectrum insecticides applied to foliage. In 1980, Bt (Bacillus thuringiensis) was available and incorporated into gypsy moth management at the request of the client base, which desired safer treatments. Bt is a naturally occurring bacterium that controls early instar caterpillars. It is less effective on late instars. Though greener, these applications needed to be made early; late applications were relegated to the carbamate or organophosphate insecticides. By 1982, gypsy moth sprays declined, but by this time the business was well established.

Soil applications – Getting to the root of the business
In the aftermath of the gypsy moth outbreak, Wild surveyed the community and noted that the key trees in the landscape were the large, senescent oaks and beeches. Many of the lawns in the community were fertilized with nitrogen for quick greening. Senescent, specimen trees do not need a push in growth, but simply need to be maintained. Noting that most leaves (i.e. organic matter) on landscapes are removed each year, a product that increased organic matter to enhance microbial associations was needed. Novozymes Biological, Inc., in Salem, Virginia, offered liquid ROOTS. With his spray rigs idling, Wild exchanged the spray wands with soil injector tips.

Could one make high quality organic soil amendments economical to use in tree care?

Lonnae Cameron, Boston Tree Preservation employee, attends to the Vermicomposter, or worm farm, at BTP, where they make compost tea fertilizers and soil amendments. It has the capability of amending tens of thousands of acres per year.
applications? Wild’s answer was “yes.”

Wild sought out and found a recognized authority on the subject, Dr. Elaine Ingham. Dr. Ingham considered the complex trophic levels in the soil, termed the soil food web. Soils have complex associations that include classes of micro-organisms including bacteria, fungi, protozoa, nematodes and micro-arthropods. She quantified and standardized specifications for compost teas based on the presence and abundance of beneficial soil microbes. Fungal associations are particularly important to tree health, particularly mycorrhizal associates.

The incorporation of compost teas adds needed raw materials to soils to support mycorrhizal associates. These are favored by wood-based materials, such as wood chips, a by-product of tree pruning. Wood chips are composted using vermi-cultural techniques. The end product is compost that provides the humic components to support microbial development specific to tree health. A liquid extraction is used for application to tree roots by injection.

Rather than use commercially available mycorrhizal inoculants, Wild focused on improving the organic matter in the soil to create the environmental conditions that favors inoculation by naturally occurring mycorrhizal spores. This strategy has proved both effective and economical; applications are made in the summer months following the early insect management program.

**Oils well that begins well**

In 1991, Winchester Tree Service became Boston Tree Preservation as the need for plant health care grew. BTP developed a horticultural-oil spray program that targeted overwintering mites, scales and mealybugs early in the season and aphids later in the season.

In 1992, a newsletter to BTP’s customer database went out with a hemlock wooly adelgid pest alert to recommend horticultural oil treatments for a new aphid-like exotic that attacked hemlock trees. In 1994, the BTP horticultural spray program expanded to include HWA treatments. Coverage of the entire canopy of large hemlocks proved difficult as temperatures, and wind made control of the insect at best, difficult. Nevertheless in five years the program grew to $250,000 as HWA spread. Repeated applications were needed, and Wild estimated that with sprays he attained about 85 percent control of HWA.

**Tree injection**

In 1999, Wild developed the Arborjet infusion tool for tree injection and launched a second business, Arborjet Inc. Arborjet’s purpose was to continue to develop formulations and delivery systems to help commercial arborists “preserve the natural and urban forest in an environmentally friendly way,” according its mission statement.

By 2001, BTP was injecting large hemlocks with imidacloprid for HWA control. Imidacloprid as a stem injection treatment became an important part ($100,000 the first year) of the BTP program. Although horticultural oil sprays continue to be an important part of the HWA program today – for example, they are applied to hemlocks sheared as hedges – individual tree protection was realized by stem injection. A combination of the two techniques (a low foliage spray with horticultural oil and a trunk injection) offered improved coverage, reduced drift and tree protection. By keeping the spray low, drift was limited and injected chemistries protect foliage higher in the tree where the tree was transpiring well and HWA was likely to infest next. These applications are made to the “911” calls, that is to say, to a new customer who calls after the trees have been infested for some time (e.g., 3-5 years).

**The greening of tree care**

An increased concern from his client base, his applicators and his own concern for environmental exposure drove him to seek “greener” applications, Wild says. He also felt that the liability issues of off target drift warranted the use of lower-risk pesticides. It simply made more sense to go this way and at the same time respond to the concerns of others.

For aphids and scale insects, a 1 percent solution of potassium salts of fatty acids (e.g., M-Pede) was applied as a cover/contact spray. These later sprays were designed to control soft bodied insects and crawlers by interfering with the insects’ ability to retain water. Contact insecticides do not provide residual activity.

More recently, the fight against winter moth (Operophtera brumata), another exotic invasive pest (*Lepidoptera: Geometridae*), was incorporated into the plant health care program. Like gypsy moth, winter moth is a generalist, but prefers maple, oak, apple, crabapple and cherry. Eggs hatch when temperatures reach 50 and the first instar caterpillars (green inchworms) then crawl between the bud scales of the still dormant tree to begin feeding on the leaf primordia. Unlike gypsy moth, winter moth feed for a shorter period, until late May or early June, and then drop to the soil to pupate. Adults emerge late, in November and December, to mate and lay eggs. It is aptly named.

Wild uses Spinosad (e.g., Conserve SC) sprays to control the defoliating insects. Spinosad is derived from the fermentation by-product of a soil actinomycete, *Saccharopolyspora spinosa* discovered in 1982. It is effective against caterpillars (*Lepidoptera*), leaf mining flies (*Diptera*), thrips (*Thysanoptera*) and some leaf feeding beetles (*Coleoptera*). Wild designed a three-step program based on tree phenology, where “WM 1” targets cherries and crabapples, “WM 2” targets maples, and “WM 3” targets oaks. If a property has both cherries and oaks, they are sold WM1 and WM 3 sprays. In this design, applications...
are made when trees first leaf out and the winter moth is vulnerable as a free-feeding caterpillar. The company geographically covers a 30-mile radius north and south so that tree phenology varies quite a bit. For example, spray applications for winter moth begin as early as April 21 on the southerly end of the area, but may be delayed until early May in the north.

So how do you get real time feedback to manage spray applications for efficiency and optimal effectiveness? One resource available is UMASS cooperative extension Web site to access Growing Degree Days for a particular insect pest and location. Other resources are the crews who visit properties early in the season (for example, when applying dormant oil applications) to report on real time tree phenology and pest emergence.

Adjuvants may be added to sprays to improve sticking, spreading or leaf penetration, such as the organosilicate/ non-ionic surfactant, Joint Venture or Cohere, a non-ionic surfactant (from Helena Chemical Company, Collierville, Tenn.). Wild has modified his spray programs to minimize impact to pollinators by applying either a different chemistry (such as Acelepryn) and avoids spraying when the trees are in flower.

A new chemistry, Emamectin benzoate, has been tested as a full treatment for winter moth, with excellent results. Emamectin benzoate is a semi-synthetic avermectin insecticide. The avermectins were derived from the fermentation by-product of another soil actinomycete, Streptomyces avermitilis, first discovered in Japan in 1976. This new class of chemistry has activity against insects (particularly, Coleoptera and Lepidoptera), as an antihelminthic (i.e., nematodes), and acaricide (i.e., mites). Although the label is awaiting EPA approval (as TREE-âge), late fall applications using this chemistry will extend the plant health care season.

### Planting a seed

In 34 years, Wild has grown a successful tree health care business by responding to unanticipated changes in the environment and actively educating his customers to be proactive. Though severe storms brought in the “911” calls, introduced, exotic pests spurred change and growth. Over the years, the chemistries (antibiotic classes) and some techniques (tree injection) have changed for lower environmental impacts that help to keep the tree care business green. There is no question that to be successful one needs to respond in a timely way to exotic insect pests, but today the resources to support a business are in place, i.e. pest alerts, University cooperative extensions, etc. Can one grow a tree health care business in an uncertain and changing environment? If the last 34 years are any indication, the answer would be an unequivocal, yes!

Don Staruk is editor or TCI Magazine. Joe Doccola is director of research and development for Arborjet.

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Tuesday July 20 – Rockford to Galena (95 miles)
The Stagecoach Trail leads to historic Galena; we’ll dine and unwind in Dubuque.

Monday July 19 – Zion to Rockford (80 miles)
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Wednesday July 21 – Galena to Moline (80 miles)
Meander the beautiful, bike-friendly Mississippi River Trail south to Moline.

Thursday July 22 – Moline to Princeton
Choose your route: Cycle the scenic Hennepin Canal Parkway to Princeton (70 miles).
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A shuttle from Peoria reunites the Tour in Princeton.

Friday July 23 – Princeton to Naperville (80 miles)
The home stretch leads to Naperville (home of the TREE Fund) and a well-deserved celebration dinner at the Morton Arboretum.

Saturday July 24 – Naperville to Lisle (38 miles)
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Otto “O.J.” Ottiger and his son, Nick, banter when they talk about their work, but it’s clear that they take tree care seriously.

O.J., a certified arborist, has been working with trees since 1972 and founded his company, Ottiger Tree Service, LLC, in 1998. Nick, who is also a certified arborist as well as a CTSP (Certified Treecare Safety Professional), crew leader and the company’s main climber, worked for the company while he was in university and joined it full time in 2005.

The company is based in Fenton, Missouri and serves the greater St. Louis area. About half of their work is pruning and half tree removal. They also do tree recovery work after storm damage.

“After a storm comes through, anyone with a chain saw comes by and removes the trees that have fallen. After that, you still have trees with broken limbs.” And that’s where Ottiger comes in, making the cuts to help trees recover. For the company, it’s an art as much as a science, because they make sure the final result is pleasing to the eye. It’s also a “green” practice, because it can save some trees that might otherwise be lost. This attention to detail is one reason the company stands out from others, says O.J.

The company has six employees, plus O.J. and Nick, full-time, year-round. “We prefer to be small,” O.J. says. “It lets us do what we do best, and we don’t get into laying off employees when there isn’t enough work.”

The size of the company also benefits their customers, which are about 70 percent residential, Nick adds. “There aren’t a lot of different levels to go through,” he says. “When a customer calls, they’re either talking to my father, myself or my wife, who works in the office. On every call, the owner is going to show up.”

Usually they both do.

“Dad just can’t help but show up. He does crowd control and I do tree control.”

And in fact, many of the people who stop to watch them work become new customers. They get 95 percent of their work through word of mouth.

Their specialty is removing large trees from small spaces, which also requires great attention to detail.

“Here in the St. Louis area, it’s pretty close and compact,” O.J. says. “You’ve got 36- to 48-inch diameter trees, 70 to 100 feet tall, expanding across three to five backyards.”

The company will recommend more appropriately-sized trees for the spaces, another sustainable practice. It’s much healthier for trees to be able to grow to their natural height and width, he says. “When you start interfering with nature too much, you start to make more problems.”

In addition to coordinating with all the affected homeowners and the utility company when they remove trees, they have to bring all the brush down safely. They work around active low voltage power lines, but get the power company to shut down the high power lines, Nick says. Still, it’s almost impossible to walk through some backyards and stay 10 feet away from every energized source, from transmission and cable lines to guide wires and fences.

“Awareness is really the key when working around energized sources. You have to know your limitations. TCIA has sessions for EHAP (Electrical Hazards Awareness Program), and we’ve all been through that. My CTSP comes in handy, too. It helps me be more aware of the big picture when I’m in a tree.”

Nick became a CTSP – one of only four in the state – as part of his company’s com-
pleting TCIA’s Accreditation process. It’s enhanced his awareness of safety, not only for employees and the crowds their work inevitably attracts, but for traffic in the roadways as well.

Ottiger Tree Service became accredited in 2007, the second company to do so in the St. Louis area. “We got accredited just so I’d know we were doing everything right, not to get noticed or to get more work,” Nick says.

In the Midwest, municipalities look for accredited companies, he says, and they’ve become a new market for Ottiger. Residential and commercial consumers have been a little slower to realize the significance of Accreditation, but he expects them to become more aware as the economy improves.

Becoming accredited was a little overwhelming, says Nick, who handled the process for the company. He found that doing a little at a time made it much easier, and he based his business plan on TCIA’s outline. The hardest part was organizing the insurance forms, keeping organized and getting all the paperwork filled out.

“Accreditation gave me more pride in the company and in the industry as a whole,” Nick says. “To be a good, well-rounded company, you have to go through a lot of education and on-the-job training. We’re not just a couple of guys cutting trees.”

Being accredited hasn’t changed the way they work on trees, he says, but it has kept him more organized. “I know my documentation is correct and I’m doing all the right things. As far as the expense, it seems like a little bite, but you realize it was a good thing.”

Training employees is another requirement of Accreditation. Nick gives weekly training sessions on ANSI Z133.1 safety standards, and the entire company goes to TCIA EXPO for the education sessions whenever it’s feasible. He also trains them in the various ANSI A300 standards.

The company has ArborMAX insurance, which they chose mostly because of the affordable rate for workers’ comp, their biggest expense. It’s only available to accredited companies and is the only insurance endorsed by TCIA.

“You’re in a special group,” O.J. says. “You have safety training and minimal losses, so you have a chance to keep your rates lower. ArborMAX has been good to us.”

Both father and son share the same vision for the future.

“We’re comfortable the way we are,” Nick says. “We may add another crew, but I still want to micromanage. We don’t want to get so big that we can’t maintain our standards of work.”

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Firefighters rescue tree cutter from oak

Firefighters had to rescue a professional tree cutter who was stuck in a large oak in Palmer, Massachusetts, December 1, 2009.

Firefighters had to use the aerial tower to rescue Richard Berthiaume, of Warren, Mass., who was about 50 feet in the air. Roy said firefighters were alerted to the problem by Berthiaume’s co-worker, who drove to the fire station to get help. The tree workers did not have cell phones, and the property owner was not home, according to The Republican newspaper and www.masslive.com.

Berthiaume was wearing some safety equipment, but was missing straps and ropes and did not want to risk falling from the tree, a smart move according to the local fire chief. The rescue was complicated because branches had to be cut to access Berthiaume, who was not injured.

Worker killed in struck-by

A 31-year-old Columbiana County, Ohio, man was killed while cutting down a tree December 1, 2009, at a golf course in Salem, Ohio. The man was cutting down trees and had wedged a tree he was working on when a five-inch diameter limb struck him in the head, killing him, according to the Salem News. The tree he was working on fell onto another tree, causing a branch to fall on the worker, according to OSHA’s December 4, 2009 Weekly Fatality Report. *Submitted by Paul Mautz, CTSP, Southfield, Michigan.

Resident electrocuted pruning branches

A Plattekill, New York, man was killed December 4, 2009, while pruning branches beneath electrical wires in his front yard. William J. Rhoades, 69, was pronounced dead at the scene. Rhoades appeared to have trimming branches of a tree using an extendable pruning tool, according to the Poughkeepsie Journal. While trimming near electrical wires 21 feet above him, the tool apparently got caught on the wires and he was electrocuted. Rhoades suffered severe burns and was pronounced dead after the electrical service was shut off. The sheriff’s office and other emergency agencies responded to the scene after receiving a call from the home of Rhoades on Cotter Road.

Man injured in fall from bucket

A man was flown to a hospital December 9, 2009, after he fell 30 to 40 feet when a bucket truck collapsed in Bushkill Township, Pennsylvania. The man was barely conscious when emergency crew arrived, according to a lehighvalleylive.com report. The man was apparently trimming trees with a company when the arm of the bucket he was using reportedly broke free from the truck.*

Landscaper killed by falling limb

The owner of a landscaping company was killed December 14, 2009, in Bainbridge Township, Ohio, when he was struck by a limb from a tree he was working on. John Gallagher Jr., 63, of Bainbridge, was pronounced dead at a medical center shortly after the incident, according to www.cleveland.com.

Gallagher and two other men were working on trees on a residential property. While Gallagher, who operated the landscaping company for 30 years, was working on a lower branch, a branch that had been stuck near the top of the tree worked loose and fell, striking him on the head.

Gallagher was unconscious when police arrived. He was pronounced dead on arrival at the local medical center.

Submitted by Matt Zawitz, Taz Tree Service, Chagrin Falls, Ohio.

Bossier Man Injured Cutting Trees

A Bossier City, Louisiana, man was injured while cutting a tree December 14, 2009. The man was trimming a tree when a cut limb knocked him into the trunk of the tree. The man was taken to a medical facility but was expected to be okay, according to www.ksla.com.

Airman killed by car while trimming tree

A fighter pilot was struck and killed by an out-of-control car while he was trimming a tree outside his Cherry Hill, Pennsylvania, house December 14, 2009. The driver of the car was also killed.

Stephen M. Moffa, 41, of Cherry Hill lost control of his car while driving at a high speed on westbound Route 70 and struck a shoulder, a utility pole, and a homeowner. Air Force Lt. Col. Mark C. Jennings, 44, was in his front yard trimming limbs on a tree when Moffa’s car hit him, knocking his (Continued on page 65)
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Our pages are no longer printed and sent to a printer, but submitted as electronic PDF files, which are then processed and proofed online before they are finally converted into plates for printing. No printing and mailing of proofs back and forth with the printer as was done even five years ago.

The cover pages of TCI are regularly printed on a 100 pound (somewhat heavier), No. 3 stock paper, and the inside pages are printed on a 50-pound (lighter) paper. For this issue, the cover stock contains 30 percent recycled content, rather than the 5-8 percent in the paper we usually use. Unfortunately, it is still more expensive to use paper containing a higher recycle content than not.

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Both the cover paper used on this issue and that normally used are FSC certified. Forest Stewardship Council certification means the wood used in the paper originates from FSC-certified sources. These sources use sustainable, verified logging practices that reduce or eliminate habitat destruction, water pollution, displacement of indigenous peoples and violence against people and wildlife. To use the FSC logo on paper, the product must have flowed through the FSC “chain-of-custody” from the FSC-certified forest, to a paper manufacturer, merchant, and finally printer who have FSC chain-of-custody certification.

Inside pages

The 50-pound inside pages of TCI are made from, #4 stock paper, which is considered a hardwood stock. While this is

(Continued on page 62)

Appealing to the Green market

By Don Staruk

Many of TCI’s advertisers and associate members, those member companies who provide products and services to commercial tree care companies, are making their own efforts to be more environmentally responsible.

Some, such as Greater Earth Organics, LLC, in Chilton, Wisconsin, maker of the GOTEA compost tea machines, are green by nature, so to speak. Many arborists and landscape companies across the nation are starting to use compost tea in their everyday programs and practices relating to plant health care.

“Good quality compost tea is an excellent way to insure healthy trees, shrubs and turf by providing a biological inoculate of beneficial microbes which can dramatically improve soil and tree health by reducing compaction, adjusting pH, modulating excess or deficient moisture, discouraging pathogens and a host of other benefits,” says Bob Posthuma owner of Greater Earth. “GOTEA is the poster child of “Green” and “Sustainable” landscape practices.”

SherrillTree, the arborist supplies company based in Greensboro, N.C., recycles glass, aluminum and plastic containers and some paper products on its premises. They utilize companies that are FSC compliant (Forest Stewardship Council), such as commercial printers for their mailers and catalogs.

“We promote plant healthcare as a part of our mission statement and through the products we sell,” says Clay Thornton, Sherrill’s marketing director.

Sherrill’s mission statement includes the line: “Equipped with a passion for trees, SherrillTree hopes to inspire a deeper awareness that will ultimately benefit trees and people.”

Even something as simple as the Treepedo rope positioning tool, marketed by King Tree Service in Cambridge, Ontario, touts the advantages of the Treepedo being made of aluminum.

“Many throw bags available are filled with toxic lead, so it is crucial not to have them break open or be lost on a work site, especially in environmentally significant areas,” says Thomas Amorim, arborist with King Tree and Treepedo. “The average climbing crew will expend three to five throw bags per year. That means it is a disposable product with the potential to release millions of ounces of lead into the environment. Lead has been removed from most industries like fishing, hunting, plumbing, paint etc. It’s time we do the same with rope access/arboriculture.”

Making changes that benefit the environment can cost more than other alternatives, but those changes may bring added benefits that make it worth making them. Consumers are seeking ways to be more “green” themselves, and, all else being equal, they may choose your services because they appreciate your helping them do so. As Treepedo’s Amorim says, “Clients love to hear that their tree care professional cares (enough) about the environment to make a positive choice.”

If Tobe Sherrill, CEO of SherrillTree, is not on his bike, he commutes to work in his 2005 Toyota Prius hybrid vehicle. This is kind of a “lead by example” philosophy that Tobe tries to instill in his employees and the company.

By Don Staruk
The benefits of TCIA membership just keep getting better.

Your membership in the only association just for tree care companies is more valuable than ever. It helps you to stay current with industry events and regulations that affect your business. It helps you maintain best business practices that can help you run your business efficiently and profitably. And now, the benefits of membership even help you to offer your employees many different health options with TCIA’s Employee Health Benefits Solutions Package.

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TCIA offers member companies additional insurance options for your business! Don’t forget to look into the ArborMAX insurance program. The program is designed for tree care companies and available coverage includes general liability, property, inland marine, E&O, umbrella, and WC (only accredited companies or companies with a CTSP are eligible to apply for WC).
TCIA and PLANET discuss uniting efforts under one umbrella

Talks could create a new association to further advance the Green Industry

Boards for the two organizations issued the following statement:

“We are excited by the potential of a new association that would unify our industry’s voice and increase our ability to serve and advance the interests of our members, our businesses, and the green care industry.”

“Seven years ago TCIA embarked on a 10-year plan we call the Transformation of the Industry to advance the level of safety, professionalism, and public and governmental awareness of tree care companies. We have made great strides,” stated Terrill Collier, chair of the TCIA Board. “Now, we have a historic opportunity to create a future that will redefine the green industry. Our industry sectors are more connected with each other and our customers than ever before. Together, we can lead the way for communities and consumers to protect the health and safety of our environment as the voice of the green industry. A unified organization can invest in technology and infrastructure that will allow the continued development of programs that benefit members as they seek to run even more successful companies.”

“At a time when so many in our industry are offering a wide array of services, it makes good sense to have the representation of one organizational leader,” stated Bill Hildebolt, CTP, president of PLANET.

“Currently, when we promote the environmental benefits of our services, we do so holistically to include lawn care, landscape services, tree care as well as the benefits of indoor plant care,” Hildebolt explained. Both parties will continue discussions to create and design the plan for a new organization that will maintain the current community structure. This includes keeping PLANET’s specialty groups in place and keeping the TCIA community together, while also maintaining the positive characteristics that have made both organizations successful. To this effort, both boards have made a good faith commitment to create a new industry organization that would replace the existing associations; and together design a successor organization that would increase value to everyone and that would be approved by both memberships.

Additional details will be worked out and reported as more information becomes available.

“We intend for our process to be transparent and collaborative,” says Collier. “To this end, we will work to keep all members of the green industry informed about our progress.”

A300 standards development update

Current A300 Project Notifications and Public Review periods include the following:

New standard development projects:
- Part 8 – Root and Root Zone Management*
- Part 9 – Tree Risk Assessment*

Revision of existing standards:
- Part 2 – Fertilization*
- Part 5 – Management*
- Part 6 – Transplanting*

* Indicates that a Project Initiation Notification System (PINS) form is available for download.

Other A300 standards not currently showing any activity include:
- Part 1-2008 Pruning
- Part 3-2006 Supplemental Support Systems
- Part 4-2008 Lightning Protection Systems
- Part 7-2006 Integrated Vegetation Management (IVM)

For PINS forms, public review status, drafts, ASC A300 members and subgroup (project) contacts, or a standards development flowchart showing how a proposal becomes a standard, visit: www.tcia.org/standards/CurrentProjects.htm

60 TREE CARE INDUSTRY – FEBRUARY 2010
You’re already a tree care expert...
Now let’s add business expert to the list!

You CAN have it both ways.

As a tree care professional, being an expert in your field is important – but sometimes, it’s not enough to make your business grow. Put the experience and the network of TCIA to work for you, and we’ll help you become an expert in business SUCCESS.

Try out TCIA membership for one year for just $299*!
Join now and receive a new member Business Success Kit valued at over $500, filled with the tools you need to get your tree care business growing.

*Offer valid for new, first-time, members only, expires Dec. 31, 2010.

Give us a year and watch your business GROW!

Call today at 1-800-733-2622 or visit www.tcia.org to learn more about what TCIA membership can do for your business.
The TCIA Professional Communications Awards epitomize marketing and communication excellence for this industry. This year, we had an impressive 68 entries, with dozens of excellent examples of professional writing and design. For all of these categories, we balanced budget with final project. Ultimately, our panel of judges chose 17 of the 68 entries as winners, which were selected in four categories: Brochure, Newsletter, Web Site and Special Entry. The entries were evaluated on their overall appearance, content quality, adherence to ANSI and OSHA standards, and their success in achieving the company’s marketing and communications goals.

Awards will be presented and entries displayed at TCIA’s Winter Management Conference in Hawaii, Feb. 10, 2010. For registration information on the conference, please go to www.tcia.org.

If you would like comments and feedback on your entry, please e-mail a request to garvin@tcia.org and we would be glad to give you our detailed reviews. See you in Hawaii.

And the winners are...

There were 13 entries in the Brochure category. The winners are:
- Arbonwell
- Autumn Tree Care Experts
- Finch Tree Surgery
- Guardian Tree Experts
- Townsend Corporation
- Urban Tree Service

There were 23 entries in the Newsletter category. The winners are:
- Almstead Tree & Shrub Care Company
- Fito Consult
- Hartney Greymont, Inc.
- Lewis Tree Service
- SavATree

There were 16 entries in the Special Entry category. The winners are:
- RTEC Tree Care (for a direct mail campaign to targeted areas)
- Swingle Lawn, Tree and Landscape Care (for Trees for 3’s promotional campaign)

There were 16 entries in the Web Site category: The winners are:
- Bartlett Tree Experts
- Eden Tree Pros
- Four Seasons Tree Care
- Hartney Greymont, Inc.
- Townsend Corporation

TCI goes green

(Continued from page 58)

not an FSC paper, all of the paper we use is purchased from mills in North America that follows strict guidelines for re-forestation programs that foreign mills (i.e. from Europe or China) don’t have to adhere to.

Pulp sources

Papers are often classified according to the properties of the stock and placed into general categories. Most papers can be classified as groundwood, which is used for the inside pages of TCI, or freesheet, which is used for the TCI cover stock.

Stocks classified as groundwood contain more than 10 percent of pulp produced from a mechanical process that grinds wood into pulp. The cellulose in the wood is the major ingredient of the pulp, but because all of the wood is used, other ingredients such as lignin and resins become part of the pulp as well. The lignin is what causes groundwood stocks to yellow quickly and become brittle. In addition, the wood grinding process produces a pulp with very short fibers so the resulting paper has a low tear strength – not good when being used on a printing press. Chemical fibers are added to many groundwood stocks to give them added strength.

Freesheet paper is free of pulp produced from a mechanical grinding process. Chemicals, rather than grinding, are used to reduce the pulp to fibers. Wood chips are cooked in chemical baths that remove the lignin and resins. Most of the cellulose remains, resulting in fibers that are longer, stronger, and cleaner, which produces paper that is brighter and much more permanent than groundwood stocks.

Soy-based ink

The inks used in printing TCI are soy oil-based rather than traditional petroleum, which means they have a percentage of soy oil in them. Our inks have between 8 and 12 percent soy oil, depending on the color. The total renewable resources used in the ink ranges from 22-26 percent, depending on which colors are used. Visit www.spieweb.com and click on the Emerald Green section for more about soy-oil-based inks.

Digital magazine

We’re not sure of all the potential or real environmental impacts of the new digital version of TCI, available at www.tcia.org. We can say that it certainly reduces the use of paper, ink and transportation impacts, including fuels for trucks, packing boxes, mailing envelopes and more.

We hope you’ll keep reading TCI – on paper or online.

Don Staruk, editor
Partners Advancing Commercial Tree Care

Supporting and Sustaining the “Original” Green Industry

TCIA would like to extend our sincerest gratitude to the following companies whose commitment to our work is extraordinary.

Helping to build a stronger marketplace can have significant benefits for your company. Contact Deborah Johnson, Director of Development at johnson@tcia.org or call 1.800.733.2622

www.tcia.org
City vehicles to run on wood chips, “gasified” bio-waste

New technology being developed in Naperville, Illinois, outside Chicago, makes it possible to use yard waste to fuel the city’s fleet vehicles. The biomass “gasifier” was developed through a partnership among Packer Engineering, Argonne National Laboratory, Naperville and the College of DuPage. Northern Illinois University and the University of Illinois are also involved in the project.

The 12-foot-high machine uses products such as wood chips from municipal tree trimming or corn cobs and stalks left after the harvest. That’s why it’s dubbed the Stalk Stoker. That bio-waste is converted into carbon monoxide and hydrogen, then undergoes a series of heat exchanges to become a mixture called syngas. The next step is to use the gasifier to create environmentally friendly fuels such as hydrogen and ethanol. Naperville plans to use the gasifier at a new “green fuels depot” in the village, possibly as soon as next fall.

The process is “carbon-negative,” which is even better for the environment than carbon-neutral methods because it actually takes carbon out of the atmosphere, researchers said.

The gasifier is expected to begin production within months, company officials said. Converting just 3 percent of the city’s yard waste – from branch collection – could power seven fleet vehicles, said one city official. “We want to be the leaders of (green) technology in the whole state and the whole country,” Naperville Mayor George Pradel said.

Stimulus funds trimming California trees

The city of Chico, California, was recently awarded $100,000 in federal stimulus dollars to help prune trees in Bidwell Park, with work on the project already under way. The American Recovery and Reinvestment Act funding was finalized in December. With the city facing budget cuts over recent years, all city departments have been forced to trim expenses, with the pruning of Bidwell Park trees on the list of cuts this year.

Crews with Fallen Leaf Tree Service of Sacramento (TCIA member since 2002) will be removing dead branches and thinning limbs on the trees, reducing the weight of the branches and decreasing the potential for broken limbs.

A condition of the grant funding requires that workers from Butte County be hired to work on the project. Fallen Leaf Tree has employed four local workers. The project will run approximately one year, with the tree workers working for a period of time each month to trim back the trees.

European oak borer in U.S.

Earlier this year the European oak borer, Agrilus sulcicollis Lacordaire (Buprestidae), was reported for the first time in the United States when it was identified from a trap collection in Michigan from 2003. More recently, EOB was found in a trap in Brockport, New York (Monroe County). EOB was reported in Ontario, Canada, in February 2009.

Agrilus sulcicollis is considered an economic pest that may be a factor of oak decline in Europe, but recent literature describes this beetle as more of a secondary pest. EOB prefers to infest upper parts of the stems, branches and smaller sized host trees. The beetle also inhabits freshly cut timber. EOB is native to most of Europe, except for the northernmost parts. The larvae develop in or under bark of live Quercus species, and require between one and two years to develop before emerging as adults. The host range of EOB includes Quercus spp. (oak), Castanea spp. (chestnut), and Fagus spp. (beech).

Steelroots Series debuts at Morton Arboretum

The Morton Arboretum, in Lisle, Illinois, in April debuts an exhibit of massive Steelroots and other sculptures by Pennsylvania artist Steve Tobin. The show, which marks the Arboretum’s first display of fine art sculpture as well as the debut of Tobin’s current Steelroots series, will open as a four-season exhibition of 12 monumental sculptures on April 9, 2010.

Tobin gained international acclaim in 2004 with the dramatic installation of the Trinity Root near Ground Zero in Lower Manhattan, the first and only art memorial near the 9/11 disaster site. The sculpture is a bronze casting of the stump and roots of the historic sycamore tree that saved St. Paul’s Chapel during the attack on the World Trade Center. The transcendent sculpture is permanently sited on the corner of Wall Street and Broadway, where millions of visitors see it each year.

Steelroots will be set in the Arboretum’s “outdoor galleries” in the 22-acre Conifer Collection, amid the sights and scents from a vast collection of pine, juniper, fir and spruce. The majestic evergreens create a stunning backdrop for Tobin’s sculptures.

Tobin’s work transforms the way people of all ages look at trees and nature, connecting visitors with the importance of trees in our environment as well as the metaphorical power of roots, and the questions that can be provoked about root form and function. The artist’s nature-based work resonates with the fine art world as well as the general public.
A chain saw cut, then a crash

Two workers were hurt December 18, 2009, one with a chain saw injury, after their dump truck ran off a road and into a garage in Herndon, Virginia. Michael Brunetto, 28, of Sunbury, was taken to a medical center by Life Flight helicopter, and Michael Wilt, 20, of Sunbury, went by ambulance. A third man with them, Jesse Stahl, 19, of Sunbury, refused treatment, according to www.dailyitem.com.

Stahl and his two co-workers were cutting down trees when one of the co-workers cut his arm with a chain saw. The three were on their way to the hospital, with Stahl driving, when they crashed. The truck, towing a wood chipper and trailer filled with wood chips, landed on its side between a garage and a utility pole. The door of the garage was crushed while the trailer of wood chips lay detached several feet away.*

Detail officer injured in car accident

A police officer working a detail with a tree-trimming crew in East Providence, Rhode Island, was injured after he was pinned between two cars in a fender-bender December 23, 2009. The officer suffered leg injuries and was rushed by an ambulance, escorted by police cruisers, to the hospital. The officer was conscious and talking when firefighters arrived, according to the Providence Journal.*

Man killed by cut tree

A 64-year-old Statesville, North Carolina, man died December 29, 2009, when a tree he was cutting fell onto him. Daniel Anthony Zupa was cutting down some hickory trees behind a home. Zupa was cutting down one tree, and as he was cutting a second, the first fell onto him. Zupa was pronounced dead at the scene, according to the Statesville Record & Landmark.*

* Submitted by Paul Mautz, CTSP, Southfield, Michigan.

See more accident briefs at www.tcia.org under the Safety tab. Send accident reports to editor@tcia.org and, work safe!
Have you ever had a tree crew you really just loved to work with on a hard take down? It’s hard to find crews who can be full of fun and, for no reason, bizarre at the same time.

Well, this was the day for bizarre! The crew was in Evansville, Indiana, taking down a large maple on its last leg of life. After the take down, we found the stump was rotten in the center, full of that nasty, ugly black dirt filled with lots and lots of big white grubs. Each grub was big as a man’s index finger and really fat. As they were cleaning the dirt out of the hole, so it wouldn’t dull the saw chain on the final stump cut, my husband Rodney said to the guys, as he was cringing and wrinkling up his face, “You know, there are people in this world that eat these things.”

Well, of course there is always someone who never knows when to shut up and keep his thoughts to himself. Jake said, “I’d eat one for twenty dollars.”

Rodney said, “I’ve got five.” Another guy said, “I’ve got five.” This continued till $20 was raised.

To get ready for this ordeal, Jake had a large glass of water sitting next to him, for – as they say – just in case. In other words, your body goes into a shaking motion like convulsions; that’s how, I believe, the body helps you get through the stupid thing you just did to your body. God forbid, it wedges in your windpipe on its way down; if so, that “just in case” is real handy for that last act of courage you never really had to begin with – it was just an act of stupidity.

On with the story. Jake looks it over, rolls it around in his fingers and then pops it in his mouth! He starts to swallow, but for some reason it’s not sliding down the throat too well. His gag reflex is starting to work. You know, how the throat starts trying to bring it up, yet it wants it to go down. The body is funny that way. After several tries, with the throat doing all that up and down motion, it was time for the just in case. He finally took a big gulp of water to let that sucker swim to his stomach. After it hit bottom, the guys said, “Well, how was it?” All Jake said was, “I got twenty for that!”

Of course the rest of the day went on as usual. And for the next few months, everyone wanted him to do it again. But he upped the ante on the next one and no one was willing to go higher on the money.

Jake never would really say whether it was worth it on not. Really, I don’t think it was, but he wouldn’t want anyone to know he wasn’t a brave sole.

Marie B. Hawkins and her husband, Rodney, own and operate American Tree Experts Inc. in Loogootee, Indiana.
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