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Dusting

If you’ve sat through a strategic planning session, a business plan workshop, or read a book on planning, you’ve heard the warnings against writing a plan and putting it on the shelf to gather dust.

I don’t know about you, but I can’t figure out where the time went between the rising media panic about Y2K and what will be vindication for folks who are ringing in the new millennium as 2001 arrives in a very few short days.

What I do know is that if your business plan is looking a bit dusty in the year 2000, then it’s time to yank it off the shelf and take stock of where you are before the holiday parties set in. Even if you haven’t been vigilant about looking at it every month and adjusting the following month to reach business targets ... or achieved planned increases in staffing ... or purchased new equipment, you need to know where you really are at the end of another calendar year of business.

To not know where you are and how you got there means you surely aren’t going to know if you have arrived somewhere different. Worse yet—if you do recognize you are in another place altogether, you won’t know how you got there. You can lose either way by repeating mistakes or by not knowing what happened that made business better. This will always leave you wide open for some pretty nasty surprises.

It’s easy to get complacent during a good business cycle ... and we’ve had one long, good business cycle. Most likely, if you’ve been putting some away for retirement, you already know that things are a lot different this year than in the preceding three years. What happens if we hit a stretch that is a lot tighter? Are you ready for that?

So what are you preparing for? Are you preparing at all? Are you going to wait until you’re at the end of the third quarter next year to realize you should have done something?

Taking stock now is more than thinking up New Year’s resolutions. It’s about good business. There is still time to put some plans in place for 2001 that will help you shoot for new goals.

Make 2001 you’re most well planned year ever, and let us hear about your success stories!

Happy Holidays!

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Winter Injury in Trees

By Ed Hayes

Winter drying is evident in these fall-transplanted spruce. During mild winters with above average temperatures or under windy conditions, trees lose moisture. At the same time, as little as 10 percent of the original root structure remains.

In the northern half of the United States, winter has begun to settle in. Trees in this region become vulnerable to a variety of winter injuries. Even though the diagnosis of winter injury in deciduous hardwoods typically begins in early summer, now is a good time to examine ways to identify and treat winter injury.

The differences between hardwood trees affected by winter injury and healthy unaffected trees become most evident in the early summer. It is typical to see some limited winter injury in most years in this region. The reasons include a wide variety of tree species planted on a variety of soil site conditions, and dramatically variable weather conditions that are the norm.

Winter injury is classified as non-living or non-infectious disease. Non-infectious diseases consist of a large number of non-living, or abiotic, agents. They can be broadly classified into three categories:

- environmental stresses, which includes winter injury
- cultural mistreatments (man’s activities)
- different types of animal damage.

These broad categories and types of non-infectious diseases represent the most common group of disease agents worldwide, and are often the most difficult to diagnose.

General symptoms of non-infectious diseases

In general, non-infectious diseases have uniform symptoms over portions of the entire tree. Non-infectious diseases also
often affect every tree of the same species with the same symptoms in a small or wide area. Some non-infectious diseases will affect more than one species. These two characteristics (uniform symptoms, and more than one host affected) are rarely associated with living disease agents, such as fungi, bacteria, or infectious diseases. It is this uniform pattern of injury and the effects on multiple hosts that are the defining pattern for diagnosing winter injury.

Some of the causes of winter injury

Extremes in temperatures and rapidly changing temperatures are commonly associated with winter injury. There are also considerable interactions between temperatures and moisture. Both can play difficult-to-define roles in the ultimate extent and severity of winter injury. Moisture deficits can develop in dormant trees during warm weather in late winter and early spring while the ground is still frozen—especially in conifers. This is called winter drying, a problem that is particularly notable for conifers transplanted in the fall on exposed sites. If you are going to attempt transplants at this time, you really want to see an average winter. Watering may not help.

Temperatures

Low temperatures represent one of the most important environmental constraints on the productivity and distribution of trees and plants in North America. In fact, there is a strong correlation between the northern boundary of 49 deciduous tree species in North America and the minimum temperatures in which they can survive freezing. (George et. al. 1974, Hortscience). Of course, exotic species from southern latitudes will be the most prone to winter injury. There are numerous examples of this throughout the urban landscape. Native species growing in disturbed soils or in challenging microclimate conditions are also prone to winter injury.

A classic example of this was the black walnut culture of the late 1970s and '80s in the tri-state region of southeast Minnesota, southwest Wisconsin, and northeast Iowa. When the
planting of walnut plantations was changed from upland sites to lowland sites where deeper, well-drained soils could be found. Although within the natural range of the tree, this change in microclimate condition exposed the walnut to temperatures that can reach the minus 50 degree range in some winters, or on average 15 degrees colder than what can be expected on upland sites where walnut is naturally found. Significant losses occurred and the culture is now relocated back to the upland sites.

Native trees adapt to established patterns of growth and dormancy, closely following the yearly weather cycle. This is call "hardiness." As fall approaches, trees become progressively more cold hardy, reaching a peak in mid-winter. Trees begin to decrease in hardiness during early spring and reach a low point of cold tolerance during initiation of growth. This is one of the most vulnerable times for winter injury (spring frost). Hardwood leaves can be damaged while still in the buds. After expanding, they can look stunted or tattered. Likewise, at a given latitude and elevation, the amount and seasonal distribution of annual rainfall determines which trees survive and how well they perform. Seasonal water deficits can also predispose trees to winter injury.

How to diagnose winter injury

The first step is to evaluate the existing signs and symptoms of the injury. (Signs are the physical presence of the problem or the disease-causing agent, and symptoms are the host's response to the agent or problem). When did the injury first appear? What parts of the tree are affected? What are the patterns of injury on individual trees? Are other species affected? Next, rule out by process of elimination any common pest problems that can be associated with a particular species. Then, rule out any other possible problems by careful review of the signs, symptoms and patterns of injury.

Finally, look for and establish a pattern of winter injury. The symptoms for winter injury of hardwoods might include dieback, slow leaf out, undersized and deformed leaves and epicormic shoots that may or may not survive. Peeling back the bark of affected branches will reveal dieback from the branch tips inwards. There may not be a past history for this type or extent of injury before its recent appearance. Trees affected by winter injuries were generally healthy the previous year. In most cases the pattern of injury has a "widespread and sudden impact" signature. It is this pattern that is the most useful when making a field diagnosis. There should be similar injury on more than one of the affected species locally, or in similar landscape positions, sites, and most often over a larger landscape.

Lastly, actual confirmation can be made in the field by finding at least one other hardwood species with the same pattern of symptoms in the same area.
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1993 Ford LNT8000. 8.3 Cummins 9 sp, 100,000 miles with 17-ton R.O. crane. 128' hook height. $76,500

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1990 Ford (same as above). 55k miles $42,500

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(10) HIAB, IMTCA, Nat'l, etc. Knucklebooms. Mounted or Unmounted. $4,500

(30) 1-ton buckets, 28-36 feet; (10) 30-50 foot buckets Call for Price List
Winter injury in green ash

A case in point: Serious winter injury to green ash occurred in the city of LeSueur, Minn., following the 1999-2000 winter season. During the early summer of 2000, it became evident that over 50 of the town’s mature green ash trees were severely injured. Winter injury was suspected. Winter injury is common to the region, but this event was more severe than what is usually observed. The symptoms observed in the green ash were classic for winter injury—dieback, slow leaf emergence, and undersized and deformed leaves. Confirmation was found in nearby silver maples, which display the same symptoms and pattern of injury. Uniform symptoms and more than one host affected is the classic pattern of winter injury that is observed on hardwood trees in this region following severe winter events.

Why was there so much winter injury—especially in just a few limited areas like LeSueur? The exact reason remains a mystery. In most years in this region, extremely low temperatures are associated with winter injury to hardwoods. The previous fall was very dry. This was followed by a mild winter, a very mild March, and then a late frost in April. Any combination of these events may have contributed.

Treatment for winter injury in hardwoods

The result of winter injury to hardwoods is dieback. Allow the injured trees to die back throughout the summer. New branches from epicormic buds will appear where the tree is still alive. Begin removing the deadwood later in the season or wait a year to see what parts of the crown recover. Heavily damaged trees that are (over one-half of the crown is dead) can be removed and replaced.

Winter injury to conifers

In addition to the green ash and silver maple trees of LeSueur, there were several instances of classic winter drying in young conifers around the region. Again this is a typical, widespread sudden impact. These events can be regional or affect several states. During the above average temperatures in March, it is likely these conifers began to lose moisture while their root systems remained non-active in frozen soil. For light winter injury in conifers, simply allow time for the trees to recover.

Ed Hayes is a Forest Health Specialist for the Minnesota DNR, Division of Forestry. He may be reached at 2300 Silver Creek Road NE, Rochester, MN. 55906; E-mail: ed.hayes@dnr.state.mn.us
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Communities Demonstrate the Importance of Urban Forests

By Terrence J. Flatley

Many communities across the country are developing urban forestry programs. To assess their progress, a survey was sent to several communities in Wisconsin and other Midwestern states. Information gathered included population, number of street trees, arborist staffing, equipment, wages, maintenance procedures and rates of production. The summary of information (see Table 1) demonstrates the communities' commitment to urban forests.

Tree maintenance programs

Most communities surveyed perform tree maintenance duties on a cyclical basis. This means every tree is treated once during a defined period of years (a rotation). Six of eight communities prune small trees—trees less than 12 inches in diameter—once every two to five years. Larger trees are pruned once every five to eight years on a cyclical basis in eight out of nine communities.

One of the nine cities provides tree maintenance solely by request, preferring not to manage on a cyclical basis. Another prunes only small trees on a cyclical basis. The “request only” community has a 12-month backlog from initial contact until the crew arrives to perform the work. This is down from a three-year backlog after adding staff and equipment, implementing a winter ground-pruning program and contracting 50 percent more tree removals. Their winter ground-pruning program treats only branches that can be reached from the ground on a seven-year rotation.

Contracting Tree Services

Three communities hire outside contractors to assist with tree pruning or removals. One uses contractors for pruning and removals; one for removals only; and one for pruning only.

For comparison, one community not included in the tables contracts 80 percent of its tree maintenance work. This community has no request or cyclical program and performs tree maintenance work irregularly. This community suffered severe storm damage recently.

Highlighting Cedarburg, Wis.: City staff prunes about 20 percent of the trees per year while contractors prune another 5 percent. Contractors remove 30 percent of the trees scheduled annually and city staff removes the balance.

Of the three contracting communities, two are billed on a cost per tree basis. One community is billed on an hourly rate.

<table>
<thead>
<tr>
<th>City</th>
<th>Pop.</th>
<th># of Street Trees</th>
<th># of Forestry Staff</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenosha, WI</td>
<td>87,664</td>
<td>27,000</td>
<td>1 Arborist II</td>
<td>Bucket truck (2)</td>
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<td>6 Arborist I</td>
<td>Log loader (2)</td>
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<td>Chip truck</td>
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<td>Chipper (3)</td>
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<td>Stump Grinder</td>
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<td>Waukesha, WI</td>
<td>63,000</td>
<td>24,000</td>
<td>9 Arborist</td>
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<td>Loader</td>
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<td>Dumper truck (3)</td>
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<td>Skid-steer</td>
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<td>Backhoe</td>
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<td>15 Arborist I</td>
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<td>Chipper (2)</td>
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<td>Dumper truck (4)</td>
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<td>Utility truck (8)</td>
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<td>Root cutter</td>
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<tr>
<td>Racine, WI</td>
<td>84,298</td>
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<td>5 Arborists</td>
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<td>Stump grinder</td>
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<tr>
<td>Milwaukee, WI</td>
<td>628,088</td>
<td>200,000</td>
<td>22 Crew leaders</td>
<td>Bucket trucks (12)</td>
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<td>130 Arborists</td>
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<td>Stump grinders (7)</td>
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<td>Root cutters (2)</td>
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<td>Loaders</td>
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<td>Wauwatosa, WI</td>
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<td>Dumper trucks (5)</td>
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<td>Skokie, IL</td>
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<td>23,400</td>
<td>6 Arborists</td>
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<td>Dumper truck (2)</td>
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<tr>
<td>Bismarck, ND</td>
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<td>17,700</td>
<td>1 Arborist II</td>
<td>Bucket truck</td>
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<td>Feller/buncher</td>
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<td>Stump grinder</td>
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</tbody>
</table>
Request tree maintenance

Six of nine communities respond to request work. This is work performed based on a call for routine maintenance by a resident instead of being treated within the normal work cycle. The other three communities evaluate the request and decide if work is warranted; otherwise, work is done by cycle.

Response time for request work is from one day to one year. The community with the one-year response time does not have a cyclical program, responding to requests only.

Response to emergency calls occurs immediately in all communities.

Arborist pay

Arborist pay was reported at an hourly rate for most respondents. Arborist pay ranged from $14.04 per hour to $18.24 per hour. One community provided rates on a salary basis. For this location, the salary ranged from $29,571 (Arborist I) per year to $30,648 (Arborist II). None of the rates included other benefits provided by the employer, such as health plans, sick leave and vacation pay.

Forestry budgets

Budgets varied by the size of the community. Together, the nine communities surveyed spend a total of $9,172,319 to maintain more than 463,100 street trees. On average, the communities spend about $19 per tree. The amounts submitted included money budgeted for tree maintenance as well as other activities, such as tree planting, fertilization, root cutting and others.

The insert at right shows the per capita amounts budgeted by each of the nine communities on their street tree programs. For example, in Kenosha, the city spends $5.29 per person on its urban forest. In most cases, these amounts do not reflect funds budgeted for park tree maintenance.

Production rates

The summary of city forestry crew production rates (see Table 2.) shows the number of trees maintained each year by community.

Conclusion

This report demonstrates a commitment by communities to maintain the urban forest. This information is useful for comparing community action and for determining labor and equipment needs to maintain a level of production. For example, one community has used the information to justify hiring additional arborists and promoting cyclical pruning over other systems of management. The City of Kenosha, Wis., thanks those individuals who took the time to reply to its survey. For further information, contact the city’s Park Division at 262-653-4080.

Terrence J. Flatley is superintendent for the City of Kenosha, Wis., Park Division.
Year End Odds & Ends

B

y the time you read this, the country will have elected a new president. We hope that you exercised your right to vote. We also hope that in the coming months, you will make your opinion known on matters affecting the safety of your employees and the survival of your business. Regardless of your political persuasion or your opinion of politics, the only way we have to effect change is by voicing an opinion.

The National Arborist Association is developing a systematic, grassroots government affairs program that will involve member and staff contacts with key legislators and staff who have oversight of OSHA, DOT and EPA.

The process is proceeding on two parallel tracks.

The first track is member involvement. All NAA members will be matched with their Senators and a congressional district. Beginning in 2001, all NAA members who have agreed to become part of our grassroots initiative will receive issue summaries and will be encouraged to write and visit with their legislators as part of NAA’s grassroots legislative/regulatory network.

The second track is staff contact. The NAA has a target list of key legislators for concentrated attention. Staff has met with or been in contact with several legislators during 2000. Issues that have elicited contact include misapplication of standards, illegal use of letters of interpretation, estate tax reform, associations offering health plans, ergonomics, and DOT hours of service requirements.

Unfinished Business

One issue very much tied up with the recent national elections is the controversial OSHA Ergonomics Standard. On Nov. 1, Democrats in Congress were saying that the ergonomics rule would be published by Nov. 14 under the terms of a GOP/Democrat compromise.

That was the day that Congress was expected to return to finish FY2001 spending bills under a continuing resolution expected to pass the House Nov. 2.

Democrats claimed victory over those who have tried to delay ergonomics with language in the Labor-HHS spending bill. To stop the rule, the GOP will “have to do what they don’t want to do,” said a spokeswoman for House Appropriations ranking member, David Obey, D-Wis., which is to force the next president to publicly overturn the rule once it has been published.

Under the agreement, the rule could not have been implemented or enforced until June 1, the date by which the next president could decide to kill the rule.

However, plans changed almost immediately when the Republican leadership overruled its own negotiators and scuttled the compromise. Then late in the day on Nov. 1, the Senate voted to adjourn with the issue in limbo. That means that GOP and Democratic negotiations toward a compromise over the Labor Department’s controversial ergonomics rule will likely be set aside until well after election day in a lame duck session of Congress.

Meanwhile, David McIntosh (R-Ind.), chairman of a House Government Reform subcommittee, has accused OSHA and the Labor Department of largely stonewalling his review of more than $3.7 million awarded by the agency since the early 1990s in support of the regulation. His committee’s allegations are that the DOT essentially used taxpayer dollars to pay for and coach witnesses to provide public testimony in favor of the rule.

Fall Protection

Officials at the Occupational Safety and Health Administration have begun work on a directive to guide employers on how to comply with OSHA’s fall protection standard, according to a recent statement from Richard Fairfax, OSHA’s director of compliance programs.

The NAA has opposed OSHA’s previous attempts to specify fall protection for arborist aerial lift operators by applying the construction industry’s fall protection standard.

OSHA began working on the directive over four months ago and expects to meet with employers as part of the process, he said. The OSHA official said his office receives more phone calls and letters asking for assistance on interpreting the fall protection standard than any other OSHA regulation. The OSHA official said the directive might come out sometime in 2001.

DOT Hours of Service

The Department of Transportation can continue to revise its “hours-of-service” rule, designed to improve the safety of commercial drivers by limiting their driving hours, under an agreement reached by a House-Senate conference committee and approved by both the House and Senate Oct. 6.

The House approved the DOT appropriations conference report by a vote of 366-50, while the Senate accepted the report on a 78-10 vote.

Under the agreement, DOT’s Federal Motor Carrier Safety Administration cannot promulgate the final version of the rule before Oct. 30, 2001. Approved as part of the Department of Transportation appropriation bill (H.R. 4475), the agreement allows the agency to review the more than 50,000 comments it has received on its controversial proposed changes to the rules, which will cover commercial truck and bus drivers.

On behalf of its 2,800 member companies, the NAA cooperated with other interested groups to supply written commentary on the proposed DOT rule.

Peter Gerstenberger is vice president of business management, safety and education for the National Arborist Association.
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Tightening up on Cash Leaks

By Mary McVicker

The natural state of a cash flow is to spring a leak. You no sooner tighten up in one area when a leak appears somewhere else. When you get the leaks under control, there's always seepage. Even the most tightly constructed cash management system can be remarkably porous. Since a minor cash leak can eventually account for a substantial amount of money, it's important to keep an eye on those minor matters.

The following suggestions cover the areas where cash leaks are most likely to occur. Not all of these considerations involve cash leaks. Some look at the aspect of lost opportunity, which is obviously not an outlay of cash.

Bank accounts

The financial life of a business was much simpler when the world of banking was divided into savings accounts, which paid interest, and checking accounts, which didn't. Today, of course, simplicity has vanished. Another aspect of banking that has changed dramatically is the proliferation of fees. That, too, is no longer simple. On the other side of the banking coin are opportunities for increased flexibility and more options for how a business structures its accounts.

Efficient banking is often a matter of trade-offs, of striking a balance between how the business uses its money, what its cash flow is, what types of account or accounts might be utilized, the fees incurred, and possibly interest.

The seasonality of a tree care business means cash flow has a distinct high/low season aspect. What does this suggest about reserves? If the business "banks" against the off-season, how should that money be used? Not all seasonal businesses do this of course; some don't end the season with a reserve to carry over but instead shift to a very low volume of business and expenditures. Others shift into a different pattern of business during the off season to make the cash flow more stable and consistent.

Businesses, like people, tend to drift into banking patterns. It's worth some effort to try and match your business' money needs with the optimal banking service. To do this, begin by assessing your business' pattern of income and expenditures—and consider just how it utilizes its money.

Is income spent immediately? Do income and expenses fluctuate a lot during a month? Talk to someone at your bank—as well as another bank that seems competitive—about the best banking services for your business. (Ask around about which bank other businesses use and what their experience has been with that bank.)

A business uses its money in various ways, such as money for reserves, payroll, routine bill paying, and so on. Using several different types of accounts may give you more flexibility and better interest rates. On the other hand, banking fees and service charges can mount up. Consolidating bank accounts can cut down on fees and the higher balances may qualify the account for a higher rate of interest. Striking the right balance between interest rates, banking fees, and flexibility requires expertise. For some businesses consolidating accounts is more cost efficient in the long run. For others, the flexibility of several accounts will be more beneficial to the business.

Billing accounts receivable

How quickly are your accounts invoiced and billed? The inherent disadvantage of accounts receivable is that you usually have to wait for your money. For a one-time removal, you may be able to drive away with wood chips and a check. For regular maintenance work, however, the time lag between a sale and billing is costly. And poor billing procedures will make this disadvantage even worse.

Making billing procedures more efficient may involve a number of changes. You may need to get information to whoever does the billing more quickly. The mechanics of the billing itself may need some changes. Can you automate billing more? Would temporary help or part-time help make a difference, particularly if billing is cyclical and tends to stack up?

Track the amount of time it takes for sales to be billed. Note particularly whether information tends to sit on someone's desk for any period of time. If you have someone who only comes in twice a month to do the billing, you are leaking cash. Ask the person who does the billing for suggestions on how the job may be made more efficient.

Receipt of payments on accounts receivable

If you have a heavy volume of payments on account, consider having payments sent directly to the bank. This works especially well for regular, commercial accounts. Direct payments speed up payment into your account, increase the amount of interest earned on these payments, and reduce the time you spend on banking matters. Waiting for money is costly. To alleviate this disadvantage, many tree care companies require partial or full payment at time of purchase. Storm-damage cleanup lends itself to this practice. (This also re-
duces the risk of bad debts.)

There are various ways of structuring more immediate payments. You can require a partial payment for services over a certain dollar amount. In some circumstances, you may require progress payments. Payment terms may be more favorable for selected customers.

Look hard at the effect any billing changes could have on your customer base. Instituting a new policy can be sticky with old customers; you don’t want to drive them away. You also need to determine whether a pre-payment policy will make you less competitive in your market.

Bad debt ratio

Bad debts are an obvious source of cash leak in a business, and too many bad debts imply that credit policies need an overhaul. On the other hand, extremely low ratios could mean your credit policies are too rigid and are costing the business sales. If you always bid jobs with a requirement that payment is expected upon completion, you may be losing bids to rival companies that allow half payment at completion and half in 30 days.

Naturally, you don’t want to increase your bad debt problems, but don’t overlook the implication of having a very small amount and number of bad debts, either.

 Suppliers

Seemingly small discounts can add up to a considerable savings in a year. Businesses sometimes accept their suppliers’ discount policies (or lack thereof) without question. If you have a good payment record with a supplier, try to negotiate a better discount. (Consider offering a minimum regular purchase.)

Professional help

The old saying that “it costs money to make money” is often true in ways that aren’t always obvious. If your cash management system limps along with jobs getting done only half-heartedly (or not at all), if people are so swamped that they can’t ever get their work caught up (let alone get ahead), if office equipment is so out of date that it’s barely a step up from the quill and ledger, if you’re using the same procedures you’ve used for the past five years … get help!

Hire the best people you can and the best equipment that’s appropriate. Hire enough people so that your employees can be productive. Spend some money. Cutting corners in the office is a major source of false economy.

Conclusion

Many of these suggestions are minor. Are they worth the trouble? While it is possible to overdo cash management, and there’s no sense in chasing down every penny, it’s a law of business management that minor cash leaks always grow. Similarly, minor savings add up quickly. Striking the right balance between pence and pounds is a continual challenge.

Mary McVicker was a tax attorney before leaving to teach and write. She has been a small-business consultant and freelance writer in Brookfield, Ill., for more than 16 years.
Bobcat Company announces the new Bobcat SG60 Stump Grinder attachment. It is twice as powerful as the previous SG50 and is ideal for Bobcat 773, 863, 873 and 864 standard and high-flow skidsteer loaders. It can grind a 30-inch diameter stump to 20 inches below grade in less than 10 minutes. The SG60 features several design improvements. The grinding head is mounted 90 degrees to the operator, providing operators with unprecedented visibility to the cutting area. The swing cylinder generates an arc of 80 degrees, allowing the operator to cut up to a 45-inch diameter stump without repositioning. The 32-inch cutting height provides better access for grinding tall stumps, and the 58-inch reach means less forward movement of the loader, allowing the operators to save time. The cutting wheel incorporates 32 teeth and a unique holder supports the backside of each tooth for increased durability and performance. For more information on Bobcat attachments, contact a Bobcat dealer or use the dealer locator at www.bobcat.com.

Praxis Corp. manufactures the 13 hp PRX 13.0 Stump Machine, which is highly portable and extremely well built, made from thick gauge American steel and assembled using high quality American components. It is well balanced, making it easy to operate and maneuver, and it will grind a 3-foot diameter oak stump to 6 inches below grade level in 30-40 minutes. It features a 13-hp Honda engine with Cyclone air cleaner, 3/16-inch steel frame and aggressive cutting blade with 12 tungsten carbide tips. Also featured are Noram high-performance centrifugal clutch, high-torque drive system, heavy-duty disc brakes, low-vibration dual-grip operator handle, Ingersoll Rand Fafnir bearings, super traction Sno Hog tires, Super 2 Vee banded drive belt and fast-change oil drain. The machine weighs 240 pounds and comes complete with a video on the machine’s operation and a step-by-step video on sharpening. Praxis also provides necessary training and supplies additional equipment needed for sharpening and maintenance. Praxis sells directly to arborists and landscapers, saving them 20 percent on their purchase. For more information call PRAXIS at 888-316-6200 or order online through their Web site www.stumpmachine.com.

STIHL has increased the power of its 044 chain saw to 4.0 kW. The upgrade in horsepower will improve and accelerate the 044’s cutting performance and the enhancement does not increase the machine’s weight or price. The 044 features the STIHL Intell iCarb compensating carburetor, an innovation which allows long running times at full power without the need for constant air filter cleanings. The new 044 also features Quickstop inertia chain brake, which is designed to reduce the risk of injury in certain kickback situations; a side access chain tensioner, which provides a more convenient access to the saw’s chain; and a lifetime ignition warranty. For more information, call STIHL at 800-467-8445 or visit their Web site at www.stihlusa.com.

Bandit introduces its new quad wheel feed system, which has four hydraulic feed wheels. Units equipped with this feed system are extremely easy to feed and are very efficient in collapsing limbs and branches because they come in contact with more surface area. Engineers added two new wheels to allow Brush Bandit Chippers to easily accept all types of material. When entering a chipper equipped with this system, material will first encounter the two new wheels and will then move on to the second set, which is positioned closest to the disc. The bottom wheels are positioned horizontally while the top wheels are positioned diagonally. The top two are locked together in a slide box with each set being chain driven from a common drive motor. The Quad Wheel Feed System is standard on 18-inch Models 280XP and 1890 and is offered as an option on 12-inch Models 250xp and 14-inch 254XP. For more information contact Bandit Industries at 800-952-0178.
Zerolol Broad Spectrum Preventive Treatment is a newly EPA registered product for the broad-spectrum treatment and suppression of fungi and bacteria on turf and ornamental plants and trees. It provides non-residual disease treatment and suppression using an oxidation reaction, which reduces mutational resistance. The US EPA and CA DEP have granted ZeroTol a Zero Hour REI. Additionally, ZeroTol is allowed for organic farmers by OMRI and is listed in CCOF. ZeroTol is labeled for the treatment and control of fungi and bacteria including Alternaria, Anthracnose, Aphanomyces, Botrytis, Erwinia, Fusarium, Phytophthora, Plasmodara, Pythium, Rhizoctonia, Powdery Mildew. It may be used on bedding plants, flowering plants, roses, poinsettia, ornamental nursery stock, trees, turf, cut flowers, bulbs, cuttings, seedlings, and seedbeds. ZeroTol may be used in commercial greenhouses, garden centers, landscapes, nurseries and Interiorscapes. For more information contact BioSafe Systems, 80 Commerce St, Glastonbury, CT 06033; or call 888-273-3088.

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Moldex introduces Pocket-Pak, disposable earplugs. The handy storage case fits in your pocket to keep fresh earplugs handy throughout the day. Tough enough to be thrown in your toolbox, the bright colors are sure to put a spark in your hearing protection program. Each case comes with two pair of uncorded or one pair of corded SparkPlugs disposable foam earplugs (NRR30). For more information contact Moldex-Metric, Inc. at 800-421-0668 or visit their Web site at www.moldex.com.

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STIHL announced the new protective boot for commercial chain saw operators, supplied by Gransfors Bruks Inc. in SC and available at STIHL dealers in the US. Known as the STIHL ProMark Pro Chain Saw Boot, it is one of five UL Classified chain saw protective boots in the world today. It meets all requirements set forth in OSHA Reg. 1910.266 for logging operations, which requires operators to wear protective boots as a part of the PPE. Protective products do not prevent accidents; instead they are designed to reduce the risk or severity of an accident. For more information e-mail Bob Reynolds at bob@gransfors.com or call 800-433-2863.

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Brooks and Vujovich of Cummins, Inc. Recognized in Automotive News

Left: Christine Vujovich, Vice President—Environmental Policy & Product Strategy. Right: Martha Brooks, Vice President and General Manager, Truck & Bus Engine Business.

Cummins, Inc. announced that Martha Brooks, vice president and general manager—truck and bus engine business and Christine Vujovich, vice president—environmental policy and product strategy were selected by Automotive News magazine as leading women in the North American auto industry. Brooks and Vujovich were two of the 100 leading women profiled in a special section of the September 11 issue. This recognition is presented to women who work at an auto maker, auto supplier, auto dealership or in an allied business, who make major decisions and who are influential in their company. The recipients were honored at a Sept. 19 dinner in Birmingham, Mich.

Martha Brooks joined Cummins in 1986. In her position, she is responsible for 3,900 employees. She has seven years experience in Europe including Eastern Europe and the former Soviet Union, the Middle East and Africa. She also has extensive experience in Asia and Latin America. She has led numerous international negotiations for joint ventures including the European Engine Alliance. She led marketing efforts and OEM relationships during the launch of five new product lines.

Christine Vujovich joined Cummins in 1978. She is responsible for worldwide environmental strategy and compliance to emissions and noise regulations. She has been a leader in the industry in negotiating legislation and rule making for heavy-duty diesel engines with the EPA.

Cummins, headquartered in Columbus, Ind., is the world's largest producer of diesel engines above 200 horsepower and provides products and services for customers in markets worldwide for engines, power generators and filtration. Visit their Web site at www.cummins.com

Metcalf Named Vermeer's Vice President for Sales and Marketing

Brian Metcalf was named as Vermeer's vice president for sales and marketing. Metcalf has been director of dealer sales and support for the last two years and a member of the Vermeer organization since 1990. In his new position, Metcalf will be responsible for strategic and operational sales and marketing functions worldwide.

"We are excited about Brian's leadership of our sales and marketing team. He brings a great depth of knowledge about the equipment market, as well as strong distribution channel experience and good relationships with the global dealership network. Brian's selection was made as a result of a worldwide search process that included reviewing several external candidates," said Robert Vermeer, chairman of the board and chief executive officer.

A native of Knoxville, Iowa, Metcalf started his career with Vermeer in 1990 as a branch manager in Harrisburg, Penn., and in 1991 he relocated to the Tennessee dealership as branch manager. In 1995, Metcalf was promoted to regional sales manager and in 1996 to director of industrial distribution. In 1998 he was named director of dealer sales and support.
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Coppicing Comes Of Age

Ancient technique is revived
By Dr. Nigel Dunnett

Coppicing as a management technique is making a comeback. Trials of this technique, in which a woody plant is cut down to ground level to encourage the production of new shoots from the base, are being conducted at Harlow Carr Botanical Gardens in the United Kingdom with great success.

Benefits of coppicing

Coppicing allows an intimate mixing of shrubs, bulbs and perennials, sometimes treating the woody plants as if they were herbaceous perennials. The technique also provides continual rejuvenation of the woody plants.

Removing the woody layer allows light and warmth to reach ground level, promoting an explosion of flowering and growth of the bulbs and shade-tolerant perennials, such as ferns, bluebells and primroses. Meanwhile, "transient" biennials and short-lived perennials, such as foxgloves and red campion, germinate and invade.

As the woody shoots re-grow, shade gradually increases and the transient species are eliminated, leaving only the shade-tolerant types in the interior once again.

Early season or late

The Harlow Carr trials are based on two models.
1. Early season: incorporating native woody plants such as ash, hazel and hornbeam and extensive mosaics of spring-flowering wildflowers.
2. Late season: performs primarily in late summer and autumn and is based on the woodland and prairie edges found in the eastern and central United States and Canada.

Here, some of the best of all late-flowering perennials (such as rudbeckias, asters and goldenrods) mingle with the first rank of woody plants that bear brilliant autumn foliage—sumacs, dogwoods, oaks and maples—to spectacular effect.

How to create a coppice

1. First, remove all traces of aggressive perennial weeds and cultivate the whole area.

At Harlow Carr, the woody species were planted approximately 6.5 feet apart.

2. Determine the frequency of cutting; this will depend on the ultimate desired height and spread of the woody plants. Generally, every 3 to 5 years is sufficient; however, vigorous species, such as willows may need annual cutting.

3. Vary the density—use a single specimen as an effective accent or place larger clumps in meadows or among perennials.

4. Incorporate climbers and scramblers—for example, species and wild roses, honeysuckles, clematis—among coppiced shrubs.

Suitable species

A wide range of woody plants will respond to hard cutting back by producing larger leaves, red- or purple-flushed young growth and sometimes strongly colored stems, as well as attractive multi-stemmed forms.

Maples are a good example. At Harlow Carr, the silver maple, *Acer saccharinum*, grew 5 feet in the year following coppicing, and was 8 feet tall by the end of the second. The young shoots turned a rich red-brown over winter (rivaling the dogwoods); the large, dissected gray-green leaves had conspicuous crimson stalks and turned purple in the autumn.

At Harlow Carr, the late season plots have been among the most successful. Sumacs were used as the main woody component, due to both their outstanding autumn colors and suckering habit, which makes them ideal for coppicing.

In one plot, the *Rhus typhina* was underplanted with a limited range of spreading vigorous perennials designed to provide a long flowering season. These were planted on a 20-inch grid, and included *G.psilostemon*, *Rudbeckiafulgida var. deamii*, and the starry white North American wood aster, *Aster divaricatus*.

This plot was kept weed free only for the first season after planting, by which time the perennials had grown together. Once established, the complete vegetation—sumacs and all—can be cut to the ground in winter. The effect of the flaming sumacs rising through billowing yellow rudbeckias was breath-taking.
Jingle Belts

By: Jeffrey Lee, Branch Management, Riverside, CA (909) 276-8060
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Hardware on saddles cling
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What fun it is to climb and sing a
Climbing song today.

Jingle belts
Jingle belts
Jingle all the time
O what fun it is to climb and swing
And hear that hardware chime. (HEY!!!)

A week or so ago
Big Al bought us rope
So we can use it properly
(at least that was his hope)
Flung it in the tree
Secured the red hard hat
Ascended sixty lofty feet
In a 40 seconds flat!!

Jingle belts
Jingle belts
Jingle all the time
O what fun it is to climb and swing
And hear that hardware chime. (HEY!!!)

Aloft, high in the tree
And safely all tied in
Carefully making cuts
Trying not to over-thin
Brush floated to the ground
And landed nice and soft
The passersby were safe
For the jobsite was coned off

Jingle belts
Jingle belts
Jingle all the time
O what fun it is to climb and swing
And hear that hardware chime. (HEY!!!)

Safely on the ground
Equipment stored away
Climbing rope is hung
Ready for another day
While choking back a tear
We heard the Widow say
work safely through the year
and have a happy holiday!!!!!

Jingle belts
Jingle belts
Jingle all the time
O what fun it is to climb and swing
And hear that hardware chime. (HEY!!!)

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Examining the High Cost of Health Insurance

Are health insurance costs making you sick? If you get a migraine just thinking about the answer, you are not alone: Businesses large and small are getting hit with their steepest premium hikes in a decade.

"Rates are coming back up with a vengeance," says Niels Heemskerk, vice president of insurance services for the Illinois Manufacturers Association, whose member businesses have 10,000 employees. "The whole cost of medical care has gone up so drastically that it's catching people by surprise."

Health insurance rates are rising as much as 15 percent for many employers this year, according to Larry Boress, executive director of the Chicago Business Group on Health, a consortium of 80 employers. "That's quite a change from recent times when we were able to hold the line."

Smaller employers are being clobbered the worst, because they lack bargaining clout with insurance companies. Businesses with fewer than 50 employees, which includes most tree care companies, are reporting price hikes averaging 13 percent, with some as drastic as 22 percent. Larger businesses are getting hit with 6 percent hikes; most expect that figure to rise. The big medical bills are part of a longer-term epidemic. If you are a typical employer, your health costs are more than twice what they were in 1982. They are expected to double again by the year 2007.

Some employers have already pulled health insurance from the pool of employee perks. It all seems like a "morning-after" headache for employers still groggy from a five-year party when annual premium increases simmered at less than 3 percent.

The party pooper? Managed care—that controversial but effective antidote to the high health care costs of the late 1980s—has pretty much exhausted its ability to control medical expenses. Some 85 percent of employees covered by health insurance already belong to HMOs or a related form of managed care, according to the Health Care Financing Administration. Today, as the costs of more sophisticated medical techniques and drugs spiral upward, you must rely on equally advanced cures for health insurance distress. This article is just what the doctor ordered for reducing the toll on your bottom line.
Prescription #1:

Join a purchasing group. Hang together or hang separately. So goes the bromide that, if taken regularly, will cure many a case of swollen premium-itus.

"When you join forces with other employers, you bring more leverage to the negotiating table," says Boress, who points to his Chicago association's success as reflective of employer groups elsewhere. "We held down our rates to four percent or less for 1999 and negotiated performance guarantees and reporting procedures." Employer groups around the country are enjoying an unexpected benefit: the ability to offer more choice to employees. One example is the Illinois Manufacturers Association (IMA), which has signed with two HMOs.

"HMOs give the most bang for the buck, but they have one big drawback," says Heemskerk. "Since you only have one physician network to get those savings, employees react against the fact they often have to change their doctors." Employees in the IMA region live in an area with a 60-mile radius, so picking just one HMO is difficult. "Picking multiple HMOs is the answer," advises Heemskerk. "Our two HMO offerings together have 70 percent of the available physicians, so the likelihood that an individual's favorite physician is in the pool is fairly high."

Setting up a multiple-choice program can be difficult and requires expertise. That's why the IMA utilized the services of The Institute for Health Policy Solutions, a Washington consulting firm that assists employer groups in designing health insurance strategies.

"This helped us cut our development time in areas such as plan design, contractual language, picking the right administrator, and setting of rates," explains Heemskerk.

"Smaller employers working alone are really forced to select a single health care plan off the rack, on terms other than their own," notes Kevin Haugh, principal of The Institute for Health Policy Solutions. That's because an insurance carrier, to protect its risk, will insist on being the sole provider of insurance for a small group. "That puts the smaller employers in a difficult position," says Haugh. "If it offers a low-cost managed care plan, some employees are bound to upset because their favorite doctors are eliminated. If it offers a high-cost open-ended plan, employees will be upset at the expense."

This choice is solved, says Haugh, when employers join forces. Because of the higher number of employees involved—and the existence of an administrative staff that has the time to negotiate terms—the employer group can land deals with more than one insurance carrier. That means employees of even the smallest businesses have a choice of health plans. And the ability to choose plans—and thus doctors—is a big priority for most individuals today. Indeed, part of the reason for escalating health costs is a migration by many employees toward the more expensive Preferred Provider Organizations (PPOs), a kind of plan that often offers more physician choice as well as faster access. An employer group, however, can offer three or four managed care plans, all of which have lower premiums than a PPO. You save the employer money and you offer employees more choice, so it's a win-win situation.

Beware

Health Insurance Fraud

Although joining a purchasing group is one of the best ways to restrict the high cost of health insurance, you need to be careful about the financial stability of any group you join. If a group goes bankrupt, you can be stuck with big medical bills and no way to pay. Experts say to consider whether the organization has a reason to exist other than as a vehicle for members to buy health insurance.

"Organizations formed solely to offer health insurance attract members who are joining with the sole purpose of obtaining insurance," says Tim Harrington, a principal with Boston-based William M. Mercer, Inc., an actuarial consulting firm. These tend to be individuals in need of expensive care. That will drive up premiums and may bankrupt the group.

"In contrast, people join a chamber of commerce or other affinity group for other reasons," says Harrington. "Since most of the people are healthy and at work, rates will reflect a good collection of well people and a small collection of ill and sick people."

Also be wary of organizations which are not licensed and are outside the regulations of the state. Some groups attempt to say they are "self-insured," and thus do not fall under state insurance guidelines. These groups are prime suspects. It's prudent to check out the bona fides of third party administrators: the organizations that collect the premiums and pass them along to the insurance companies. You run the risk that these entities will steal the money or go bankrupt. In many cases, the state guaranty fund may step in to replace funds that are lost, since technically the money belongs to the insurance company rather than the administrator. Even so, the prudent employer will check with the state insurance department, the Better Business Bureau, and other sources to determine the legitimacy of any organization. Does the group have a license to operate in the state? Does it have errors and omissions insurance? Are employees bonded? Finally, be wary of health insurance carriers that offer deals that are too good to be true.

"Sometimes insurance companies offer policies with low premiums that are loss leaders," says Harrington. "In subsequent years when people get ill, the rates go way up. Always check with the state insurance commission to identify good companies with stellar reputations."
Sounds great. But watch out for groups that are either financially weak or downright fraudulent. Employers have been burned by joining groups that grabbed the premiums and stole off into the night or went bankrupt. Employers and personnel were left high and dry. Many of these tragic cases occurred in the late 1980s, when premium hikes topped 18 percent and many a panicked employer saw a fly-by-night group as a quick fix. With premiums now roaring back with a vengeance, experts look for the fraudulent group epidemic to recur.

Bottom line: Know with whom you deal. “Determine whether the entity is in fact a licensed health insurance plan,” suggests Haugh. “What company is bearing the risk? That is the first question.” Then determine the legitimacy of the intermediary—that’s the organization that actually administers the plan, taking care of such mundane details as collecting the premiums and shuffling the paperwork. You want to make sure this organizations doesn’t abscond with your premiums.

“Ask your state insurance department for information on the entity,” urges Haugh. “Check with the Better Business Bureaus. Ask for proof of a license to operate in your state. Talk to the business groups, agents and brokers familiar with the product. See what history you can get on this organization.”

Bonus tip: Avoid switching plans every year to get better premiums. The paperwork from holdover claims can overwhelm you, and sooner or later you may get burned when no carrier will take your business.

Prescription #2:
Shift costs to employees. You can get better deals from insurance companies by shifting more health care costs to employees. Cost shifting occurs when employees make greater co-payments, or pay higher annual deductibles, for services received. In such cases you will enjoy lower premiums because the insurance company is funding less of the total annual health care expense. Yet another advantage is that employees who shoul-der more of the costs for their decisions will be more prudent health insurance consumers. That translates into lower risk for the carrier and thus lower premiums for the employer. Many employers have replaced the traditional $5 office visit co-pay with $10 or $15. More employers are passing along the cost of drugs to employees, and for good reason. Prescription drug plans have seen the largest increase in costs of any component of health care. They are currently increasing at the rate of 15-18 percent a year. The days of $5 to $10 co-pays for drugs are disappearing fast; a $20 co-pay is rapidly becoming more typical.

“Cost shifting works quickly to reduce your expenses,” says Tim Harrington, a principal with Boston-based William M. Mercer, Inc., an actuarial consulting firm. “And you often save more than you impose on your employees.” Harrington offers this example: “Suppose your current policy does not have a co-pay, and you replace it with a plan that has a 20 percent co-pay. Your premiums may actually go down as much as 30 percent.” That’s because insurance companies know that employees who make higher co-payments use fewer medical services. Everything comes with a price, of course. Higher co-pays can create employee dissatisfaction.

It’s a controversial issue. Some people wonder whether higher co-pays discourage needed care at the worst possible time: up front when health problems have not yet become severe. Nevertheless, Alan Weiner, a Washington-based actuary, advocates office co-pays of from $10 to $20, with the objective of structuring the plan so that those who utilize it the most have to pay more. He adds that raising wages can make up the effect of cost shifting, in some cases, because higher co-pays can result in premium decreases that are greater than the required wage increases.

In another cost-shifting tactic, employees can pay a higher percentage of the premium. This saves you money immediately, since you are essentially moving more of the expense from your shoulders to employees. In yet another option, referred to as a “defined contribution plan,” the employer pays a flat

Why does insurance cost so much?

Health insurance costs increased an average of 13 percent for smaller employers and six percent for larger ones in 1998, according to a recent Dun & Bradstreet survey. The big increase can be attributed to the following factors:
♦ The migration of employees from expensive indemnity plans to managed care plans, and the attendant savings, was largely completed by last year.
♦ Of all employees covered by health insurance, some 85 percent belong to some managed care plan.
♦ Many employees are leaving HMO’s and joining more expensive PPO’s.
♦ Mergers among managed care companies have reduced competition.
♦ Many HMO’s have been losing money and thus must raise prices.
♦ Advances in medical technology is driving up the cost of care.
♦ Consumers are becoming more knowledgeable about medicine and more demanding about their care.
♦ The demand for health care workers has outstripped supply.
♦ Doctors have become better negotiators when striking deals with managed care organizations.

dollar rate rather than a percentage.

In essence, the employer decides that rather than pay 60 percent, the company will contribute, say, $100 per month and the employee makes up the difference. This limits the employer's exposure to premium increases and shifts the cost to the employee. If an employer offers more than one health care option, a "defined contribution" plan causes employees to select their plans more carefully, since more comprehensive plans will cost the employee more.

**Bonus tip:** Your contributions to health insurance premiums are deductible under tax law. Consult your advisor.

**Prescription #3:**

Offer only the benefits your employees want. Do your employees really want coverage for dental and vision care? Alternative medicine? Infertility treatment? Chiropractic and mental health? Maybe not. If such coverage is not mandated by your state, eliminating them can, in some cases, save up to 30 percent of an employer's health insurance bill.

"Make the benefits structure of your policy fit so that your company and your employees are not paying for what they don't use," says Sher Sparano, president of Benefits Advisory Service, a consulting firm in Forest Hills, N.Y. Make sure the contract matches the coverage you want. For example, you may be paying for child coverage, when none of your employees have children. Maybe all they need is a rider for spouses. Not sure what your employees need? Ask them.

"A lot of our clients do employee surveys to discover preferences," says Vincent Gandolfo, senior managing director of Frank Crystal & Co., a national insurance brokerage firm based in New York City.

This is a change from the old days when employers dictated what they offered. Now that employees are shouldering more of the health insurance burden, employers need to be more sensitive to what employees really want."

**Prescription #4:**

Consider flexible spending accounts. "Most small employers don't use flexible spending accounts ... and they should," says Weiner. These plans allow employees to spend tax-free money on medical care of their choice, as long as the care falls within very broad guidelines as mandated by the federal government. This allows for maximum flexibility. For example, one employee may want to spend money on dental costs, while another may take care of vision expenses while still another may pay for an annual check up. In many cases, these categories of medical care are not covered by traditional insurance plans. Here's how a typical plan works. You take out a major medical policy, which has a...
Insurance Plans

Most employers offer plans in one or more of the following categories. The numbers in brackets refer to the percentage of employers who offered each category of plan in 1993 and 1998.

Indemnity
This traditional fee-for-service plan allows employees to go to any doctor or hospital. The patient must satisfy a deductible prior to receiving benefits. While these plans were once the predominant form of health care, the number of employees offering them is dwindling.

Preferred Provider Organization (PPO)
[1993: 27% 1998: 40%]
A network of “preferred providers” belongs to this insurance plan, and offer discounted rates to participants.

Health Maintenance Organization. (HMO)
[1993: 19% 1998: 29%]
Like the PPO, this is a network of doctors and other health care providers. Rather than being “preferred,” though, these providers are “required.” Employees must use them to be covered. Unlike the PPO, the employee pays only a small co-pay for every service rather than a discounted fee.

Point of Service (POS) option
[1993: 7% 1998: 18%]
Some HMOs offer this option, which allows the patient to go “outside the network.” The patient must pay a co-insurance fee for doing so.

Source of data: William M. Mercer, Boston, Mass.

$2,000 deductible for each employee. As part of the plan design you ask each employee how much money they want taken out of a paycheck for the flexible spending account. If Joe says $1,200, then you take $100 a month pre-tax money and put it in a special account. Joe may then pay medical bills with the pre-tax dollars that have been committed for the year. If Joe spends less than $1,200, the difference goes back to you, the employer. Suppose Joe spends $3,000 in a year. Of that amount, $1,200 is paid in pre-tax dollars. Joe pays $800 out of pocket. And the major medical policy kicks in for the final $1,000, minus any co-pay.

Although Weiner is a big fan of these plans, he cautions that they have a potential downside. Suppose Joe is reimbursed his full $1,200 for medical care he receives in February. If he quits his job in March, after committing only $300 from his paychecks, you are on the hook for the remaining $900. “Perhaps these plans should be avoided in high turnover situations,” says Weiner. “On the other hand, the risk is not a major one.” Note that you will need an accountant to set up such a plan, so that it conforms with federal tax regulations.

Some of the approaches in this article can be just the treatment for your health insurance ills. Employers may have to select a variety of cures, and review their plans annually to make sure employees are receiving the best benefit for the buck. “The need to select more economical plans will become more important as the medical trend moves toward more expensive treatment,” says Heemskerk. “There is really no silver bullet out there in the cost of medical care.”

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A heretofore unknown fungus is killing several species of native oak trees at an alarming pace in Northern California, and scientists and tree care professionals alike are still trying to find a cure. It's a disease that takes no prisoners, and it is spreading up and down the West Coast.

"It's going to dramatically change the landscape, both in the wild and in the urban landscape," Nicole Palkovsky says of the disease that is being called either sudden oak death or oak mortality syndrome. Palkovsky is coordinator of the Marin Oak Mortality Task Force through the University of California Cooperative Extension office in Novato, Calif.

The disease is heartbreaking to see in native coastal environments, where it is changing the entire ecology. But it is even more devastating for some homeowners who are losing ancient oak trees.

"Many people have built their homes around these oaks," Palkovsky points out, and the loss is not only devastating to landscape aesthetics, but also to the pocketbook. The larger picture, of course, is equally sobering, since the disease seems to be spreading. First discovered in Marin County north of San Francisco, it has been reported as far south as Santa Barbara and north to Humboldt. But the disease organism has not been verified that far away.

Big Sur is the most southern point where it has been verified," Palkovsky reports, and Napa is the northernmost point where the disease has been isolated.

A previously unknown fungus from the genus *Phytophthera* is the culprit, according to Matteo Garbelotto, a UC Berkley plant pathologist who is one of the researchers fighting the disease.

"There are a complex of factors that lead to the mortal-
ity of the plant,” notes Garbelotto. The Phytophthora fungus infects the plant and begins killing it, but a number of insects and cankers then begin invading the tree and accelerating its death. Death appears to be inevitable if the tree is left untreated.

“It’s a new species, a first-time discovery,” Garbelotto explains, though it is related to Phytophthora lateralis, which causes a root rot disease in Port Orford cedars in the Pacific Northwest. “The species was isolated about the first or second week of July.”

The fungus, which was originally diagnosed by UC Davis plant pathologist Dave Rizzo, infests three oak species: tanoak (Lithocarpus densiflora); coast live oak (Quercus agrifolia); and California black oak (Quercus kelloggi). It was first seen in the tanoak about five years ago.

Symptoms vary by species. The shoots of the tanoak begin wilting. The leaves of all three species begin to pale and turn brown over a period of weeks or months. And finally, all develop cankers that are sunken and water-soaked under the bark. Those cankers can be located by looking for cracked or rough bark, but ultimately they begin oozing an amber or brown sap.

Nobody is certain how long it takes a tree to die. Reports are varied, but Garbelotto has seen trees die within four months when they didn’t seem outwardly symptomatic prior to that. The disease may be transmitted from one tree to another through aerial dispersal of spores.

“We don’t know at this point how it’s transmitted,” he adds. The spores may survive in dead wood, soil or water. One of the primary methods of disease spread has probably been the transportation of dead and diseased wood after trees were cut and removed. One of the biggest questions has been whether the fungus might spread to other parts of California and the nation.

Garbelotto recognizes the potential for a wider spread of disease, but he points out that so far it has only been found along the coast. “This Phytophthora species is affected by the heat,” he says.

It appears that 90 degrees is about the threshold of heat that the fungus can tolerate. Thus far, that has limited it to an area within about 20 miles of the coast. Scientists do not rule out the fungus somehow spreading to other temperate areas of the nation, however.

Officially, scientists working on the project say they have no effective controls for the fungus. But some private arborists and pest control advisers claim that available chemicals will put...
a halt to the disease.

Ralph Zingaro, owner of a pest control business in Petaluma and San Francisco, has tried several chemicals, including registered fungicides. His experiments have not all been scientific, but he says some have been effective.

"We've had real good results," says Zingaro, whose company, Bioscopes, Inc., has treated many trees for concerned landowners in the Marin and San Francisco areas. He recognizes that the potential loss of old oaks, especially coastal live oaks, has a lot of homeowners and government agencies frantic.

Zingaro has experimented with available fungicides such as Phyton 27, Aliette and Alamo. He has gotten experimental registrations where necessary. He has also applied a phosphite nutrient supplement called Bio-Serum in order to bring diseased trees up to peak health. Most of his work has been on properties that have a few oaks, but some has been on larger properties.

"We’ve treated properties with 4,000 trees with this technique," Zingaro says. He has found that the Phyton 27 in combination with the Bio-Serum nutrient works most consistently. The phosphite appears to trigger natural resistance from the tree.

He advocates mixing and rotating chemicals, because fungi of this type have a tendency to mutate when treated. They can develop resistance to the chemicals, rendering them ineffective.

Garbelotto is more cautious in his assessment of treatments. He has worked closely with Zingaro on some treatments and points out that although the chemicals appear to work in some cases, the results up until now are anecdotal.

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different compounds," Garbelotto says, and combinations of approaches may ultimately prove to be most effective. Preliminary laboratory tests on the Phytophthora also bolster hopes that standard fungicides may be helpful, though that won't help the thousands of trees infected in the wild. "It looks very promising," concludes Garbelotto.

Garbelotto, with Zingaro assisting, is currently testing various chemicals on 90 potted oaks of different sizes. Thus far, the fungus appears to affect trees of all ages, including the very young and the very old. Some of the oaks that are dying are huge trees estimated to be up to 300 years old.

The intense interest in sudden oak death, with politicians starting to take notice, has precipitated a lot of research on the disease. The Center for the Assessment and Monitoring of Forest and Environment Resources (CAMFER) at UC Berkley's College of Natural Resources is coordinating research by 25 scientists from fields including entomology, plant pathology, monitoring and ecology.

Two large study areas in Marin County, one of them the infected China Camp State Park, will be the focus of much of this research. The studies will range from surveying and remote sensing to symptom monitoring and disease diagnosis.

The experiment on potted oaks consists of infecting the 90 trees with the fungus and treating them with different chemicals. Zingaro has had success by trying different application methods. He has used both micro-injection and a macro-infusion technique that consists of hanging a bag filled with chemicals from the tree and dripping its contents into a hole drilled into the root collar.

"It works," Zingaro insists, estimating that he has either stopped or slowed progress of the disease in 90 percent of the trees treated on some jobs.

Other tests conducted by Garbelotto and Zingaro using ASTRA, an insecticide, to curtail the disease gave mixed results. It did not kill the fungus, but it may prolong the life of the tree by killing ambrosia beetles that hasten its death.

Ken Bevaro, owner of Marin County Arborists in San Raphael, Calif., has worked with Zingaro on several properties. Bevaro may have discovered the disease.

"I noticed it first in 1994 in a town called Kentfield," says Bevaro. "It is an extremely frightening disease to homeowners who love their oak trees, which are the signature tree of landscapes in this area."

Bevaro has found that on a typical spacious property that has 100 oak trees, 10 percent to 15 percent are dead, and an additional 10 percent to 15 percent are infected. "My feeling is that many of my clients are going to lose all their oak trees." Some trees fall over within six months of being diagnosed—pest insects helping decimate the tree—and this has become dangerous to people and property.

"They're hitting houses, falling in swimming pools, taking down power lines," he says. The disease is most apparent in Marin County, with the San
Francisco area suffering from more sparse, isolated infestations. Sonoma County has now begun to be hit hard.

It is depressing to see these ancient trees, some with houses designed specifically to highlight them, dying by the hundreds. Bevaro says he has seen "a small amount of success" with chemical treatments, and they may be buying time for some trees until, or if, a cure can be found. In the meantime, there are other problems created by all these dead trees.

It's creating an extreme fire threat in this area. Many properties are surrounded by U.S. Forest Service land, state parks or Marin Water District lands, which have large oak forests. Fires would be disastrous if they started now.

Live oaks actually have a fire suppression effect. When an oak dies, though, it not only loses its suppressive chemicals through drying, it also contributes to the fuel a fire would utilize. Oak losses will ultimately affect the rest of the environment, too, with water quality and wildlife being likely victims.

Everyone involved agrees that management of dead and dying trees is very important in order to slow the spread of the disease. Arborists who cut dead trees are advised to stack and dry the wood thoroughly, and above all not to remove it from the property and risk spreading the fungus farther afield.

The disease will be a costly one, once all the bills are tallied. Zingaro says it costs about $100 to treat each tree with chemicals, and he charges $400 for a complete IPM and nutrition program. But that beats the cost of removing a dead tree, which can range up to $3,000 for the largest specimens.

Various state and federal agencies have kicked in $200,000 in interim funding, but everyone agrees that much more is needed. A state senate bill that would have devoted $5 million to the research effort failed to pass.

More information on the battle against sudden oak disease can be found online at camfer.cnr.berkeley.edu/oaks/ or suddenoakdeath.org.

Don Dale is a freelance writer in Hollywood, Calif.
Growth in the snowplowing business is usually dependent upon how much equipment and manpower you can muster to deal with the increased business. Additional equipment requires substantial capital investment, if you choose to own everything you will need. One proven method of reducing your capital investment in such growth is to utilize subcontractors. These are others that supply both the manpower and equipment necessary to adequately service your customer base during any particular snow event. For those who are unfamiliar with how to go about securing, keeping and organizing subcontractors in a growing snowplowing operation, below are some suggestions and guidelines that might assist you in your quest for growth.

Advertising for subcontractors is generally the most accepted method. A couple of lines in the “classified” section of the local paper will certainly get some inquiries. This can be as simple as “Snowplowers with vehicles needed. Routes throughout (your market) area. Call 555-1234 for information.”

Those who respond will have some specific concerns and questions. You will need to plan for how you will address them. They will include:

- How are we getting paid?
- When do you pay?
- How do we get told when to plow?
- Where will I be plowing?

Having an information packet put together (in advance) that can be mailed to potential subcontractors will go a long way towards eliminating any misconceptions later in the winter. This packet should include your policy on insurance, a formal subcontractors agreement that lays out the sub’s responsibility as well as your own, the pay rate or pay scale, and an explanation of your company policy about how you generally deal with subcontractors.

Another method to attract additional subcontractors is to have a referral program in place for existing subcontractors. These guys all talk on CB radios during snow events—and they get to know who the good contractors are by talking with each other. If you pay a referral fee to existing subs, and if you have treated your subs fairly (meaning you paid them on time and in full, as promised), then this incentive is good for existing subs who will recruit others to come work with you. One suggestion would be to pay $200 to the existing sub who refers another to come to work with you. The new sub would have to work the season, and you could pay one-half the referral fee part way into the winter season, and the balance at the end of the season.

Utilizing subcontractors can be a source of irritation at times, and one needs to be cognizant of the pitfalls. Be prepared that a percentage of
the available subs will not “come out” when called. You’ll hear every reason ever developed: illness, hangover, truck broke down, no babysitter, and the phone being turned off (inadvertently, of course).

On the other hand, subcontractors normally take much better care of their equipment than your employees take care of your company’s equipment. Subs don’t normally ram curbs with plow trucks and then say “oops.” And when subs break down, they normally work very hard to “get back up” right away instead of calling on the radio (or phone) and saying, “My truck’s broke.” Subs will often carry spare parts and tools to effect repairs immediately, so they can get back to work, earning money.

When subs are done for the night (or day, as the case may be), they should “turn in” (or report) hours the same day. In this manner, if there are any discrepancies in recorded hours, they can be immediately addressed. If not, you can end up arguing later when no one actually remembers what went on during that particular snow event. Sometimes this means calling them at home and waking them up, even as they are trying to get some sleep. It is better to address this particular issue right away, rather than waiting.

The manner in which a subcontractor is paid is a very big issue. It should go without saying that your subcontractors are the lifeblood of your business, and you need them to survive. They should be paid on time and in full, every time. Stretching out a subcontractor only leads to bad publicity over the CB airwaves. These guys know who’s paying on time and who isn’t. The word gets around—good and bad. Some companies have subcontractors waiting in line to come work for them, simply because they pay the subs on time and in full. It is a very big deal to the subcontractors.

Subs should be paid for the equipment they have available for your use. Consider a “differential system” depending upon what type of equipment they have. Start with a “base rate” that is fair. Then pay more money for a larger or more efficient plow (i.e.: the “V” blade, snow wings, or capture blade). Pay a bit more money if they carry a cellular telephone. You should then call the cell phone at least once during each snow event so that you know they actually have the phone with them. Pay more money for their second and/or third year with your company. Pay more money for having a truck with an automatic transmission instead of a manual transmission (no matter how much they plead with you—they cannot back up as fast with a standard transmission as they can with an automatic transmission).

Be very careful in your treatment of subcontractors while they are plowing snow for you. You do not want them to be misconstrued as being “employees.” While you can give them direction, that direction should be limited to what your customers’ expectations are as far as a finished product after the plowing is completed. You must not restrict them from plowing for themselves or other contractors (if you treat them right and pay them as promised—they won’t go elsewhere). Never put your sign on their truck or piece of subcontracted equipment. Do not pay any of their expenses. Require proper insurance coverage from all subs. Never pay any sub until they have filled out an IRS Form W-9 for your files. Always issue a proper IRS Form 1099 to the subcontractor at year-end—and make certain that the subcontractor knows that this income will be reported to the government, as is required by law.

The use of subcontractors is a tool for growth. It is not the only way to grow your snowplowing business, but it may be one of the easiest methods for growth without substantial capital investment on your part. Treat them right, and they will be loyal and productive members of “your team.”

John Allin is president of Allin Companies in Erie, Penn., and a the Board President of the Snow & Ice Management Association. He can be reached at 814-455-1752 or by email at john@allinco.com.
Bringing in the Vac

Do alternative excavation techniques make cents for your company or municipality?

By Colleen Heraty

Whether it's directional drilling, trenchless technology or excavation with air and water, alternative excavation techniques are creating new ways to do old jobs. And since this technology stems from use in other industries, there's not always research and experience to fall back on. So, how do you know if it's the right change to make? Read on to see what arborists who are experimenting have to say.

Tree care professionals—along with engineers, architects and city planners—are gradually placing a greater importance on trees and, therefore, demanding higher quality systems to preserve and protect them. An example of this is a machine that's been getting a great deal of attention lately as an excavation tool in the petroleum industry—the hydrovac. Tree care professionals in Canada are finding it helps preserve and protect trees.

According to Brian Emrich, marketing manager for the eastern U.S. branch of Badger Daylighting Corp., a manufacturer, a hydrovac produces a pressurized water stream that can be adjusted to a setting that will not damage a tree's roots. The water can be heated up to 150 degrees F to help cut through tough soil or frozen ground, and is able to break up the soil without causing damage to tree roots.

So, how does it work exactly? Each unit is a three-in-one machine—a water truck, a pressure truck and a vacuum truck. Pressurized water that liquifies the soil cover is delivered through a hand-held wand. The resulting slurry, composed of water and soil, is then sucked into a debris hose by a powerful vacuum system and stored in a debris tank on the truck.

Badger Daylighting is a service company that makes its own hydrovacs to service the petroleum and utility industries. "Daylighting" is the term used for the process that combines pressurized water and a vacuum system to remove soil cover, exposing underground tree roots to "daylight" and the human eye.

Various Uses

The hydrovac has been adapted to work in the following tree care situations:

- Removing stumps
- Slot trenching
- Excavating new tree pits
- Excavating to check for girdling roots
- Locating utilities around tree sites
- Preserving root systems
- Removal of contaminated soil
- Winter excavating
- Root pruning
- Soil replacement

Some instances where a hydrovac may come in useful could be for slot trenching which replaces directional boring and open-cutting. This prevents damage to tree roots, says Emrich. And if you're working with tree roots that have wrapped
around an existing utility or contaminated soils that need to be removed, this may be the appropriate tool.

“We’ve excavated out tree pits in urban areas without damaging sidewalks or the tree pit itself,” offers Emrich. “We also help to do excavation for new trees because the possibility of utility conflicts.”

Emrich describes the difference between a hydrovac and a conventional technique by pointing to a situation that occurred in Canada. The Calgary Parks and Recreation Department had to remove a stump from a sidewalk tree vault. Initial attempts were showing signs of damaging retaining walls and adjacent sidewalk. The sidewalk on the retaining wall began to pull up when they tried to remove it with a backhoe. According to Emrich, if the city had continued with this technique, traffic control, backhoe costs, sidewalk and retaining wall repair and ground restoration might have brought the total cost of removal to as much as $5,000. Instead, the city decided to use a hydrovac. They were able to wash around roots, remove material around the stump and clean the soil out of the tree vault.

“There was no ground disturbance outside the vault and no restoration required,” notes Emrich. “And after we removed the soil, a chain saw was used to cut the tree stump from the vault. The entire process took less than an hour and cost approximately $400.”

**Productivity and Economics**

Shelley Vescio, city forester for Thunder Bay, Canada, saw a unit in action at a recent urban forestry conference. Vescio says it could make sense for tree excavation and preservation.

Vescio noted the nozzle pressure can be adjusted so the cambium in the bark is not affected. She also found the fact that you could excavate around roots without having to do it by hand appealing.

“It’s done quickly and without any mess,” says Vescio. “It’s hard to know where root systems go, and this allows you to expose them easily.”

The downside is its price, worries Vescio. The cost versus the benefit must be weighed in each situation.

“Our engineers are just getting used to the fact that they have to preserve trees,” she offers. Cheaper methods might kill the root system and tree. “It’s worth it to pay the extra money.”

For engineers to understand a tree’s value, urban foresters may soon be calculating the price of a tree by measuring its aesthetic and environmental values.

“When you get the attitude change that it’s worth the investment, then you’re probably a long way ahead,” Vescio offers.

Russell Friesan, urban forest specialist for Calgary Parks and Recreation, agrees with Vescio that the cost seems expensive.

“But when you take into account that if we were to use a backhoe, we’d also have to have a lot more equipment on site, then the cost is well worth it in certain applications. Particularly in the long run because we’re not losing trees.”

Friesan was first introduced to the technology when a sidewalk tree wrapped its
roots around some communications and fiber optics lines. The tree died and he needed to get the stump out, so he used it to remove the soil and then went in by hand to extract the stump.

"It was a much safer and cleaner way of removing a stump than our traditional method," notes Friesan. "Our primary concern was not to damage fiber optic line. Since that time, we've been encouraging and sometimes requiring utilities to use a hydrovac if they have to work within four meters of a tree."

Trucks can be used right off the street, so he doesn't have the worry of equipment bashing into other boulevard trees. This also sidesteps the hassle and expense of road closures. "We can work downtown where there's lots of traffic. With a backhoe, we'd probably have to close a couple of lanes because the equipment would stick out into the street."

The unit's water heating feature is also very appealing to Friesan because in his region of the country, the ground freezes to a depth of four to five feet. Hot water can melt and cut through the soil, whereas a more conventional method might entail preheating the soil a day or two ahead of time.

Bill Catalifil, regional manager for Asplundh construction division, was initially very skeptical about using the machinery on jobs, but has found them to save time and money. Crews don't break through fiber optics and other lines that are sometimes not marked correctly. Catalifil says that anyone who needs to work below ground will appreciate the difference.

Is it For You?

Mark Lyle, operations manager for Badger, says that the units have been getting a great deal of interest lately. "Our business is focused on non-destructive excavation," says Lyle. "We can non-destructively expose a tree root. In the past, we haven't really focused on [tree work], but just enough people have seen it, tried it and liked it that it's become an emerging application for us."

One client recently used the machine to plant new trees, excavating 80 tree pits in one day at $30 per pit.

Alternative excavation techniques may not be for everyone. There are a couple of reasons why contractors are less likely to embrace this technique, admits Lyle. Although their efficiency speeds up the work, not everyone has enough work to keep them busy.

Lyle warns that people should be cautious when trying to adapt hydrovac traits onto their own machine. "This is a problem we've been seeing a lot of," he says.

Cities have tried to use sewer flushing trucks to move soil, but their water pressure is generally too high, which can damage a tree's roots. Under enough pressure (20,000 psi), water systems can cut through steel, he says. Most municipalities haven't yet developed safe operating procedures for working around fiber optics and energized cables.

Ideally, you should aim to use a pressure under 500 psi, while some of the sewer flushing trucks that people try to adapt for excavation normally operate at 3,000-4,000 psi.

Sewer flushing trucks as an excavation tool are cheaper, since they rent out at $80 to $100 per hour, whereas hydrovac service runs about $200 to $250 per hour with a fully trained two-person crew.

"The sewer flushers have similar components and elements—and in a lot of cases they can do certain applications," says Lyle.

Emrich predicts that the future will see tremendous growth, partly due to requirements cities may adopt in the future that would require a non-destructive machine for any excavation around utilities.

Badger offers hydrovac services from coast to coast across North America. For more information, contact Brian Emrich at: (888) 726-9146, or visit their Web site at: www.badgerinc.com.

Colleen Heraty is a freelance writer in Carbondale, Ill. She may be contacted at: colleenheraty@yahoo.com.
You have trained your employees to follow the Department of Transportation’s standards on setting up and maintaining safe work zones along streets. Well, driving through a work zone poses hazards too.

Between 1970 and 1997 the number of vehicles in the United States increased approximately 90 percent, from 111,242,295 to 211,580,033. Additionally, the number of vehicle miles has increased approximately 130 percent in that same time frame, from approximately 11 trillion to 25 trillion, according to the Bureau of Transportation Statistics. This means that there are more vehicles traveling a lot more miles on relatively the same amount of highways. This leads to congestion, slow downs and driver frustration. The problems are exacerbated when work zones are added to the mix.

In 1998, the National Highway Traffic Safety Administration recorded 477 work zone deaths to motor-vehicle occupants not involved in construction projects. Overall, work zone deaths rose to 772 in 1998, reversing a three-year decline (see Tables).

The fact that there appear to be so many work zones does not help the situation. In fact, the National Safety Council states that the most frequent complaint voiced by motorists, concerning work zones is: They come upon signs telling them to slow down for roadwork up ahead, but they never see any workers as they crawl through the zone. This is tantamount to crying wolf. The attitude becomes, “I didn’t see any workers, why should I have slowed down?”

The answer lies in Tables 1 & 2. According to the Federal Highway Administration, the number of work zone accidents is probably greater than the reported number for three primary reasons:
1. Many minor accidents occurring at a work zone site may not result in a police accident report.
2. Work zone crashes that occur near work activity (e.g., a rear-end collision at the end of a work zone queue) may not be reported as work zone accidents.
3. The accident reporting/coding process may not pick up work zone accidents if the report form does not have explicit data elements for the work zone condition.

As the fleet manager, you must train your drivers to understand the hazards presented by work zones and to know the appropriate defense to reduce or eliminate the possibility of being involved in an accident. Train your drivers to take the following action when confronted with work zones:

- **Be far-sighted**
  - Be alert for signs that indicate a work zone up ahead. See the hazard soon enough to take effective action. In urban areas, see a city block, in rural areas, see a country mile (or to the next hill or curve). Expect the unexpected.
- **Take in the whole picture**
  - There are usually many things that are taking place at once in a work zone. Drivers should be taking in the whole picture. Be alert for workers or equipment moving into traffic lanes. Be aware of construction materials that could accidentally find their way into you travel lane. Look for flag persons or police officers who are directing traffic. Be aware of lane restrictions or lane changes, and be prepared to take appropriate action.

- **Reduce speed**
  - Speed limits will almost always be reduced for work zones. Therefore, obey the posted limit. Keep in mind that in many states traffic fines are doubled for violations in work zones. Even though the speed limit is posted, it may be prudent to slow down further if your vehicle size and the road conditions warrant.
- **Maintain a space cushion**
  - Keep up with the flow of traffic, but maintain an adequate space cushion so that you...
can stop, if necessary, without colliding with the vehicle in front, or incurring a collision from the vehicle behind. Remember that the space cushion is on all sides of your vehicle, not just to the front. Depending on the situation, use the 2, 3, 4 second rules.

- **Don't change lanes in the work zone**
  While in the work zone, don’t change lanes. Many times lane widths are reduced and attempting to change lanes could lead to collisions with other vehicles or construction barriers. In many cases, lanes will drop, which will create “bottlenecks.” Recognize this early and move over. Don’t wait until the last second. Be courteous and permit other drivers to move over.

- **Minimize distractions**
  Avoid changing radio stations, fiddling with the CD player or tape deck, or using mobile phones while driving in work zones.

- **Communicate**
  Signal to other drivers your intentions well ahead of time. When approaching a work zone, begin slowing down early. Signal lane changes as early as possible. Turn on your headlights so workers and other motorists can see you.

- **Be patient**
  Understand that when you encounter a work zone, you will be delayed. Accept it!

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatalities</th>
</tr>
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<tbody>
<tr>
<td>1992</td>
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<td>1997</td>
<td>558</td>
</tr>
<tr>
<td>1998</td>
<td>477</td>
</tr>
</tbody>
</table>

*Does not include occupants of work zone vehicles or occupants of the motor-vehicle portion of the “unknown (at work / not-at-work) category”.

Source: Fatality Analysis Reporting System, NHTSA

Don’t allow yourself to become agitated and aggressive. Recognize, however, that other drivers are likely to do just that. Other motorists may try to race ahead of you or cut in front of you. Be aware of this possibility and make allowances. Be cognizant of other drivers and scan the entire area around your vehicle.

- **Plan your route**
  If possible, plan your route to avoid work zones. If you must travel through work zones, give yourself added time so that you can maintain your schedule without having to “make up time.” When possible, travel in non-rush hour times.

  Work zones present the fleet manager with additional hazards outside of normal driving. Be aware of the potential and train your drivers to handle the exposure.

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Web site: www.natlarb.com
The NAA’s Winter Management Conference is the premier business meeting for the owners and managers of commercial tree companies. In addition to opportunities to network with peers and participate in seminars that will help you run your business at a higher level, WMC offers a number of extracurricular activities. So come on down, and bring your fishing rod and golf clubs—along with your laptops and cell phones.

Robert Felix Memorial Trust Golf Tournament

You are welcomed to an afternoon of relaxation and friendly competition. Your player’s fee of $175 covers greens fees and golf cart. Proceeds payable to the National Arborist Foundation.

Backwater Fishing

All aboard for backwater fishing at its finest. You will embark directly from Sanibel Harbour Resort and Spa Marina via four-passenger backwater flat boats complete with professional guide, bait and tackle. You will fish the back bay waters of Pine Island Sound. It’s in these mangrove-lined waters you will find prized game fish like the mighty tarpon, hard-striking snook, feisty redfish, trout, mackerel and ladyfish. (Four passenger maximum per boat.)

Travel Information

Delta Airlines has been selected as the primary airline for the 2001 Winter Management Conference. For reservations, call Delta Meeting Network Reservations at 1-800-241-6760 and reference Delta File Number 162081A. Tickets purchased 60 days in advance will receive an additional 5 percent off the special discounted rates.

US Airways has been selected as the alternate air carrier. Special discounts have been arranged on your air transportation. To take advantage of this special offer, please call US Airways’ Meeting and Convention Reserv-

Registration

Early Bird registrations must be received by Jan. 12, 2001. Registrations received after Jan. 12, 2001, not complying with the appropriate fees, will be billed accordingly. For more information, contact Carol Crossland at 800-733-2622, or e-mail: crossland@natlarb.com.
Jimmy Buffet Parrot Head Ball

You'll be treated to a combination of the romance of the ocean, history, a warm breeze, crystal-clear waters and sun-warmed sand between your toes ... this laid-back world is as much a state of mind as a place. Re-acquaint with old friends and make new ones. In partnership with Bandit Industries, Inc., The J.J. Mauget Company and Aerial Lift, Inc.

Babcock Wilderness Tour

Specially built swamp buggies will carry you through unspoiled woodlands and sections of the Telegraph Swamp on the 90,000 acre Crescent B Ranch. For anyone wishing to experience the thrill of meeting panthers, bison and dozens of wild alligators face-to-face, this tour is a must! Perhaps you may be lucky enough to catch a glimpse of a white-tailed deer or the wild turkeys on property.

Edison/Ford Winter Estates Tour

When you visit Thomas A. Edison's winter home you will escape into a simpler and more gracious era. The furnishing and architecture of the rambling buildings are reminiscent of the late 1800's. Edison's tropical botanical garden contains more than 1,000 varieties of plants imported from all over the world to assist his research on their products and by-products. A museum has been added to house memorabilia related to Edison's life, including his unique Model-T Ford, a prototype presented to him by his friend Henry Ford.

After viewing the Edison winter home, you will continue on to the home of Henry Ford, through an always open "Friendship Gate," where you will view classic automobiles as well as "The Mangoes," furnished as it was when the Fords lived there from 1916 through the 1930s.

Poached Eggs With Peers

Begin each memorable day in paradise with a breakfast buffet exclusively for WMC attendees. The resort's distinguished chefs have earned the only AAA Four-Diamond award in the area. Whether you are headed to presentations, golfing or out to sea, start your day by swapping insights with industry peers. In partnership with The Hartford, Bartlett Manufacturing Company, American Arborist Supplies Inc., The Doggett Corporation and Buckingham Manufacturing Company, Inc.

Roaring '20s Speakeasy

We'll take you back in time to the era of the roaring 20's ... the glorious Flapper and the fast-talking gambler ... a time when Speakeasies were fashionable. To gain entrance to such establishments, you had to "speak easy" and credit whomever sent you. Knock three times and tell them, "Joe sent me." In partnership with Cummins Michigan, Inc.
During early December, thousands of Christmas tree stands will suddenly be open for business in vacant lots, school yards, parking areas, churches, social clubs and countless other places all across the land. You can’t turn around during the holiday season without bumping into one.

An estimated 60 million Christmas trees—and that’s a conservative estimate—are sold annually in the United States. Don’t be alarmed, though. Two or three saplings are planted to replace each one of them. Balsam firs and Scotch and white pines are the favorite holiday trees. It takes about seven years to grow a six-footer, the height most trees must achieve before they are shipped to the marketplace.

In this country, what we call “live Christmas trees” are grown in all 50 states on approximately one million acres set aside for just such a purpose. Each acre reportedly provides an ample supply of daily oxygen for 18 people. Oregon, North and South Carolina, California, Pennsylvania, Wisconsin and Michigan are the top producers of holiday trees.

According to those who count such things, there are currently about 15,000 growers nationally. Obviously, Christmas trees are quite a business.

So how did it all get started?

Mark Carr, a farmer from Catskill, N.Y., was America’s first Christmas tree salesman. As near as can be determined, he was probably the world’s first as well. He sold his first tree on a New York street corner back in 1851. A lot of trees have been peddled since then.

Carr, it must be pointed out, risked everything, including his 150-acre farm, when he used all of his available funds to ship and sell his trees. He needed seed money, plus funds to pay off debts. Crops had been poor that year. If he had been unable to come up with seed money, he probably would have lost his farm. Fortunately, there was a large grove of balsam firs growing out back on his farm.

“I felt terrible,” Carr once told an interviewer. “Funds were difficult to obtain and there was no person I could turn to for help. Those were sad days for our family. Had I not had my idea, I doubt if I would now own our farm.”

Carr had a lot of courage. He planned to chop down about “40 or 50 trees” on his property and, with the help of his teenage sons, transport them by wagon and boat to New York, about 80 miles away.
In the beginning, the farmer felt there would be a ready market. He planned to sell his trees on the Saturday before Christmas at the city’s Washington Market area. Saturday was the busiest day of the week. In fact, Carr had already written ahead and reserved a stand at the corner of Greenwich and Versey Street, a great location. He paid “a shiny silver dollar” for the spot, and a dollar was a dollar in those days.

Then the farmer began to have doubts. He owned one wagon and rented a second. Both were pulled by oxen. And there would be the expense of the ferry across the Hudson, once he reached New York. More funds would be needed to feed his two young sons who were making the trip with him. And there was always the threat of a snowstorm. Poor weather would make his trip impossible. But Carr’s insecurity magnified after a chat with some local residents a week before his big trip. “What are you selling?” he was asked. “Crops were all harvested a while back. What will you have to market?”


“Trees for Christmas!” echoed the other farmer. “Why do people need trees for Christmas?”

“They bring them indoors and decorate them at Christmas,” clarified Carr. “I read about it in one of the papers at the town library. Lots of New Yorkers have trees in their homes.”

“It’s crazy!” scoffed the other farmer. “Whoever heard of bringing a tree indoors when it is perfectly happy outdoors?”

Carr received a similar reaction from other Catskill neighbors when he told them of his plans. The truth of the matter was—Americans did not know all that much about Christmas trees in 1851. German immigrants to the Midwest introduced Christmas trees to this country back in the 1830s. Later, the practice spread to New England when Charles Follen, a Harvard professor and German native, put one up in 1835. In time, Christmas trees were displayed in New York, Philadelphia and other major cities.

In 1851, you chopped down your own tree or had it done for you. Only the wealthy could afford them. You needed money to put one up. Servants with water buckets had to be close by in the event the wax candles ignited the dolls, toys and other decorations on the trees.

At that time, trees were only lighted for an hour or so on Christmas Eve. Some families may have displayed them on Christmas night as well, if they could afford the luxury. It wasn’t until more than half a century later, after electricity came along, that Christmas trees became an accepted part of the holiday celebration.

It should also be noted that it wasn’t until 1856 that a Christmas tree was displayed at the White House. President Franklin Pierce put one up for some Sunday school scholars who visited the White House. The practice was abandoned until 1889, when President Benjamin Harrison started displaying a tree on a regular basis.

For a while, farmer Carr was convinced he would probably lose everything in the deal. Then he had a bright idea. He made up a sign that read, “Trees for Christmas on Sale Here Sat-
urday.” He believed in advertising.

His next move was to get that sign down to Washington Market, which proved to be quite a problem. It meant somebody would have to travel for several hours over dirt roads. Mail service was not all that reliable back then either.

Carr did not relish the idea of riding a farm horse 50 miles to New York. It meant additional expenses and his budget was limited. However, his oldest son—his name is believed to have been Thomas—was willing to make the trip. The boy, who was about 16, was assigned the task of going to the Big City all by himself.

The youth managed to hitch a ride with a salesman to Newburgh, where there was a ferry. Newburgh was halfway to New York. Once there, young Carr could take the ferry across the Hudson and, if he was lucky, hitch another ride the rest of the way to New York. If he did not get a ride, he would have to travel on foot. This will give you an idea of how anxious farmer Carr was to let the New Yorkers know he was coming with his trees.

In Newburgh, young Carr had some bad luck—and some good luck. The bad luck was that the ferry was not operating on Monday, the day he arrived. Either there was no service that day or the ferry was in need of repairs. The good luck was that the salesman who had taken him to New York introduced him to another salesman who was headed for New York. He was willing to deliver the all-important sign to the manager of Washington Market. The young man managed to get back to the family farm the next day.

“Did you know this salesman?” his father asked.

“No,” replied his son.

Carr was angry, but he did not scold his son. The boy had done the best he could. His sign—which measured about 10 by 12 inches—was now in the hands of a stranger. He wouldn’t know until Saturday if it had reached Washington Market.

On Friday, Carr and his two sons left Catskill with their trees. It was a slow journey and they did not reach the ferry station on the outskirts of New York until late the same day. To save money, they slept in the barn where they stabled the wagons. This was not an uncommon practice in those days. They had done it a number of times when traveling to the market with vegetables during the summer.

At dawn the next day, Carr had some bad news. The price for shipping the wagons and oxen across the Hudson was more than he had anticipated. This meant a change of plans. His sons would remain behind.

“I only had so much money on hand for the trip,” Carr said later. “I had no
choice. My sons had to remain behind at the ferry station on the other side of the Hudson and wait for me. I planned to return later that same day.

Carr had been to New York many times before to sell his vegetables but this was his first trip to the city in the middle of winter. He was alone—without his young sons to help him. Once on the other side, the farmer headed for Washington Market, the city's most popular food and vegetable market. He was mighty nervous. He had a lot of Christmas trees to sell and he wasn't quite certain anyone would want to buy them.

Up until then, Christmas greenery for decorative purposes had been sold in the market district, but never Christmas trees. Would there be customers for them or had he lost everything?

The first thing Carr noticed as he approached Greenwich and Vesey Streets was a line of people waiting near the spot where he planned to set up shop. Then he spotted his sign. It was nailed to a post next to his rented area, "Trees for Christmas on Sale here Saturday" it read, sharp and clear. The anonymous salesman—the stranger he would never get to know—had not failed him.

Many of the people waiting were there because they were curious. Before they did their weekly shopping, they wanted to find out why anybody would want to buy a tree for Christmas.

Happily, the rest were on hand to buy trees. Carr sold all of them without unloading them from his wagon. Exactly what he charged for his trees is not known, but according to one newspaper account, he charged "exorbitant prices." It is believed they may have fetched ten dollars a tree. It must be remembered the trees were being purchased by wealthy families, and having a servant pick one up at the Washington Market (even for a fancy price) was a lot less expensive than hiring somebody to go into the woods to chop one down. In a few short hours, all of Carr's trees were gone and his pockets were loaded with much-needed money. Since the ferry was not due to leave until that afternoon, the farmer enjoyed a hearty meal before heading home. There can be little doubt the tree salesman boasted to his wife about his business acumen when he arrived home with his sons early the next morning.

The following year, the Carrs were back in Washington Market with three times as many trees and the year after that with even more. Carr's sons, according to one account, were still selling Christmas trees in New York at the turn of the century.

Mark Carr was once described by the old New York World as "a jolly woodsman." He was indeed. He certainly came up with a great way of raising seed money and paying off his debts in a hurry.
Events & Seminars

December 3-6, 2000
American Society of Consulting Arborists
33rd Annual Conference
The Hotel Viking, Newport, RI
Contact: 301-947-0483

December 4-7, 2000
34th Annual Ohio Turfgrass Conf. & Show
Greater Columbus Convention Center
Columbus, OH
Contact: 888-683-3445

December 5-7, 2000
Nebraska Arborist Association
Arborist School
Omaha, NE
Contact: 402-476-3852

December 7-8, 2000
Northeast Shade Tree
Rhizosphere Chemistry and Biology
Presented by Dr. Al Shigo
Portsmouth, NH
Contact: 603-436-4804

January 4-6, 2001
A Green Odyssey
WALP & WSNLA Joint Leadership Conf.
Rosario Resort, Orcas Island, WA
Contact: 253-863-4482

January 4-5, 2001
2001 ERNA’s EXPO
Meadowlands Exposition Center
Secaucus, NJ
Contact: 800-376-2463

January 8-12, 2001
Adv. Landscape IPM PHC Short Course
University of Maryland
Contact: Debbie Wilhoit, 301-405-3913

January 9-11, 2001
Eastern PA Turf Conference & Trade Show
Valley Forge Convention Center
Contact: Michael Smith, 610-828-0253

January 10-12, 2001
Kansas Arborist Association
46th Annual Shade Tree Conference
Manhattan, Kansas
Contact: ivan_katzer@hotmail.com

January 14-16, 2001
New York State Arborists
Empire State Tree Conference
2001-A Tree Odyssey
East Syracuse, NY
Contact: 518-453-6461

January 15-18, 2001
71st Annual Mich. Turfgrass Conference
Holiday Inn South
Lansing, MI
Contact: Kay Patrick, 517-321-1660

January 18-20, 2001
GrowerExpo 2001
Sheraton Hotel
Chicago, IL
Contact: Gina Cavelle, 630-208-9080 x 107

January 22-24, 2001
Central Environmental Nursery Trade Show & Short Course
Greater Columbus Convention Center
Columbus, OH
Contact: 740-452-4541

January 25, 2001
Northeastern PA Turf School & Trade Show
The Woodlands Inn & Resort
Wilkes-Barre, PA
Contact: Andrew McNitt, 814-863-1368

January 28-30, 2001
Wisc. Arborist Assoc.
Annual Conference
Regency Suites Green Bay
Green Bay, WI
Contact: 262-242-2040

February 5-6, 2001
36th Annual Shade Tree Symposium
Penn-Del Chapter, ISA
Lancaster, PA
Contact: Elizabeth Wertz, 215-795-0411

February 5-9, 2001
TP! 2001 Midwinter Conf. & Expo
Albuquerque, NM
Contact: 800-284-2282

February 6-8, 2001
Trees & Utilities National Conference
Arbor Day Farm/Lied Conference Center
Nebraska City, NE
Contact: 402-474-5655

February 8-10, 2001
New England Grows! "A Fresh Perspective"
Hynes Convention Center
Boston, MA
Contact: 508-653-3009, NEGrows@aol.com

February 14-18, 2001
National Arborist Association
2001 Winter Management Conference
Sanibel Harbour Resort & Spa
Fort Myers, FL
Contact: Carol Crossland, 800-733-2622

THE PENN-DEL CHAPTER
INTERNATIONAL SOCIETY
OF ARBORICULTURE
presents
THE 36th ANNUAL
 SHADE TREE SYMPOSIUM
a 2 day conference featuring
Dr. Kim Coder
University of Georgia
Dr. Bruce Fraederich
Bartlett Tree Research
Dr. Dave Shetlar
University of Ohio
Wayne Outlaw
Outlaw Group
plus many other speakers: Pesticide & CEU credits: Climber, Business, and Utility-Municipal breakouts. CA exam: Retail Equipment & Trade Show.
Feb. 5-6, 2001. Lancaster, Pennsylvania
contact Elizabeth Wertz: (215) 795-0411

Don't miss these upcoming events
February 15 through April 26, 2001
Arborists’ and Tree Workers’ Certification Preparation Course
Brea Civic & Cultural Center, Brea, CA
Contact: (909) 656-3431

February 20-21, 2001
So. Illinois Ground Maintenance School
Gateway Convention Center
Collinsville, IL
Contact: Ron Cornwell, 618-692-9434

February 24, 2001
Long Island Arboricultural Association
30th Annual Tree Conference
Hofstra University
Hempstead, NY
Contact: LIAA at 516-454-6550

February 27-28, 2001
Western PA Turf Conference & Trade Show
Pittsburgh Expo Mart
Radisson Hotel
Monroeville, PA
Contact: 814-863-1368

March 6-8, 2001
Social Issues and the Environment
Arbor Day Farm/Lied Conference Center
Nebraska City, Nebraska
Contact: 402-474-5655

March 7-8, 2001
14th Annual Metropolitan Detroit
Landscape Association Trade Show and Convention
Novi Expo Center
Novi, MI
Contact: Diane Andrews (248) 646-4992 or (800) 354-6352 MI only.

March 14-16, 2001
29th Annual Wood Technology Clinic & Show
Portland Convention Center
Portland, OR
Contact: (800) 527-0207 or visit web site at www.WoodWideWeb.com

March 26-28, 2001
Building With Trees Conference
Arbor Day Farm/Lied Conference Center
Nebraska City, Nebraska
Contact: 402-474-5655

May 1-3, 2001
Urban Wildlife Management Conference
Arbor Day Farm/Lied Conference Center
Nebraska City, Nebraska
Contact: 402-474-5655

May 6-9, 2001
ISA—Southern Chapter, and others
Tree Structure and Mechanics
Savannah, GA
Contact: kcoder@arches.uga.edu

May 8-10, 2001
Utility Safety Conference & Expo 2001
Atlanta, GA
Contact: Denise Kula (847) 639-2200 or www.utilitysafety.com

Send information on your event to: Tree Care Industry, 3 Perimeter Road, Unit 1, Manchester, NH 03103
Fax: 603-314-5386; E-mail: Garvin@natlarb.com

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TREE CARE INDUSTRY - DECEMBER 2000 55
Good arborists are many things—technicians, business people, experts on trees. And underlying all three aspects of success in the field is both training and education. But according to Dr. Alex Shigo, true education is too often passed over by tree care firms in the interest of saving time.

At a recent outdoor version of his popular dissection seminars, he pointed out to the crowd that few large tree care companies were represented among the two dozen or so tree care professionals from around the country.

Trees with opposing cracks, the most dangerous type, and central decay. While some may blame the decay for the tree’s demise, the cracks are much more dangerous.

Arborists are urged to handle and understand the role of mycorrhizae. Knowledge about what goes on at the microscopic level below ground can tell volumes about a tree’s overall health.
"That's because companies often think of this kind of exercise as a waste of time," Shigo says of his hands-on workshops, which focus on performing tree autopsies—cutting open trees to learn their secrets. "Unfortunately, there is a very pervasive thought in our business that if you're not going full speed all the time, you're not going to make money. And that leads to all kinds of problems."

Not the least of which, Shigo believes, is a black-eye on the image of the profession. "Anyone with a pickup truck can be a tree cutter, so it makes it extra important that we arborists distinguish ourselves in any way we can," he stresses.

Slowing down to learn

Slowing down can be valuable and can pay long-term dividends in the form of additional work from customers and a solid reputation as tree care companies that do more than just climb trees and cut them down. And while hard, hazardous physical labor will always be a part of arboriculture, tree care professionals who understand entire tree systems and have both brains and brawn will be the ones who succeed.

"There is so much emphasis on climbing," Shigo says. "And climbing is fine. It's necessary and a terrific skill to have. But it's not worth anything if you get up there and don't know what you're doing or why you're doing it. You have to be able to put the two together in this business. Otherwise, we're not going to grow as an industry and be taken seriously."

While training programs are often limited to the nuts-and-bolts machine operation, climbing or safety, it would be easy to include more education—more of the why's and how's in almost any program—he insists. Being able to talk confidently with customers not only makes good business sense but also raises the profile of the arboriculture industry. And often it begins with small things.
Dieback on trees under stress in a nursery.

Twig from an oak, probably cut loose from the tree by twig beetles. Allaying the fears of clients whose lawns are littered with similar twigs is one way to gain their confidence in your knowledge and abilities.

To see for ourselves

Taking time in the field to observe trees can unlock secrets. Shigo has cut open thousands of trees—everything from white pine in the middle of the New Hampshire woods in winter to palms in southern Florida and other tropical climates—specifically to see inside. While that may not be practical for arborists, a simple five-minute detour can pay dividends.

Doing so can help arborists understand why they do certain things when they get up into a tree, insists Shigo. Knowing what to do high in a tree is often linked with knowing why it's being done. For instance,
heavy pruning to the crowns of certain trees, such as those that have sustained root damage or suffered trauma from drought, is still a widespread practice. "People thin, rather than helping the tree to recover," he says. Instead, Shigo argues that every piece of green growth is important to a tree’s ability to protect itself and recover. "What really helps the tree is having all its defenses in place, rebuilding a tree’s energy to fight back."

Looking underground
Few things are as essential to a tree’s health as its roots. Arborists should remember that trees are pumps driven by forces in both the leaves and the roots. Those pumps complete a circle within the tree, and a problem at any point in the circuit may show itself in another area. For instance, a damaged root system is often manifested first when leaves begin to flag.

Arborists are urged to take the time to look at the mycorrhizae dug out of the root balls. By seeing and understanding the importance of these tiny organs, arborists will better understand why trees on new house lots and near street construction often succumb within years. The problem is in the rhizosphere, the area where roots meet soil.

"Many trees can take all kinds of abuse to their crowns and their trunks," Shigo explains. "Trees are very good at defending themselves. But if you start to harm a tree’s ‘feet,’ you’re asking for trouble. Most trees have very sensitive roots."

Threads of life
Everything done to a tree, whether below ground or above, affects the health of the root system. While woody roots do not help the tree absorb nutrients, they do store energy reserves, which are needed to help a tree fight disease or insect invasions.

In other words, Shigo describes delicate "threads" holding trees together underground. "Trees in urban areas can only grow as long as those threads aren’t broken," he says.

Unfortunately, while trees evolved in forests where wood and leaves were left to decompose on the ground, urban trees often grow in almost aseptic environments. Meanwhile, improper or improperly timed fertilization, pruning and even watering can cause the invisible "pump" to begin to wobble, casting the tree’s health in doubt.

Saving your skin
Though presenting yourself as knowledgeable to customers is important, understanding trees from the inside out can also save arborists from potentially costly legal situations. Shigo has testified in many cases himself but often the ability to undermine a legal challenge begins with an understanding of wood decay, cracks and other mechanisms. For instance, he once discredited the testimony of an expert witness who did not know that roots have no pith. He used tree autopsy to prove many cases.

While homeowners often believe that rot and decay are what cause trees to fail, arborists who understand that problems unseen from the outside, such as cracks that developed when a tree was young, are often much more likely to cause trees to fail.

X-ray vision
Of course, arborists can’t see inside standing trees and therefore can’t prevent problems from invisible cracks before they take place. That’s why performing an autopsy whenever possible is important—especially if the tree fell and caused damage after appearing to be healthy.

"You come to recognize patterns over time," says Shigo. For instance, trees that develop cracks on opposite sides of the trunk are the most vulnerable. And trees that have cracks that run all the way into the center are also a potential hazard.

"You see enough examples and you learn to come to expect things," he explains. "If you see a tree that you know from experience has problems with cracking, you might be able to spot a problem before it develops. That is where our knowledge can really do some good."
Prepare for Your Taxes

Steps to consider before the end of the year that could lower your tax bill
By Howard Scott

Do you wait until year-end for your accountant to come and magically solve all your tax problems? By being proactive about taxes, you can fine-tune the outcome, anticipate your cash-flow needs, and reduce your accountant’s fee by being ready. Here is some advice that should be implemented before your accountant appears.

As a starting step, calculate what your year-end profit will be. Most likely you will be computerized, and you are receiving monthly P & L’s. Be sure to add any extraneous cash flows—new purchases, rental surcharges, personal inflows or outflows, etc.—to these figures. If you are not computerized, estimate based on current book figures. Evaluate how profit compares to last year’s results, how sales affected the bottom-line, what your liquidity position is, and whether you are meeting your expectations. If the results vary from expectations, there are steps you can take.

If profit is coming in too high—that is, you will have to pay more taxes than you expected to pay—then consider:

- spending on equipment or office technology by fiscal year’s end
- taking advantage of year-end buying deals
- purchasing supplies in bulk for next year
- arranging with major vendors to pay in advance on a regular account
- delaying billing the current month’s invoices until next year
- giving out employee bonuses, including your share, by year’s end.

All this activity will increase expenses or lower revenue, which in turn lowers profits and reduces the tax liability. Of course, the spent money will earn its keep next year, and is not thrown away.

If anticipated profit is too low—you need to show the bank better results, for instance—then consider:

- arranging with key vendors to defer payment of December bills to Jan 1.
- delaying equipment payments for a month
- selling off product and unused equipment lying around in a garage.
- lowering your own take for a month or two, if things look really bad.

- discussing with commercial or municipal clients the possibility of receiving payment in advance, possibly in return for doing additional work.

All this will punch up profits just in time to show your banker improved results.

Make sure estimated deposits are sufficient. Our tax system requires all businesses to make quarterly estimates of profits, enough to cover 90 percent of this year’s profits, or 100 percent of last year’s profits. Otherwise, there’s a penalty that averages 18 percent of the underpayment. But the penalty isn’t the serious problem. The problem is that the business owner who delays making sufficient estimated deposits is shocked to find how much is owed on April 15.

Since April is the time when many businesses have to make their first quarterly payments for 2001, the number is hard to swallow if the quarterly payment is piled on top of a large under-reporting payment. What typically happens is the firm struggles all year to catch up. So make sure your estimated payments are enough to cover your tax liability.

Changes from last year

This year, the biggest tax change is the expanded definition of home office. In previous years, the home office had to be your principal place of business. Now the government allows a home office deduction for an owner who conducts substantial administrative activities at home, even if there is another office for such work. The owner must use the home office exclusively and regularly for such work.

The rule is worded: “(1) The office is used by the taxpayer to conduct substantial administrative and management activities ... and (2) there is no other fixed location, where the taxpayer conducts substantial administrative or management activities.”

The critical word is “substantial.” If an owner does most administrative work in a home office, the deduction is permitted. What the new ruling effectively means is any business owner who has a space set up at home and uses it regularly and exclusively, regardless of what facilities are at the shop, can now take a deduction for that use.

Of course, any business owner can put down a home office on tax forms. If audited, how
ever, you will be required to prove the assertion. To be legitimate, be sure that your office is office-like. For example, it shouldn’t have a bed or home entertainment center in it. It should have a desk that is actively used. It could have charts on the wall and a file cabinet. It can be shown that you do certain work tasks there, like make out the payroll or plan out marketing programs. Be sure that you can muster reasons why it is more convenient to do such work at home.

The law allows the owner to deduct all expenses or proportionate expenses associated with the home office space. If 20 percent of house space is devoted to the home office, then the owner can deduct 20 percent of the mortgage, repair bills, upkeep, insurance, utilities, and depreciation on the property. These days, with an average house costing $300,000 (so that annual depreciation is $7,500), it would not be hard to come up with a substantial home expense. If it costs $25,000 to run a home (including depreciation), and one uses 15 percent of the space for a home office, the home office deduction would be $3,750. A sole proprietor will reduce profits by $3,750 and save a minimum of $1,350 in taxes.

Furthermore, if you have a home office and store material or equipment in a garage or basement, you can include that space in your deduction—even if the space isn’t used exclusively and regularly for your business. That’s an added feature of the expanded ruling. If you operate a company out of your home, it’s a good opportunity to refigure your space requirements.

If you haven’t taken a home office deduction before, consider the possibility. It’s a great deduction because it costs the business nothing. You could possibly change a guest bedroom into a home office. Maybe you could consider building a separate structure at home. Perhaps you could re-arrange your daily schedule to do all paperwork at home. The point is to make sure the space is used exclusively for business and that you work there regularly. Consult with your accountant.

Plus, with a home office, the owner can deduct all commuting miles from home to work. If you drive 60 round-trip miles daily, and you work 260 days a year, that’s a $5,070 expense (60 x 260 = 15,600 x 3.25). Now is the time to make sure you are getting maximum deductions from your vehicles.

Another change in the tax code is that leased vehicles can now take standard mileage. Before 1999, leased vehicles owners had to use actual costs, and frequently this lowered their auto expenses. This change might have some bearing on whether leasing or owning is preferable.

The other tax issue that many tree care company owners ignore is the Section 179 deduction. Section 179 states that businesses can deduct in full up to $20,000 of capital purchases for a tax year. So rather than take a spread-out depreciation expense for a new truck or chipper or log loader or stump grinder,
you could elect to expense $20,000 of the cost in year one. Evaluate if it makes sense to utilize a 179 provision and if it might be wiser to buy now rather than in the next tax year. A good time would be when your profits are above normal and your cash flow is low. Taking the full Section 179 would reduce profits by $20,000 and could save you $8,000 in tax payments. Of course, your accountant should discuss this possibility with you. But often accountants are so conservative they don’t attempt to do anything aggressive, and so they don’t even mention the option.

Another relevant change is that the self-employed health insurance credit on personal taxes has increased from 45 percent to 60 percent and will go to 70 percent in 2002 and 100 percent in 2003. The self-employed health insurance credit is a credit against income for paying your own health insurance. If your company covers everyone as a standard benefit, then obviously you don’t qualify. But with 100 percent credit on the horizon, it might be time to rethink your health coverage program. You could increase your salary by the cost of the health insurance and pay it yourself. Receiving a $5,000 credit could lower your tax bracket, making it prudent to change the coverage from company to personal. It depends on your specific situation.

On a slightly different twist, a sole proprietor can employ a spouse, paying a small salary ($100 a week), and grant health insurance as a benefit. A relative might not be an active employee, but could answer the phones or keep the books or do similar peripheral tasks. Under this arrangement, the company pays for health insurance. Company profit is lowered by the amount of insurance premiums. Check with your accountant about this little-known deduction.

In your personal situation, evaluate what you are doing with savings plans. These days there are many choices. A business might set up a 401(k) or an owner might elect the various personal savings programs, including traditional IRAs, Roth IRAs, or Simple IRA. It’s confusing but important to be familiar with the options. Have some sort of game plan. For example, come up with a target lump sum figure you need for retirement. Plug in figures that will allow you to get there—both annual saving amounts and rates of return. Be sure you’re being realistic. Then, implement the plan by following through.

Finally, put your books in order so that your accountant doesn’t have to be a bookkeeper. Organize your inventory, prepare for an end-of-year stock count, reduce payables inaccuracies, bring your expense ledger up to date, and eliminate sales discrepancies. Let your accountant devote his time to producing the year-end P & L’s. Do all these things and you’ll have a head start toward tax preparation.

Howard Scott is a business writer and professional tax preparer specializing in small businesses.

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TREE CARE INDUSTRY - DECEMBER 2000 73
American Sycamore

Driving north on Route 47 out of Sunderland, Mass., one can't fail to notice this massive tree on the left. This tree is so old it was alive during the signing of the Constitution and was so noted by the stone monument and plaque donated by The National Arborist Association and International Society of Arboriculture in 1987.

This grand old tree, often referred to as the Sunderland sycamore, is estimated to be somewhere between 300 and 400 years old. The tree has a circumference of 294 inches, stands 114 feet at its highest point, and sports a crown spread of approximately 180 feet. It is reported to be the largest Buttonball tree in Massachusetts.

In a book called The Historic Trees of Massachusetts, published in 1919, the tree was described as having a girth at breast height of 20 feet, 6 inches, indicating a growth of 48 inches in 81 years. It is reported to have been a gathering place for the militia fighting the French and Indian War. Many battles took place just north in a small town called Deerfield.

The American sycamore, native to the eastern United States, can grow to a massive size. Commonly found in the hardiness zones from 4 to 9, it often favors rich bottomland, such as that found in the Town of Sunderland, Mass., which borders the Connecticut River. The American sycamore can obtain a height of over 150 feet in a favorable location and is said to obtain the largest deciduous hardwood trunk diameter in North America.

The most stunning aspect of the tree, of course, is the exfoliating bark. The light gray outer bark peels in rather small plates, exposing the inner bark, which may be tan, greenish or creamy white. The seed ball is always solitary and the leaves are shallowly cut, while the lobes are usually broader than long. The wood is hard and difficult to split for firewood, but has many other uses, such as flooring, furniture making, pulpwood, fiberboard, particleboard, etc. The primary use in the old days was to make butcher blocks, because the wood is white, odorless, and tasteless.

The sycamore family in the eastern United States consists of the following: American sycamore (Platanus occidentalis) and the London plane (Platanus acerifolia).

Plane trees are most notable for their bark, which continually sheds and drops in broad thin plates revealing the inner bark of different and contrasting colors. The alternate, simple leaves are palmately lobed. The base of the petiole is swollen, hollow and covers the winter buds like a candlesnuffer. These buds are uncovered, smooth and shiny when the leaves fall. The flowers appear at the same time the leaves unfold and are clustered into spherical heads, with male and female flowers on the same tree, but on separate stalks. The female flower develops into a "buttonball," which after hanging on the tree all winter, breaks into a ball of fluff, the many one-sided nutlets being blown away by the wind. The wood of plane trees is of good quality and beautifully marked when sawn radially.

Although the American sycamore is a lovely large specimen, it is not usually sold or planted by nurseries or garden centers because of its many problems. The major drawback is the fungus anthracnose (Apionomonia veneta), which infects both leaves and twigs, causing branches and new twigs to take on a distorted look over a period of years. In years of damp gray weather, our native sycamore can experience almost total defoliation by late June. Plane trees can also be attacked by various insects, but none are life threatening.

Thomas L. Houston is a lecturer with the Natural Resources Conservation Department at the University of Massachusetts.
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3. Width: 92"

Chip Box Material: (galvannealed)
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3. Top: 14 ga. plate
4. Tailgate: (270 swing) 12 ga. plate w/tubing frame
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6. Cross members: 3" structural channel
7. Rear vertical support: formed 1/4" plate
8. Rear horizontal support: 3" x 2" x 1/4" rectangular tubing

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1. "L" cross box - which includes underbody tool box
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1. Top ladder & pruner rack.
2. NOTE: Chassis cabs available to complete the package.
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Tree Love

You've read it in this space before and you know it first-hand. Some people just love trees and will do anything to keep them from succumbing to an arborist's cruel cuts, no matter how logical that cutting might be.

Exhibit One comes from the upscale Los Angeles neighborhood of Brentwood, made famous by O.J. Simpson several years back. Seems that in order to save four ficus trees in the downtown shopping district, activists are holding candlelight vigils and doing what they call the "elm tree dance," according to the Los Angeles Times. Even though city leaders say the trees' roots are damaging sidewalks and requiring constant and costly repair, the lead protester planned to keep the dance up for 40 days.

But for some people, doing a silly dance isn't enough. Which brings us to Exhibit Two, about a thousand miles or so to the north in British Columbia, Canada.

To save trees on Saltspring Island, just south of Vancouver, nearly three dozen Canadian women have volunteered to pose nude. That's right. News agency Reuters says the pictures will be made into a calendar, with proceeds being used to buy trees before they can be logged. Among the volunteers are the former wife of musician Phil Collins and one Mallory Pred, a 63-year-old resident of the island. Pred says that baring it all will remind people of the tree's fate. "To be naked is to be as vulnerable as our trees are," she said.

Biting Defeats

Insects have been keeping arborists busy around the country this year. In addition to a reported comeback by the gypsy moth in some parts of Massachusetts, oak twig beetles have many New Hampshire residents worried their trees are slowly dying, according to a story in the Boston Globe. Experts assure homeowners that the beetles, while they may cause twigs to rain down onto lawns in the lightest wind, they won't kill trees.

Meanwhile, the wooly adelgid has continued to move up the East Coast, attacking hemlock groves as far north as Vermont. And in parts of Florida, Georgia and Alabama, the southern pine beetle is using a prolonged dry, hot spell to make its presence felt.

One expert says as many as 4 million trees will die this year in northern Florida, four times as many as usual. One arborist, Loren Westenberger of Westenberger Tree Service in Clearwater, Fla., told the Associated Press the situation left him blue because there was little that could be done to save dying trees.

"The only treatment is a chain saw," he said. Arborists in Louisiana, meanwhile, note the drought has left many trees weakened, posing additional safety hazards should a powerful hurricane or storm blow through the area.

When Will the Chain Saw Be Available?

Several news outlets recently reported that a lawnmower that cuts grass with lasers is edging closer toward commercial availability. Built by the German manufacturer Wolf, the machine was unveiled at a Green Industry trade show this summer. Word is that while some dealers expressed interest, most were put off by the price tag: The mower is expected to retail for $30,000.
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Clear Recollections – 1938 Vintage

During the work day on a utility line-clearing job back in the late 1930s, the truck driver and his helper “Brushie” could usually manage to pick up and load the brush cut from around the wires by seven or eight climbers. Once in a while, in heavy cutting, the foreman or one of the climbers would help them catch up. Three or four times during the day the truck would head for the nearest dump site, usually an abandoned gravel pit or stone quarry which had become a municipal dump.

At quitting time in late afternoon, the foreman would call all climbers down out of the trees. Everyone then joined in clearing up the last brush on the ground, sweeping the street, gathering up the tools and loading everything onto the truck. While the climbers and Brushie climbed atop the brush pile, the foreman, truck driver and usually the man with the most seniority squeezed into the cab of the truck and headed for the dump.

One cold, cloudy, January afternoon in 1938, the truck turned into the dump, which was an abandoned quarry not far from the job. This truckload of brush and men proceeded to the dumping area where the brush was to be burned by the municipality. The men leaped off the body of the truck. One of the first men off the truck looked down into a deep area of the quarry, which had filled with frozen water, and shouted to the rest of us.

We looked over the edge of the embankment and could clearly see a hole in the ice covering the deep water of the excavated quarry. Floundering in the water was a small boy, with only his head and shoulders above the ice. Standing around the rim of the hole was a group of older boys, making no effort to help the drowning boy.

A couple of the older crewmembers remarked, “Oh, he’s a goner. We could never reach him in time!” Apparently all of the others, including the foreman, agreed with this assessment. All of them stood motionless, watching, except one recently hired climbing novice—the youngest member of the crew. Without a word he started down the embankment, tripping and falling over the usual dump debris. As he said later, the thought crossed his mind that even though the situation looked hopeless, at least he could try! Also, as he ran he wondered how soon he would become immobilized by the frigid temperature and drown with the boy?

As he approached the edge of the water hole, the older boys standing nearby shouted, “Can you swim?” Without answering, he immediately plunged into the water. With two or three strokes he was nearing the drowning boy when he was struck by the look of sheer terror and utter despair in the boy’s large black eyes, just as he sank out of sight in the murky water.

Quickly diving under, the young climber found that visibility was absolutely zero. Feeling around, his hands encountered what at first he thought was a bunch of rags, but quickly realized it was the boy’s jacket. Running out of air, he thrust for the surface, pulling the boy with him.

By this time the older men in the crew had sprung into action and scrambled down the embankment. Encircling the hole, they reached out and grabbed the shivering child, while assisting his rescuer onto dry land.

As the crew worked on the boy to restore his breathing, a group of young men stopped a car on the opposite brink of the pit, rushed down, grabbed the boy, saying they were relatives, took him to the car and headed for a hospital, hopefully.

Nothing ever appeared in the newspapers about the event and the boy’s name and family were never known. Communication was different during the Depression—very little radio and no television.

The young climber who made the rescue heard the older men exclaim, with a certain amount of chagrin, “Jeesh, the youngest guy in the crew would not give up while the rest of us stood there and did nothing!”

I happen to know that the young (now old) man involved as the central character in this recollection is still alive, but, at his request, shall remain nameless. He says that his reward was being allowed to ride home in the cab of the truck because of his cold and dripping wet condition.

Byron Kirby is a retired arborist from North Hampton, N.H.
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Industrial-quality chipper knives to precise OEM specifications. Zenith industrial-quality chipper knives are manufactured from the same high quality materials as the cutters Zenith provides to the corrugated, plastic and tire recycling industries. So, Zenith chipper knives give you more chipping performance because they hold their edge and stand up to repeated sharpenings! Price-guaranteed to be your best value, these quality industrial knives are always available for shipment within 24 hours of your order. Zenith Cutter Co., 5200 Zenith Parkway, Loves Park, IL 61111. Phone: 800-223-5202 or 815-282-5200; Fax: 815-282-5232; Web: www.zenithcutter.com.

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CLOTHING

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The original tree climbers’ gear. Arborwear® clothing designed by tree climbers, for tree climbers. We offer a solid yet comfortable alternative to other work clothes, which were not specially designed for the tree care industry. Our pants, shirt and belt were designed in every way for the professional arborist. Treat yourself or your employees to industrial apparel that wears like iron but doesn’t sacrifice comfort or freedom of movement. Arborwear® LLC, PO Box 341, Chagrin Falls, OH 44022. Toll-Free: 888-578-8733; Fax: 440-247-0178; E-mail: info@arborwear.com; Web: www.arborwear.com.

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DIAGNOSTIC EQUIPMENT

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Featuring the Resistograph—a mechanical drilling instrument providing a true picture of the defect zones within a tree. Fractometer—mechanical properties radial bending fracture strength and radial fracture angle from which the radial modulus of elasticity fracture energy can be derived. IML - Instrument Mechanic Labor, Inc., 1950 Barrett Lakes Blvd., Suite 2212, Kennesaw, GA 30144. Phone: 888-514-8851 or 678-819-2030; Fax: 770-514-8851; E-mail: sales@imlusa.com; Web: www.imlusa.com.

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EDUCATION/TRAINING/REFERENCE WORKSHOPS

ARBORMASTER® TRAINING, INC.

ArborMaster® Training conducts educational programs throughout North America and abroad, offering a variety of safety and productivity programs for the tree care profession. From participatory, hands-on training for small groups to customized seminars and trade show demonstrations for larger groups. ArborMaster® is also involved in developing educational videos, study guides, articles, etc. ArborMaster® Training, Inc., PO Box 62, Willington, CT 06279. Phone: 860-429-5028; Fax: 860-429-5058; E-Mail: ArborMastr@aol.com; Web: www.arbormaster.com.

INTERNATIONAL SOCIETY OF ARBORICULTURE

The International Society of Arboriculture keeps its members informed on the latest practical and scientific information through the Journal of Arboriculture and Arborist News. Members receive each publication six times per year. In addition, members are entitled to discounts on more than 100 different publications, videos, and other membership items. To become a member, call ISA; annual membership is $105. International Society of Arboriculture, PO Box 3129, Champaign, IL 61826-3129. Phone: 1-888-ISA-TREE (472-8733) or 217-355-9411; Fax: 217-355-9516, E-mail: isa@isa-arbor.com; Web: www.isa-arbor.com.

NATIONAL ARBORIST ASSOCIATION

The National Arborist Association (NAA) promotes the interests of commercial tree care professionals. Since 1938, the NAA continues to introduce a wide range of advanced tree care safety and training programs, tree care practice standards, technical newsletters and successful business management programs for tree care companies. Call or write to learn how to affiliate your company with the premier commercial tree care trade association. NAA, 3 Perimeter Road, Unit 1, Manchester, NH 03103. Phone: 800-733-2622 or 603-314-5380; Fax: 603-314-5386; E-mail: naa@natlarb.com; Web: www.natlarb.com.

NAA ON-LINE

www.NATLARB.com

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NAA - SPANISH PROGRAMS

Changing workforces bring challenges of cultural differences and language barriers. However, training of employees cannot be sacrificed. The National Arborist Association (NAA) offers training programs in Spanish, which allows companies to cross barriers to prepare a skilled and trained workforce. Programs include videos and manuals such as Tailgate Safety, Electrical Hazards Awareness Program, Professional Tree Care Safety and Pruning Standards. Call today for a catalog or to place your order. NAA, 3 Perimeter Road, Unit 1, Manchester, NH 03103. Phone: 800-733-2622 or 603-314-5380; Fax: 603-314-5386; E-mail: naa@natlarb.com; Web: www.natlarb.com.

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Property and casualty insurance specifically for the tree care industry. Coverages include workers’ compensation, property, liability, and auto. Optional coverages such as business loss of income, commercial umbrella, underground storage tank, commercial crime, inland marine, and pesticide and herbicide applicator coverage. CNA also offers you personalized expert service through our CNA agents. You will receive prompt, efficient claims handling and professional loss control assistance.

CNA Commercial Insurance, CNA Plaza, Chicago, IL 60685. Toll-Free 1-800-CNA-6241 (262-6241); Web: www.cna.com/commercial.

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THE HARTFORD


The Hartford, T-18-87 Specialty Programs, Hartford Plaza, Hartford, CT 06115. Phone: 800-533-7824 or 860-547-4277; Fax: 860-547-6649; Web: www.thehartford.com/arborsists.

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SELFHEAL, INC./ORAL IVY™

Prevent and treat the symptoms of poison ivy, oak and sumac! Oral Ivy™ is an easy-to-take liquid that is natural, safe, and has no known side effects. For just pennies a day, reduce Workers’ Comp. claims, reduce absenteeism, improve safety, improve morale and increase efficiency. Distributed by SelfHEAL, Inc., 104 Guy’s Lane, Bloomsburg, PA 17815. Toll Free Order Line: 800-553-6778; Fax: 570-389-0126; Web: www.oral-ivy.com.

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ADI pruning tools from TOL Incorporated of Tulare, California are designed with the professional arborist in mind. ADI offers a complete line of tools, including hydraulic chain saws, circular saws, loppers and pistol-grip chain saws. ADI tools meet the requirements for certification as insulated live-line tools. For complete information, call 800-732-2142. ADI Tools/Div. TOL Incorporated, PO Box 1498, Tulare, CA 93275. Phone: 800-732-2142; Fax: 559-685-1006; Web: www.tol-inc.com.

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For cleaner, smoother, easier, faster cutting, choose any of the Corona Razor Tooth Professional Saws™. Each whetstone-ground razor tooth is sharpened on three sides, then impulse hardened. So, it planes through wood on the pull stroke quickly and efficiently, cutting twice as fast as, and lasting significantly longer than, a conventional saw blade. Shown, Corona Model RS 7130. Corona Clipper, 1540 East 6th Street, Corona, CA 92879. Phone Toll-Free at 800-234-2547; Fax: 909-737-8657; E-mail: jreisbek@coronaclipper.com; Web: www.coronaclipper.com.

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Our stainless-steel DM20E300SERH is a favorite of serious tree and grounds-care professionals everywhere. In fact, we offer a wide selection of tree sprayers with stainless steel tanks up to 1,500 gallons and pumps up to 60 gpm at 800 psi. Options include a variety of spray guns and hose reels. John Bean Sprayers. Sales: PO Box 1404, LaGrange, GA 30241-1404. Phone: 800-241-2308 or 706-882-8161; E-mail: johnbean@durand-wayland.com.

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J. P. CARLTON COMPANY, DIV. DAE, INC.

J. P. Carlton Company manufactures a full line of stump cutters. Carlton machines incorporate many exclusive features. The available wired remote control, which allows the operator to distance himself from the noise and dust, reduces operator fatigue—increasing productivity. The torsion flex suspension system reduces wear to both the stump cutter and tow vehicle while enhancing cutting performance. We invite you to compare a Carlton. J. P. Carlton Company, 121 John Dodd Road, Spartanburg, SC 29303. Phone Toll-Free: 800-243-9335 or 864-578-9335; Fax: 864-578-0210; Web: www.stumpcutters.com.
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The Model 691SP is the first in a line of tree stump grinders to be introduced by Doskocil Industries, Inc. Many of the patent-pending features on the Model 691SP are a direct result of suggestions and ideas from professional arborists like yourself. We at Doskocil Industries are dedicated to design and manufacture quality equipment for your needs. Doskocil Industries, Inc., 1324 West Rialto Avenue, San Bernardino, CA 92410. Phone: 909-885-0988; Fax: 909-381-4743; Web: www.dosko.com.

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Manufacturer of stump grinder teeth and pockets, including the new TOMAHAWK™, the highest performance tooth on the market. Other products include the new Ultimate Pocket™, heat treated pockets, pin teeth, new style bolts, brush chipper knives and anvils (we distribute Simonds knives), files for chain saws, band saw blades. Call for free catalogue. “Quality since 1945.” Leonardi Manufacturing Company, Inc., 2728 Erie Drive, Weedsport, NY, 13166-9505. Phone Toll-Free: 800-537-2552 or 315-834-6611; Fax: 315-834-9220.

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Leave your truck in the driveway! No longer is it necessary to operate a high-horsepower stump cutter attached to a tow vehicle. New from RAYCO, "The Stump Cutter People," the RG85 is a self-propelled, 83 hp diesel stump cutter. The RG85 combines big diesel power, hydrostatic cutter wheel drive with quick stop cutter wheel, self-propelled maneuverability, a convenient backfill blade and a swing out operator's console to make the most productive stump cutter on the market today.

Rayco Manufacturing, Inc., 4255 Lincoln Way East, Wooster, OH 44691-9954. Phone Toll-Free: 800-392-2686 or 330-264-8699; Fax: 330-264-3697; E-mail: rayco@raycomfg.com; Web: www.raycomfg.com.

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STUMP REMOVAL, INC.

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

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

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Specializing in quality liquid tree and shrub fertilizers, spray adjuvant, anti-transpirant, soil amendments, natural Plant Wash and the Kioritz Soil Injector. NU-ARBOR fertilizers are uniquely blended to enhance vigorous root growth and improve plant/soil relations. Apply our liquid fertilizers with the Kioritz soil injector or your high pressure system. For free product information, contact NU-ARBOR Products, P.O. Box 151455, Grand Rapids, MI 49515-1455. Phone: 888-773-8777; Fax: 616-456-7780; E-mail: grdarbor@nu-arbor.com; Web: www.nu-arbor.com.

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PLANT HEALTH CARE INC.

Mycorrhizal fungal inoculants, beneficial bacteria, biopesticides and organic fertilizers round out the extensive product line of Plant Health Care, Inc. These biologically based products are designed specifically for arborists who follow the Plant Health Care Management System. To order MycorTree™ Injectable or Root Saver™ Vertimulch, Mycor™ Palm Saver, PHC™ BioPak™ or other products, call 1-800-421-9051 for a catalog. For in-depth information about natural systems approaches to arbor care, read the Web’s best online magazine about plant health—go to www.planthealthcare.com. Plant Health Care Inc., 440 William Pitt Way, Pittsburgh, PA 15238.

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TREE FEEDER DIVISION

Manufacturers of patented products for professional or homeowner use with new trees, shrubs and rose transplants. Delivers a specially formulated fertilizer already inside the product directly to the root ball of the plant when you water. Saves time, water and labor; no mixing, no measuring. Check out our new “Kick Start” products for the homeowner. Tree Feeder Division, P.O. Box 974, Warsaw, IN 46582-0974. Phone Toll-Free: 800-822-8733. Visit our Web site: www.treefeeder.com.

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INDEPENDENT PROTECTION COMPANY

COST-EFFECTIVE PESTICIDE AND NUTRIENT INJECTION TECHNOLOGY FOR INSECT AND DISEASE TREATMENTS, AS WELL AS NUTRIENT AMENDMENT. TREE TECH® OTC FOR FIREBLIGHT AND OTHER BACTERIAL DISEASES IN CROP AND NON-CROP BEARING FRUIT TREES. VIVID II FOR SCALES, APHIDS, MITES AND OTHER PESTS OF ORNAMENTAL TREES. MANY OTHER PRODUCTS AVAILABLE. TREE TECH MICROINJECTION SYSTEMS, 950 S.E. 215TH AVENUE, MORRISTON, FL 32668. PHONE TOLL-FREE: 800-622-2831 OR 352-528-5335, FAX: 352-528-0777, E-MAIL: RWEBB@TREETECH.NET; WEB: WWW.TREETECH.NET.

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INDEPENDENT PROTECTION COMPANY

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ROYAL TRUCK & EQUIPMENT INC.


SCHODORF TRUCK BODY & EQUIPMENT COMPANY

“Silver Knight” forestry bodies with “Dust Release System,” lengths from 9 feet to 18 feet. Very popular options include aluminum removable roofs, liftgates and cranes. We will build a forestry body for you the way you want it built. Ask the man who owns one!! For a free brochure/quote, contact Mike Cassidy. Schodorf Truck Body & Equipment Company, 885 Harmon Avenue, Columbus, OH 43223. Phone: 800-288-0992; E-mail: forestry@schodorftruck.com; Web: www.schodorftruck.com.
SOUTHCO INDUSTRIES, INC.

"The Body Builders." The industry’s largest manufacturer of forestry bodies. Sizes ranging from 10- to 30-cubic-yard capacity mounted on Ford, GMC or International chassis cabs. Southco also sells National knuckle boom cranes, Omaha Standard platforms, liftgates, winches and service bodies. Southco Industries, Inc., 1840 East Dixon Boulevard, Shelby, NC 28150. Phone: 800-331-7655; Fax: 704-482-2015; E-mail: southco@shelby.net.

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PETE MAINKA ENTERPRISES, INC.

For 32 years, our business continues to specialize in refurbishing arborist equipment and warranty used equipment. Sales of brand new equipment. Privately owned by Pete Mainka and his wife, Shirley. Average inventory of 400+ trucks. Unique financing programs to take care of all needs. New parts available. Custom building of chip boxes, as well as completed specialized forestry packages. Pete Mainka Enterprises, Inc., 633 Cecilia Drive, Pewaukee, WI 53072-2542. Phone Toll-Free: 800-597-8283 or 262-691-4306; Night Phone: 262-968-9763; Fax: 262-692-4644.

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"The Equipment You Need Today, at Terms You Can Afford Today." NESCO offers bucket trucks, digger derricks, cranes, chipper trucks, chippers, stump grinders, trailers and more. Flexible rentals/leasing with options to purchase. Parts for all makes with same or next day shipping on all in-stock inventory. Free catalog available by request or visit our Web site to view the most up-to-date, on-line sales and parts catalog and more information. NESCO, Inc., 3112 East State Road 124, Bluffton, IN 46714. Contact Jason Troxel. Phone Toll-Free: 800-252-0043; Fax: 219-824-6050; E-mail: nesco@nescosales.com; Web: www.nescosales.com.
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SOUTHEASTERN EQUIPMENT COMPANY

Southeastern Equipment Company is your headquarters for used tree care equipment. We offer a wide range of chippers and stump grinders, plus a variety of specialty trucks (chipper dumps, large capacity chip trucks, bucket trucks, log trucks, & crane trucks). Call for pricing and availability or visit our Web site for more information. Southeastern Equipment Company, 4180 Highway 20, Buford, GA 30518; Phone Toll-Free: 800-487-7089 or 770-271-8286; Web: www.seequipment.com.

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UTILITY FLEET TRANSPORTATION

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Sell your wood at $300 per cord or more. Double or triple your profits by shrink wrapping wastewood or firewood with WOOD-PAKer! Attractive, various-sized packages can be obtained with our high production, easily operated and affordable machines. Seven machines available. Inquire for free details. Video and packing samples at nominal fee. B & B Manufacturing, 3007 West River Road, Olean, NY 14760. Phone: 800-654-5320; E-Mail: bbmfg@sprynet.com.

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BIG FOOT INDUSTRIES, INC.

Firewood log processors, conveyors and splitters up to 48-inches long. Accommodate 12-inch chippers. For more information, call 775-883-2321 between 8 a.m. and 8 p.m., EST.

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TIMBERWOLF MANUFACTURING CORP.

Introducing The Timberwolf TW-PRO-HD with Top Roll technology—by far the best value for the buck. The patented top roll clamp system provides the fastest firewood production available. Easily handles irregular wood, and handles the last piece where other machines lose their grip. Professional wood splitters and conveyors. Timberwolf Manufacturing Corporation, 118 Spruce Street, Rutland, VT 05701. Phone: 800-340-4386 or 802-775-4227; Fax: 802-773-1275; E-mail: twolf@sover.net; Web: www.timberwolfcorp.com.

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Sprayers & Accessories
Bartlett Manufacturing Company
GreenPro Services
Gyro-Trac
H D Hudson Manufacturing Company
John Bean Sprayers
Rear’s Mfg. Co.
Shindaiwa, Inc.
Southern Farm Equipment Inc.
STIHL Incorporated

Stump Cutters
J.P. Carlton Company, Div. DAF Inc.
Doksoelc Industries, Inc.
Excel Industries, Inc.
Fox Mfg. Inc.
Husqvarna
Miller Machine Works
Rayco Manufacturing, Inc.
R.F. Shinn
Stump Removal Inc.
Vermeer Manufacturing Company

Stump Cutters—PTO
Fecon, Inc.
Miller Machine Works

Stump Cutters—Teeth
Border City Tool & Manufacturing Co.
J.P. Carlton Company, Div. DAF Inc.
CEI
Dennis Tool Company
Green Manufacturing, Inc.
Leonardi Teeth
Rayco Manufacturing, Inc.
Stump Removal Inc.
Vermeer Manufacturing Company

Sweepers
Excel Industries, Inc.
Redmax-Komatsu Zenoah America Inc.
Shindaiwa, Inc.
STIHL Incorporated

Traffic Safety
Bartlett Manufacturing Company

Tree Injection/Implants
ArborSystems, LLC
Creative Sales, Inc.
Doggett Corporation
GreenPro Services
Grow Gun Corporation
J.J. Mauget Company
Remke Enterprises, Inc.
Tree Feeder Division
Tree Tech Microinjection Systems

Tree Protectors
Deep Root Partners L.P.

Tree Spades
Vermeer Manufacturing Company

Tree Transplanting Equipment
Vermeer Manufacturing Company
Willman’s Earth Restoration Co.

Trenchers
Concept Engineering Group, Inc. (CEG)
Doskocil Industries, Inc.
Vermeer Manufacturing Company

Trucks & Truck Accessories
Altournamats, Inc.
Schodorf Truck Body & Equipment Co.
Southco Industries, Inc.
Swaploader U.S.A., Ltd.

Tub Grinders
Bandit Industries, Inc.
Fecon, Inc.
Morbark, Inc.
Vermeer Manufacturing Company

Used Equipment
Aerial Lift, Inc.
Altec Industries, Inc.
MTI Insulated Products Inc.
Schodorf Truck Body & Equipment Co.
Vermeer Manufacturing Company
Wood/Chuck Chipper Corporation

Wood Furnaces, Outdoor
Central Boiler

Distributors

Adjuvants & Miscellaneous Chemicals
Ben Meadows Company
Bio-Plex Organics
ESSCO Distributors Inc.
Midwest Arborist Supplies
Professional Tree Surgeon Supplies, Inc.

Aerial Lifts
Aerial Equipment, LLC
CUES, Inc.
DUECO, Inc.
G & A Equipment, Inc.
MAT-3 East, Inc.
Mertz Inc.
MIRK, Inc./Toombs Truck & Equip. Co.
NESCO, Inc.
Opdyke, Inc.
Truenco, Inc.

Aerial Lifts—Parts & Equipment
Aerial Equipment, LLC
CUES, Inc.
DICA Marketing Co.
DUECO, Inc.
Forestry Equipment of Shelby
MAT-3 East, Inc.
NESCO, Inc.
Southeastern Equipment Company
Truenco, Inc.

Augers—Earth & Bits
Aerial Equipment, LLC
American Arborist Supplies Inc.
Bailey’s
Ben Meadows Company
Bioinsecticides
Bio-Plex Organics
Midwest Arborist Supplies
Professional Tree Surgeon Supplies, Inc.

Biopesticides
Bio-Plex Organics
ESSCO Distributors Inc.
Professional Tree Surgeon Supplies, Inc.

Blowers, Debris
Aerial Equipment, LLC
American Arborist Supplies Inc.
Ben Meadows Company
Deer Creek Equipment
ESSCO Distributors Inc.
Forestry Suppliers, Inc.
J.P. Fuller Inc.
Karl Kuemmerling, Inc.
Labonville Inc.
Lanphear Supply
Northeastern Associates
Outdoor Equipment Distributors Inc.
Pitt Auto Electric Company
Western Tree Equipment & Repairs

Cabling & Bracing
Aerial Equipment, LLC
Alexander Equipment Co. Inc.
American Arborist Supplies Inc.
Arbor Direct, LLC
Bailey’s
Bartlett Manufacturing Company
Bishop Company
Blue Ridge Arborist Supply
Commercial Cutters Direct
Cutter’s Choice
Deer Creek Equipment
Ditch Witch of the Carolinas
ESSCO Distributors Inc.
J.P. Fuller Inc.
Karl Kuemmerling, Inc.
Labonville Inc.
Lanphear Supply
NESCO, Inc.
Niemeyer Corporation
Northeastern Associates
Outdoor Equipment Distributors Inc.
Pitt Auto Electric Company
Professional Tree Surgeon Supplies, Inc.
Sherrill Inc.
Sunbelt Outdoor Products
Tilton Equipment Co. Dept RPM/
Jonsered PowerPro
Western Tree Equipment & Repairs
Wilsons Woodcutters Supply

Chemical Absorbents
ESSCO Distributors Inc.
Professional Tree Surgeon Supplies, Inc.

Chipper/Shredder/Vac
Deer Creek Equipment
Ditch Witch of the Carolinas
G & A Equipment, Inc.
WesSpur, LLC
Western Tree Equipment & Repairs

Chippers
Aerial Equipment, LLC
Alexander Equipment Co. Inc.
Arborist Supply Co., Inc.
Arborlink
Bartlett Manufacturing Company
Blue Ridge Arborist Supply
Commercial Cutters Direct
Deer Creek Equipment
Ditch Witch of the Carolinas
ESSCO Distributors Inc.
Freehold Tree & Turf Equipment
G & A Equipment, Inc.
Karl Kuemmerling, Inc.
Lanphear Supply
NESCO, Inc.
Niemeyer Corporation
Northeastern Associates
Opdyke, Inc.
Professional Tree Surgeon Supplies, Inc.
Sherrill Inc.
Sherrill Inc.
Sunbelt Outdoor Products
WesSpur, LLC
Western Tree Equipment & Repairs

Clothing
Bailey’s
Bartlett Manufacturing Company
Ben Meadows Company
Commercial Cutters Direct
Deer Creek Equipment
Karl Kuemmerling, Inc.
Labonville Inc.
Midwest Arborist Supplies
Northeastern Associates
Petzl America
Professional Tree Surgeon Supplies, Inc.
Sherrill Inc.
Sunbelt Outdoor Products
WesSpur, LLC
Western Tree Equipment & Repairs
Wilsons Woodcutters Supply

Communication Systems
American Arborist Supplies Inc.
Forestry Suppliers, Inc.
Sherrill Inc.

Composters - Backyard
Crate & Shovel Sales Corp.

Composters - Backyard
Crate & Shovel Sales Corp.
DUECO, Inc.
Southeastern Equipment Company

Computer Hardware & Software
Arborist Supply Co., Inc.
Creative Automation Solutions
Tree Management Systems, Inc.
Cranes
Cranes & Shovel Sales Corp.
CUES, Inc.
NESCO, Inc.
Southeastern Equipment Company

Diagnostic Tools
American Arborist Supplies Inc.
Bishop Company
Forestry Suppliers, Inc.
IML - Instrument Mechanic Labor, Inc.
Karl Kuemmerling, Inc.
Sibtec Microprobes
WesSpur, LLC

Education/Workshop/Reference
Ditch Witch of the Carolinas
Lanphere Supply
Rainbow Treecare-Scientific Advancements

Engines & Engine Parts
Aerial Equipment, LLC
American Arborist Supplies Inc.
Auto Manufacturing, Inc.
Chesapeake Engine Distributors
Commercial Cutters Direct
Crane & Shovel Sales Corp.
Cummins Michigan, Inc.
Deer Creek Equipment
Ditch Witch of the Carolinas
ESSCO Distributors Inc.
Karl Kuemmerling, Inc.
W. A. Kraft Corp.
McDonald Equipment Company (MECO)
Niemeyer Corporation
North American Engine Co.
Perkins Power Corporation
Pitt Auto Electric Company
Power Great Lakes, Inc.
Sherrill Arborist Equipment & Supply
Sherrill Inc.
Southeastern Equipment Company
Sunbelt Outdoor Products

Excavators
Deer Creek Equipment
Mertz Inc.

Fertilization & Aeration Equipment
American Arborist Supplies Inc.
Ben Meadows Company
Deer Creek Equipment
ESSCO Distributors Inc.
J.P. Fuller Inc.
Karl Kuemmerling, Inc.
Lanphere Supply
Midwest Arborist Supplies
Northeastern Associates
Professional Tree Surgeon Supplies, Inc.
Sherrill Inc.
Tree Root Systems, Inc.

Fertilization Supplies
American Arborist Supplies Inc.
Ben Meadows Company
Bio-Plex Organics
Deer Creek Equipment
ESSCO Distributors Inc.
Lanphere Supply
Midwest Arborist Supplies
Professional Tree Surgeon Supplies, Inc.
Sherrill Inc.
Tree Root Systems, Inc.

Footwear
Aerial Equipment, LLC
Bailey's
Commercial Cutters Direct
Karl Kuemmerling, Inc.
Labonville Inc.

Fungicides
ESSCO Distributors Inc.
Professional Tree Surgeon Supplies, Inc.
Rainbow Treecare-Scientific Advancements

Generators
Ben Meadows Company
CUES, Inc.
Deer Creek Equipment
J.P. Fuller Inc.
McDonald Equipment Company (MECO)
Northeastern Associates
Perkins Power Corporation
Pitt Auto Electric Company

Grapples/Loaders
Crane & Shovel Sales Corp.
Deer Creek Equipment
Payeur Distributions Inc.
Southeastern Equipment Company

Herbicides
Ben Meadows Company
ESSCO Distributors Inc.
Forestry Suppliers, Inc.

Hydraulic Tools & Equipment
Aerial Equipment, LLC
Bishop Company
CUES, Inc.
Deer Creek Equipment
Ditch Witch of the Carolinas
Karl Kuemmerling, Inc.
Midwest Arborist Supplies
NESCO, Inc.
Professional Tree Surgeon Supplies, Inc.
WesSpur, LLC

Insecticides
Bayer Corporation, Ag. Division
ESSCO Distributors Inc.
Midwest Arborist Supplies
Professional Tree Surgeon Supplies, Inc.

Integrated Pest Management
Professional Tree Surgeon Supplies, Inc.
Rainbow Treecare-Scientific Advancements

Irrigation/Aeration Products
Ben Meadows Company
Deer Creek Equipment
Karl Kuemmerling, Inc.

Knives, Chipper
Aerial Equipment, LLC
Alexander Equipment Co. Inc.
American Arborist Supplies Inc.
Arborist Supply Co., Inc.
Arborlink
Crane & Shovel Sales Corp.
CUES, Inc.
ESSCO Distributors Inc.
Karl Kuemmerling, Inc.
Lanphere Supply
Midwest Arborist Supplies
Northeastern Associates
Mulch Coloring Equipment
Alexander Equipment Co., Inc.
American Arborist Supplies Inc.
Forestry Suppliers, Inc.

Natural Homeopathic Remedies
American Arborist Supplies Inc.
SelfHEAL, Inc.

Personal Protective Equipment
Aerial Equipment, LLC
American Arborist Supplies Inc.
Arbor Direct, LLC
Arborist Supply Co., Inc.
Arborlink
Bailey’s
Ben Meadows Company
Bishop Company
Climb Axe, Ltd.
Commercial Cutters Direct
Cutter’s Choice
Deer Creek Equipment
ESSCO Distributors Inc.
Karl Kueemmerling, Inc.
Kramer Equipment Co., Inc.
Labonville Inc.
Midwest Arborist Supplies
Northeastern Associates
Petal America
Professional Tree Surgeon Supplies, Inc.
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.
Tilton Equipment Co. Dept RPM/Jonsered
PowerPro
WesSpur, LLC
Western Tree Equipment & Repairs
Wilsons Woodcutters Supply

Pneumatic Tools
Aerial Equipment, LLC
Karl Kueemmerling, Inc.

Poison Ivy Protection
Aerial Equipment, LLC
American Arborist Supplies Inc.
Bailey’s
Ben Meadows Company
ESSCO Distributors Inc.
Forestry Suppliers, Inc.
Midwest Arborist Supplies
Northeastern Associates
Professional Tree Surgeon Supplies, Inc.
SelfHEAL, Inc.
Sherrill Inc.
Western Tree Equipment & Repairs

Power Pruning Equipment
Aerial Equipment, LLC
American Arborist Supplies Inc.
Bailey’s
Bishop Company
Lawn Equipment Parts Company
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.
Sierra Moreno Mercantile
Sunbelt Outdoor Products
WesSpur, LLC
Western Tree Equipment & Repairs

Pruning Supplies
Aerial Equipment, LLC
Alexander Equipment Co., Inc.
American Arborist Supplies Inc.
Arbor Direct, LLC
Bailey’s
Bishop Company
Blue Ridge Arborist Supply
Commercial Cutters Direct
Cutter’s Choice
Deer Creek Equipment
ESSCO Distributors Inc.
Forestry Suppliers, Inc.
Growtech, Inc.
Karl Kueemmerling, Inc.
Kramer Equipment Co., Inc.
Labonville Inc.
Lanphear Supply
Midwest Arborist Supplies
Northeastern Associates
Pitt Auto Electric Company
Professional Tree Surgeon Supplies, Inc.
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.
WesSpur, LLC
Western Tree Equipment & Repairs
Wilson’s Woodcutters Supply

Pumps
CUES, Inc.
Deer Creek Equipment
Ditch Witch of the Carolinas
ESSCO Distributors Inc.
Lanphear Supply
Minnesota Wanner Company
Northeastern Associates
Perkins Power Corporation
Rainbow Treecare-Scientific Advancements

Recycling/Wood Processors
Aerial Equipment, LLC
Alexander Equipment Co., Inc.
WesSpur, LLC

Repellents
Ben Meadows Company
ESSCO Distributors Inc.
Forestry Suppliers, Inc.

Ladders
American Arborist Supplies Inc.
Bishop Company
Karl Kueemmerling, Inc.
Kramer Equipment Co., Inc.
Niemeier Corporation
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.

Lawn Maintenance Equipment
Ben Meadows Company
Commercial Cutters Direct
Crane & Shovel Sales Corp.
Deer Creek Equipment
DICA Marketing Co.
Forestry Suppliers, Inc.
J.P. Fuller Inc.
Niemeier Corporation
Outdoor Equipment Distributors Inc.
Pitt Auto Electric Company
WesSpur, LLC

Lightning Protection Systems
American Arborist Supplies Inc.
CUES, Inc.
Northeastern Associates

Lubricants
American Arborist Supplies Inc.
Arbor Direct, LLC
Bishop Company
Deer Creek Equipment
ESSCO Distributors Inc.

Macro Infusion Supplies
Rainbow Treecare-Scientific Advancements

Miticides
ESSCO Distributors Inc.
Professional Tree Surgeon Supplies, Inc.
Right of Way/Land Clearing Equipment
Deer Creek Equipment
Karl Kuehmerling, Inc.
Payeur Distributions Inc.
Sherrill Inc.

Root Barriers
American Arborist Supplies Inc.
Ben Meadows Company
Bishop Company
Northeastern Associates
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.
Western Tree Equipment & Repairs

Soil Amendments
American Arborist Supplies Inc.
Ben Meadows Company
ESSCO Distributors Inc.
Lanphear Supply
Midwest Arborist Supplies
Northeastern Associates
Professional Tree Surgeon Supplies, Inc.
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.

Root Cutters
Crane & Shovel Sales Corp.
Northeastern Associates
Western Tree Equipment & Repairs

Sprayers & Accessories
Aerial Equipment, LLC
American Arborist Supplies Inc.
Arbor Direct, LLC
Ben Meadows Company
Deer Creek Equipment
ESSCO Distributors Inc.
Forestry Suppliers, Inc.
J.P. Fuller Inc.
Karl Kuehmerling, Inc.
Lanphear Supply
Mertz Inc.
Minnesota Wanner Company
Northeastern Associates
Outdoor Equipment Distributors Inc.
Pitt Auto Electric Company
Professional Tree Surgeon Supplies, Inc.
Shelter Tree, Inc./Tree Care Products
Southeastern Equipment Company

Stump Cutters
Aerial Equipment, LLC
Alexander Equipment Co. Inc.
Arborist Supply Co., Inc.
Blade Equipment, Inc.
Crane & Shovel Sales Corp.
Deer Creek Equipment
NESSCO, Inc.
Northeastern Associates
Outdoor Equipment Distributors Inc.
Professional Tree Surgeon Supplies, Inc.
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.
Southeastern Equipment Company
WesSpur, LLC
Western Tree Equipment & Repairs

Stump Cutters—PTO
Deer Creek Equipment
Professional Tree Surgeon Supplies, Inc.

Stump Cutters—Teeth
Aerial Equipment, LLC
Alexander Equipment Co. Inc.
American Arborist Supplies Inc.
Arborist Supply Co., Inc.
Blue Ridge Arborist Supply
Crane & Shovel Sales Corp.

Deer Creek Equipment
ESSCO Distributors Inc.
Karl Kuehmerling, Inc.
Midwest Arborist Supplies
Northeastern Associates
Opdyke, Inc.
Professional Tree Surgeon Supplies, Inc.
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.
WesSpur, LLC
Western Tree Equipment & Repairs

Sweepers
Deer Creek Equipment
J.P. Fuller Inc.
Pitt Auto Electric Company

Traffic Safety
Aerial Equipment, LLC
American Arborist Supplies Inc.
Arbor Direct, LLC
Ben Meadows Company
Bishop Company
Deer Creek Equipment
ESSCO Distributors Inc.
Forestry Suppliers, Inc.
Karl Kuehmerling, Inc.
Kramer Equipment Co., Inc.
Minneapolis Wanner Company
Midwest Arborist Supplies
Northeastern Associates
Professional Tree Surgeon Supplies, Inc.
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.
Western Tree Equipment & Repairs

Trailers/Ramps
Aerial Equipment, LLC
Deer Creek Equipment
Ditch Witch of the Carolinas
Payeur Distributions Inc.
WesSpur, LLC

Tree Injection/Implant
American Arborist Supplies Inc.
Ben Meadows Company
ESSCO Distributors Inc.
Lanphear Supply
Midwest Arborist Supplies
Northeastern Associates
Professional Tree Surgeon Supplies, Inc.
Rainbow Treecare-Scientific Advancements
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.

Tree Protectors
American Arborist Supplies Inc.
Bailey's
Ben Meadows Company
Deer Creek Equipment
Forestry Suppliers, Inc.
Midwest Arborist Supplies
Industry Service & Support

Aerial Lifts—Repair of Parts & Equipment
Middle Tennessee Auction Co. Inc.
Sunbelt Rentals

Business Opportunity
BidMgr
Christmas Decor & Nite Time Decor
DG Productions, Inc.

Computer Software & Hardware
ACRT, Inc.
Arbor Computer Systems
Practical Solutions, Inc.
TreeSage.com (Alta Logic, Inc.)

Consulting-Business
Arbor Computer Systems
Arborist Skills, Inc.
Creative Automation Solutions
Environmental Consultants, Inc.
Howard L. Eckel & Associates
Liberty Financial Group, Inc.

Consulting-Urban Forestry
ACRT, Inc.

E-Commerce for Businesses
Forestindustry.com

Education/Workshops/Training/Reference
ACRT, Inc.
ArborMaster® Training, Inc.
Forest Applications Training, Inc.
IML Instrument Mechanic Labor, Inc.
J.J. Mauget Company

Financing
Altec Industries, Inc.
C.A.G. Corporation
First Sierra Financial, Inc.
Greystone Financial Group, Inc.

GPS Mapping
ACRT, Inc.
Vermeer Manufacturing Company

Insurance
Amerisafe Inc.
CNA Commercial Insurance
Hal Rose Agency Inc.
National Insurance Programs
NRC Insurance Agency
The Hartford
TreePro Direct™

Lease/Rental
Aerial Equipment, Inc.
DUECO, Inc.
Greystone Financial Group, Inc.
Karl Kuemmerling, Inc.
Liberty Financial Group, Inc.
Opdyke, Inc.
Progress Leasing Company
Vermeer Manufacturing Company
WesSpur, LLC

Regulatory Affairs
ACRT, Inc.

Repair/Rebuilding
Aerial Equipment, LLC
American Arborist Supplies Inc.
ESSCO Distributors Inc.
IML—Instrument Mechanic Labor, Inc.
Karl Kuemmerling, Inc.
Microtronics, Inc.
Northeastern Associates
Royal Truck & Equipment, Inc.
Shelter Tree, Inc./Tree Care Products
Vermeer Manufacturing Company
WesSpur, LLC
Zenith Cutter Co.

Transportation Services
Mayo Global Transportation Inc.
Associate Member of the National Arborist Association

(D) Distributor
(M) Manufacturer
(S) Industry Service/Support Provider

LISTING

*Accurate as of Aug. 31, 2000

(S) ACRT, Inc.
PO Box 401
2545 Bailey Road
Cuyahoga Falls, OH 44221-0401
Toll-Free: 800-622-2562
Phone: 330-945-7500
Fax: 330-945-7200
E-mail: askacrt@acrtinc.com
Web: www.acrtinc.com
Contacts: Lois Tennant, Alane Updegraff

(M) Aerial Lift, Inc.
PO Box 66
571 Plains Road
Milford, CT 06460-0066
Toll-Free: USA 800-446-5438
Toll-Free: CT 800-245-5438
Phone: 203-878-0694
Fax: 203-878-2549
E-mail: aerialinfo@aol.com
Web: www.aeriallift.com
Contacts: Ernie E. DePiero, Richard Mitchell
Manufacturer of aerial lifts, hydraulic dump chip boxes and accessories.
See Our Ad in 4-Color Buyers' Guide

(M) Alliance Equipment Company, Inc.
1000 North Union Avenue
Alliance, OH 44601
Toll-Free: 800-383-2290 x. 221
Phone: 330-821-2291 x221
Fax: 330-821-4836
E-mail: smc@neo.rr.com
Web: www.alliance-equipment.com
Contact: Sharon McCarty
Suppliers of replacement booms, buckets, liners, bucket covers, saw scabbards and related aerial device accessories. Also, fiberglass repair to booms and buckets.

(M) Altec Industries, Inc.
Inverness Center Parkway, Ste 13031
Birmingham, AL 35242
Toll-Free: 800-958-2555
Phone: 205-991-7733
Fax: 205-991-7747
E-mail: headquarters@altec.com
Web: www.altec.com
For over 70 years, Altec has provided equipment solutions, exceptional customer service, and the most advanced manufacturing and engineering techniques. We've made a business of understanding the unique requirements of every industry we serve and we remain committed to total customer satisfaction in everything we do. That's why we can stand behind our products with the most comprehensive warranty in the industry. Guaranteed, only from Altec.
See Our Ad in 4-Color Buyers' Guide

(M) Alturnamats, Inc.
P.O. Box 344
Titusville, PA 16355
Phone: 888-544-6277
Fax: 814-827-2903
E-mail: geharry@mail.usachoice.net
Web: www.alturnamats.com
Contact: Gerald Harry
Protect your company's bottom line with Alturnamats' proven performance matting system and outrigger pads.
See Our Ad in 4-Color Buyers' Guide

(S) Action Insurance Service, Inc.
45445 Mound Road
Utica, MI 48317
Phone: 810-739-9080
Fax: 810-739-3530
Contact: Larry Elkie

(M) ADI Pruning Tools by TOL Incorporated
PO Box 1498
Aix
238 Main Street, Highway 155
Sayner, WI 54560-0500
Toll-Free: 800-472-7600
Phone: 715-542-3271
Fax: 800-542-3581
E-mail: ahlborn@nnex.net
Contact: Evelyn J. and Gene Ahlborn

(M) Altturnamats, Inc.
P.O. Box 344
Titusville, PA 16355
Phone: 888-544-6277
Fax: 814-827-2903
E-mail: geharry@mail.usachoice.net
Web: www.altturnamats.com
Contact: Gerald Harry
Protect your company's bottom line with Altturnamats' proven performance matting system and outrigger pads.
See Our Ad in 4-Color Buyers' Guide

(D) Aerial Equipment, LLC
2381 South Foster
Wheeling, IL 60090
Toll-Free: 888-822-8008
Phone: 847-398-0620
Fax: 847-394-1042
E-mail: aerial@aerialequipment.com
Contact: Joel Chitty

(M) Aerial Lift, Inc.
PO Box 66
571 Plains Road
Milford, CT 06460-0066
Toll-Free: USA 800-446-5438
Toll-Free: CT 800-245-5438
Phone: 203-878-0694
Fax: 203-878-2549
E-mail: aerialinfo@aol.com
Web: www.aeriallift.com
Contacts: Ernie E. DePiero, Richard Mitchell
Manufacturer of aerial lifts, hydraulic dump chip boxes and accessories.
See Our Ad in 4-Color Buyers' Guide

(M) Alliance Equipment Company, Inc.
1000 North Union Avenue
Alliance, OH 44601
Toll-Free: 800-383-2290 x. 221
Phone: 330-821-2291 x221
Fax: 330-821-4836
E-mail: smc@neo.rr.com
Web: www.alliance-equipment.com
Contact: Sharon McCarty
Suppliers of replacement booms, buckets, liners, bucket covers, saw scabbards and related aerial device accessories. Also, fiberglass repair to booms and buckets.

(M) Altec Industries, Inc.
Inverness Center Parkway, Ste 13031
Birmingham, AL 35242
Toll-Free: 800-958-2555
Phone: 205-991-7733
Fax: 205-991-7747
E-mail: headquarters@altec.com
Web: www.altec.com
For over 70 years, Altec has provided equipment solutions, exceptional customer service, and the most advanced manufacturing and engineering techniques. We've made a business of understanding the unique requirements of every industry we serve and we remain committed to total customer satisfaction in everything we do. That's why we can stand behind our products with the most comprehensive warranty in the industry. Guaranteed, only from Altec.
See Our Ad in 4-Color Buyers' Guide

(M) Alturnamats, Inc.
P.O. Box 344
Titusville, PA 16355
Phone: 888-544-6277
Fax: 814-827-2903
E-mail: geharry@mail.usachoice.net
Web: www.alturnamats.com
Contact: Gerald Harry
Protect your company's bottom line with Alturnamats' proven performance matting system and outrigger pads.
See Our Ad in 4-Color Buyers' Guide

(D) Aerial Equipment, LLC
2381 South Foster
Wheeling, IL 60090
Toll-Free: 888-822-8008
Phone: 847-398-0620
Fax: 847-394-1042
E-mail: aerial@aerialequipment.com
Contact: Joel Chitty
Arbortech manufactures a complete line of forestry bodies for the professional arborist.

See Our Ad in 4-Color Buyers' Guide

(M) Auto Manufacturing, Inc.
655 Wheat Lane
Wood Dale, IL 60191
Toll-Free: 800-551-2938
Fax: 800-432-9745
See Our Ad in 4-Color Buyers' Guide

(M) Aventis Environmental Science
95 Chestnut Ridge Road
Montvale, NJ 07645
Phone: 201-307-9700
Contact: Dick Lehman
See Our Ad in 4-Color Buyers' Guide

(M) B & B Manufacturing
RD 3; 3007 West River Road
Olean, NY 14760
Toll-Free: 800-654-5320
Phone: 716-373-5881
Fax: 716-373-5883
Email: bbmfg@sprynet.com
Contact: Melissa Nix
The WOOD-PA Ker turns your waste-wood firewood into profits.
See Our Ad in 4-Color Buyers' Guide

(M) B & G Equipment Company
PO Box 130
6120 Route 611
Plumsteadville, PA 18949-0130
Phone: 215-766-8811
Fax: 215-766-8240
Contact: Eric Snell
See Our Ad in 4-Color Buyers' Guide

(D) Bailey’s
PO Box 9088
Jackson, TN 38314
Toll-Free: 800-322-4539
Phone: 901-422-1300
Fax: 901-422-6118
Email: baileys@baileys-online.com
Web: www.baileys-online.com
Bailey’s is a mail-order woodsman supplies company that’s been in business over 25 years. They sell timber harvesting equipment, arborist supplies, reforestation implements, lumberjack competition tools, portable saw mills, plus much more—all at discounted prices. They print four catalogs a year—contact them for a free catalog. Order toll-free: 1-800-322-4539.
See Our Ad in 4-Color Buyers' Guide

(D/M) Ball Enterprises
Unit K, 330 E Orangethorpe
Placentia, CA 92870
Phone: 714-528-8010
Fax: 714-528-8008
Email: allen@bakerequipment.com
Web: bakerequipment.com
Contact: Allen Raines
See Our Ad in 4-Color Buyers' Guide

(D/M) Bandit Industries, Inc.
6750 Millbrook Road
Remus, MI 49340
Toll-Free: 800-952-0178
Phone: 517-561-2270
Fax: 517-561-2273
Email: brushbandit@eclipsete1coni
Web: www.banditchippers.com
Contact: Regional Salesperson
Offer complete line of hand-fed, hydraulic feed disc and drum chippers; whole tree chippers in towable and self-propelled, with or without a loader; Beast Recycler processes pallet, C & D, Green Waste & more. Megabyte large log and stump shear attachment, Log Buster.
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Manufacturers of pole pruners, pole saws

Toll-Free: 800-331-7101
Phone: 313-873-7300
Fax: 313-873-5454
Contact: John Nelson & Kathy O'Connell

Manufacturers of pole pruners, pole saws and pole-mounted tools; hand saws, lopping shears. Distributor of climbing and rigging equipment, cable and bracing hardware, sprayers, signs, tools, mycorrhizal additives. Kioritz soil injectors.

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(M) Bashlin Industries Inc.
PO Box 867
119 West Pine Street
Grove City, PA 16127
Toll-Free: 800-842-8340
Phone: 724-458-8340
Fax: 724-458-8342
E-mail: sales@bashlin.com
Web: www.bashlin.com
Contact: Rod Paul

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(M) Bayer Corporation, Ag. Division
6700 Corporate Drive, Suite 230
Kansas City, MO 64120
Toll-Free: 800-842-8020
Phone: 816-241-4749
Fax: 816-242-4749
Contact: Neil Cleveland

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(M) BBA Non-Woven
Reemay Inc./Bio Barrier
70 Old Hickory Boulevard
Old Hickory, TN 37138-3651
Toll-Free: 800-25-ROOTS (257-6687)
Phone: 615-847-7000
Fax: 615-847-7068
E-mail: biobarrier@reemay.com
Web: www.reemay.com
Contact: Betty Eddins

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(M) Becker-Underwood Inc.
PO Box 667
Ames, IA 50010
Toll-Free: 800-232-5907
Phone: 515-232-5907
Fax: 515-232-5961
E-mail: msherman@bucolor.com
Web: www.bucolor.com
Contact: Mike Sherman

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(D) Ben Meadows Company
190 Etowah Industrial Court
Canton, GA 30114
Toll-Free: 800-241-6401
Phone: 770-479-3130
Fax #1: 770-479-3133
Fax #2: 800-628-2068
E-mail: djohnson@benmeadows.com
Web: www.benmeadows.com
Contact: Doug Johnson

Distributor of tree climbing, tree pruning, root feeding, soil testing, tree borers and general tree care equipment, etc.

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(S) BidMgr
5362 McGinnis Ferry Road
Alpharetta, GA 30005
Phone: 678-624-0877
Fax: 678-624-0878
Web: bidmanager.com
Contact: Quinn Martin

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(D) Bio-Plex Organics
2213 Huber Drive
Manheim, PA 17520
Toll-Free: 800-421-5985
Phone: 810-758-5574
Fax: 810-758-7829
Contact: John Parenteau

Buy direct from the original manufacturer.

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(D) Bishop Company
PO Box 870
12519 East Putnam Street
Whittier, CA 90602
Toll-Free: 800-421-4833 (Se habla Espanol)
Phone: 615-847-6928
Fax: 615-847-3397
E-mail: sales@bishco.com
Web: www.bishco.com
Contact: Larry J. Hershberger

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(D) Blue Ridge Arborist Supply
PO Box 1626
300 South E Street
Culpeper, VA 22701
Toll-Free: 800-577-TREE (8733)
Phone: 540-829-6889
Fax: 540-829-6890
Web: www.blue ridge.baweb.com
Contact: Stephanie Partlow

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(D) Border City Tool & Mfg. Co.
23325 Blackstone Avenue
Warren, MI 48089-2675
Toll-Free: 800-421-5985
Phone: 810-758-5574
Fax: 810-758-7829
Contact: John Parenteau

Buy direct from the original manufacturer.

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(D) John Brown & Sons, Inc.
14 B & B Lane
Sawyer Industrial Park
Weare, NH 03281
Toll-Free: 888-B-BRONTO (227-6686)
Phone: 603-529-7974
Fax: 603-529-7976
E-mail: bronto@gsinet.net
Web: www.brownbronto.com
Contact: Harvey Donaldson

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(M) Brown Manufacturing Corporation
Box 339, Route 3
Ozark, AL 36360-0339
Toll-Free: 800-633-8909
Phone: 334-795-6603
Fax: 334-795-3029
Web: www.brownmfgcorp.com
Contact: Jeff Thagard

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(M) Buccaneer Rope Company
22319 Alabama Highway 79
Scottsboro, AL 35768
Toll-Free: 800-358-ROPE (7673)
Phone: 256-670-6044
Fax: 256-670-0282
E-mail: bucrope@netwurx.net
Contact: Gary Spencer

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(M) Buckingham Mfg. Company, Inc.
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Binghamton, NY 13902
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Fax: 607-773-2425
E-mail: sales@buckinghammfg.com
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(U.K.)
Contact: Dominique Kelly

(M) J.P. Carlton Company, Div. DAF, Inc.
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Spartanburg, SC 29303
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Phone: 864-578-9335
Fax: 864-578-0210
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Fax: 248-380-5474
E-mail: tevedarmofal@michigancat.com
Web: michigancat.com
Contact: Bill Parker

(M) CEI
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Phone: 612-425-1167
Fax: 612-425-5196
Contact: Bridget Schwebach
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Toll-Free: 800-248-4681
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Fax: 218-722-2580
Web: centralboiler.com
Contact: Dennis Brazier

(D) Chesapeake Engine Distributors
Div. RBI Corp.
10241 Sycamore Drive
Ashland, VA 23005
Toll-Free: 800-666-5928
Phone: 804-550-2231
Fax: 804-666-5928
Contact: William T. Miller

(S) Christmas Decor & Nite Time Decor
PO Box 5946
Lubbock, TX 79408
Phone: 909-687-9551
Fax: 909-687-9551
Contact: Blake Smith

(M) Cleary Chemical
178 Ridge Road; Ste. A
Dayton, NJ 08810-1501
Toll-Free: 800-557-2339
Phone: 412-826-8800
Fax: 412-826-8601
E-mail: ceg@air-spade.com
Web: www.air-spade.com
Contact: Rich Nathenson, Andy Jarahak
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(M/D) Climb Axe, Ltd.
PO Box 42314
Portland, OR 97242-0314
Phone: 503-236-9552
Fax: 503-236-9553
E-mail: climbbaxe@aracnet.com
Web: www.climbax.com
Contact: Joe Garland

(S) CNA Commercial Insurance
Chicago, IL 60685
Toll-Free: 800-CNA-6241 (262-6241)
Web: www.cna.com/commercial
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(M) Columbian Rope Company
145 Towery Street
Guntown, MS 38849
Toll-Free: 800-821-4391
Phone: 662-348-2241
Fax: 662-348-5749
E-mail: richard@columbianrope.com
Web: www.columbianrope.com
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(S) Commerce Leasing, a Leasing Partners Company
20000 Horizon Way, Suite 850
Mt. Laurel, NJ 08054
Toll-Free: 800-606-0049 ex 132
Phone: 856-273-7575
Fax: 856-273-9717
E-mail: cssales@interstat.net
Contact: Rachael Theibault

(D) Commercial Cutters Direct
6450 Pottery Road
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Toll-Free: 800-611-8486
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Contact: Michael Harris

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Web: www.air-spade.com
Contacts: Rich Nathenson, Andy Jarahak
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(M/S) Corona Clipper
1540 East 6th Street
Corona, CA 92879
Toll-Free: 800-847-7863
Phone: 909-737-6515
Fax: 909-737-8657
E-mail: sales@coronaclipper.com
E-mail: richard@columbianrope.com
Web: www.coronaclipper.com
Contact: John Reisbeck
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(D) Crane & Shovel Sales Corp.
26781 Cannon Road
Cleveland, OH 44146
Toll-Free: 800-362-8494
Phone: 440-439-4749
Fax: 440-439-2177
Fax #2: 440-439-0362
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Web: craneandshovel.net
Contact: John Such
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Phone: 814-898-1738
Fax: 814-898-0275
Web: www.cutterschoice.com
Contact: Andy Bethel

(M) Deep Root Partners, L.P.
81 Langston Street, Suite 4
San Francisco, CA 94103
Toll-Free: 800-ILV-ROOT (458-7668)
Phone: 415-437-9700
Fax: 415-437-9744
E-mail: deeproot@earthlink.net
Web: www.deeproot.com
Contact: Graham Ray

(D) Deer Creek Equipment Inc.
721 Wheler School Road
Whiteford, MD 21160
Toll-Free: 800-551-6567
Phone: 410-452-5252
Fax: 410-452-5373 or 5393
E-mail: gregg@dcequip.com
Web: www.dcequip.com
Contact: Bryan Marcinko

(M) Creative Sales, Inc. (CSI)
PO Box 501
222 Park Avenue
Fremont, NE 68026-0501
Toll-Free: 800-49-ARBOR (492-7267)
Phone: 410-461-5858
Fax: 410-465-3593
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E-mail: info@cuesnet.com
Web: www.cues.us
Contact: Bruce Bostock

(M) Creative Automation Solutions
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Phone: 410-461-5858
Fax: 410-465-3593
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Fax: 770-564-7222
E-mail: mendoza.g@deutz.de
Web: www.deutz.de
Contact: Gustavo Mendoza

(D) DICA Marketing Co.
249 Windwood Drive
Carroll, IA 51401
Toll-Free: 800-610-DICA (3422)
Phone: 712-792-5200
Fax: 712-792-1106
E-mail: info@dicaUSA.com
Web: www.dicaUSA.com
Contact: Dick Koberg

(D) Ditch Witch of the Carolinas
4600 N I-85 Service Road
Charlotte, NC 28206-1357
Toll-Free: 704-596-5700
Phone: 704-596-6681
E-mail: sales@dwoctc.com
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Phone: 540-951-0320
Fax: 540-941-0008
E-mail: hatman@naxs.com
Contact: David McDaniel

(M) The Doggett Corporation
31 Cherry Street
Lebanon, NJ 08833
Toll-Free: 800-448-1862
Phone: 908-236-6335
Fax: 908-236-7716
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Web: www.doggett.net
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Phone: 909-885-0988
Fax: 909-381-4743
Web: www.dosko.com
Contacts: David Doskoci!, Richard Lane
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(M) Dow AgroSciences
9330 Zionsville Road
Indianapolis, IN 46268-1054
Toll-Free: 800-263-1196
Fax: 800-905-7326
Web: www.dowagro.com
Contact: Kent Redding

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(D) Droege Equipment
6770 Olive Boulevard
St Louis, MO 63130
Toll-Free: 800-672-6171
Phone: 314-863-0607
Fax: 314-863-6649
E-mail: droeg@anet-stl.com
Web: droegequip.com
Contact: Dennis Droege
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(D) DUECO, Inc.
N4 W22610 Bluemound Road
Box 5187
Waukesha, WI 53186
Toll-Free: 800-558-4004
Phone: Fax 262-547-8500
E-mail: info@dueco.com
Web: www.dueco.com
Contacts: David Roembke, Mike Heffner
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(M/S) E.L.D., Inc.
1651 Calks Ferry Road
Lexington, SC 29072
Phone: 803-356-3672
Fax: 803-356-3672
E-mail: naturedan@aol.com
Web: www.dueco.com
Contact: Richard Dube
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Toll-Free: 800-726-8870
Phone: 248-399-0002
Fax: 248-399-3142
E-mail: info@enginecenter.com
Web: www.enginecenter.com
Contact: Tom Trimble
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(D) Engine Distributors Inc.
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Camden, NJ 08105
Toll-Free: 800-220-2700
Phone: 856-365-8631
Fax: 856-338-0606
E-mail: jeummins@edi-dist.com
Contact: John McDonnell
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(M) Envirometrics Inc.
PO Box 43001
London, Ontario N6C 6A2
CANADA
Phone: Fax 519-438-5723 519-438-5505
Contact: Jim Thompson

(S) Environmental Consultants, Inc.
301 Lakeside Drive
Southampton, PA 18966-4527
Phone: 215-522-4040
Fax: 217-941-9404
E-mail: eci-consulting.com
Contact: Dennis E. Holewinski
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(D) ESSCO Distributors, Inc.
1555 Fifth Industrial Court
Bay Shore, NY 11706-3440
Toll-Free: 800-842-1104
Phone: 631-665-1370
Fax: 631-665-1559
E-mail: ESSCODIST@aol.com
Web: www.ESSCODIST.com
Contact: Jerry Sluker
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(M/D) Excalibur DMM
PO Box 1007
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Phone: 801-942-8471
Fax: 801-942-8531
E-mail: xcalibur@inconnect.com
Web: www.dmm.wales.com
Contact: Steve Petro
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(M) Excel Industries Inc.
PO Box 7000
200 South Ridge Road
Hesston, KS 67062-2097
Toll-Free: 800-395-4757
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Contact: David C. Lipscomb
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Web: www.Fcon.com
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Fax: 513-956-5700
E-mail: Fehr@Fehr.com
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Phone: 914-246-9525
Fax: 914-247-8316
E-mail: mac@fehr.com
Web: www.fehr.com
Contact: B.R. “Mac” MacCulloch
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Fax: 706-882-0052
E-mail: johnbean@durand-wayland.com
Contact: Richard Cordero
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Karl Kuemmerling, Inc.
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Massillon, OH 44646
Toll-Free #1: 888-222-6166
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Fax: 330-477-8528
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Fax: 603-752-7621
Contact: Rich Labonville

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Toll-Free: 800-332-TREE (8733)
Phone: 216-381-1704
Fax: 216-381-5309
E-mail: lauren@lanphearsupply.com
Contact: Lauren Lanphear

Lawn Equipment Parts Company
PO Box 39
Landisville, PA 17538
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Fax: 800-825-8825
Contact: Barry Knauer

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E-mail: lsmith@lifesupportsystems.com
Contact: Laurence M. Smith

Loflin Fabrication LLC
1382 Cranford Road
Denton, NC 27239
Phone: 336-859-4333
Fax: 336-859-5830
Contact: Greg Loflin

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Belleville, MI 48112-0375
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Contact: Dave Fetzer

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Brynwy, PA 19312
Phone: 610-647-6047
Fax: 610-647-0587
Contact: William Neff

Fred Marvin Associates
1968 Englewood Avenue
Akron, OH 44312
Toll-Free: 800-540-6680
E-Mail: fma@pruner.com
Web: www.pruner.com
Manufacturer of pole pruners and saws since 1943.
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MAT-3, Inc.
300 Travis Lane, #16
Waukesha, WI 53186
Toll-Free: 1-888-524-8810
Phone: 262-524-8810
Fax: 262-524-8882
Contact: Tom Biddle
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MAT-3 East, Inc.
13149 Overhill Drive
Glen Allen, VA 23059
Phone: 804-798-9344
Fax: 804-798-4715
E-mail: frank.heller@mindspring.com
Contact: C. Frank Heller

J.J. Mauget Company
5435 Peck Road
Arcadia, CA 91006-5847
Toll-Free: 800-TREES-RX (873-3779)
Phone: 626-444-1057
Fax: 626-444-7414
E-mail: mauget@mauget.com
Web: www.mauget.com
Contacts: Nate Dodds, Dale Dodds
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(S) Mayo Global Transportation Inc.
PO Box 890
Mayo, SC 29368
Toll-Free: 888-918-8733
Phone: 864-461-9410
Fax: 864-461-7118
E-mail: mgtinc@aol.com
Web: mayoglobal.com
Contact: Cly Gilbert
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(D) McDonald Equipment Company (MEOC)
37200 Vine Street
Willoughby, OH 44094
Toll-Free: 800-589-9025
Phone: 440-951-8222
Fax: 440-951-2089
E-mail: meco@rmrc.net
Web: mcdonaldequipment.com
Contact: Scott McDonald
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(D) Mertz Equipment Sales
A Div. of Mertz, Inc.
PO Box 150
2320 West South Avenue
Ponca City, OK 74602-0150
Toll-Free: 800-654-6433
Phone: 580-763-0085
Fax: 580-763-0082
E-mail: rvanater@mertzok.com
Web: www.mertzok.com
Contact: Rick Vanater

(M) Microtronics, Inc.
8 N Washington
Iola, KS 66749
Phone: 316-365-8264
Fax: 316-365-7742
Contact: Roger Jones

(S) Middle Tennessee Auction Co., Inc.
926 Lawvynview Lane
Franklin, TN 37064
Phone: 615-568-4933
Fax: 615-791-0358
Contact: Brad Collier

(D) Midwest Arborist Supplies
PO Box 151455
Grand Rapids, MI 49515-1455
Toll-Free: 800-423-3789
Phone: 616-456-8040
Fax: 616-456-7780
E-mail: grdarbor@treecaresupplies.com
Web: www.treecaresupplies.com
Contact: Brian Barnard
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(M) Miller Machine Works
3309 East Washington Avenue
Frankfort, IN 46041
Phone: 765-659-1524
Fax: 765-659-0613
Contact: Jeff Craft
Stump grinding attachments for use on tractors and skidsteer loaders. Models available from 24 hp compact tractors to 150 hp land-clearing machines. Also, a heavy-duty skidsteer unit for larger skidsteer loaders.
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(D) Mills Truck Sales
6150 Harrison Avenue
Cincinnati, OH 45247
Phone: 513-574-7707
Fax: 513-574-7940
E-Mail: Deecash44@aol.com
Web: www.Millstruckmall.com
Contact: Detha Yoder
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(D/M) Minnesota Wanner Company
5145 Eden Avenue South
Minneapolis, MN 55436
Toll-Free: 800-247-4998
Phone: 952-929-1070
Fax: 952-929-5933
E-mail: mnwanner@visi.com
Contact: Tom Wanner
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(D/M) MIRK Inc./Toombs Truck & Equipment
7629 Chippewa Road
Orrville, OH 44667
Phone: 330-669-2000
Fax: 330-669-3732
Contact: Richard Thut

(M) Mobile Tool International Inc.
5600 W 88th Avenue
Denver, CO 80030-9986
Toll-Free: 800-521-5351
Phone: 303-657-2590
Fax: 303-657-2505
Contact: Al Rocke

(M) Monterey Lawn & Garden Products, Inc.
PO Box 35000
3654 South Willow Avenue
Fresno, CA 93745-5000
Phone: 559-499-2100
Fax: 559-499-1015
Web: www.montereylawngarden.com
Contact: W.T. "Tom" Thomson
Floret Fruit Eliminator prevents nuisance fruits on your ornamental trees and controls leafy and dwarf mistletoe. Formulated for both the commercial applicator and the homeowner.
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PO Box 1000
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Winn, MI 48896-1000
Toll-Free: 800-362-9010
Phone: 517-866-2381
Fax: 517-866-2280
E-mail: morbark@worldnet.att.net
Web: www.morbark.com
Contact: Mark Rau
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Rte. 2, Box 963
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Toll-Free: 800-697-5033
Phone: 540-864-7104
Fax: 540-864-7104
E-mail: mvrbf@swva.net
Web: www.mtnvalleymfg.com
Contact: Gary Flinchum
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(M) MIRK Inc. Toombs Truck & Equipment
7629 Chippewa Road
Orrville, OH 44667
Phone: 330-669-2000
Fax: 330-669-3732
Contact: Richard Thut

(S) National Arborist Association
3 Perimeter Road, Unit I
Manchester, NH 03103
Toll-Free: 800-733-2622
Phone: 603-314-5380
Fax: 603-314-5386
E-mail: naa@natlarb.com
Web: www.natlarb.com
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(S) National Insurance Programs
900 Route 9 North, Ste. 503
Woodbridge, NJ 07095
Toll-Free: 800-446-7647
Fax: 732-634-2904
E-mail: bonnieb@aianj.com
Contact: Bonnie Bernstein

(M) MTI Insulated Products Inc. (formerly TECO & HOLAN)
9733 Indianapolis Road
Fort Wayne, IN 46809
Toll-Free: 800-860-5438
Fax: 219-747-6732
Contact: David Wick
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(D) Pacific Arborist Supplies (Canada) Ltd.
154 Riverside Drive
North Vancouver, BC
Canada, V7H 1T9
Toll-Free: 888-996-2299
Phone: 604-929-6133
Fax: 604-929-4617
Contact: Mark Roodv Rasmussen
Web: www.petzl.com
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(D) Payeur Distributions Inc.
Ascot Corner PQ
5379 King East
J0B 1A0, CANADA
Phone: 819-821-2015
Fax: 819-820-0490
E-mail: apyeur@videotron.cc
Phone: 819-821-2015
Fax: 604-929-4617
E-mail: mcmillan_bruce@perkins.com
Web: www.peaveymfg.com
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(M) The Peavey Manufacturing Co.
PO Box 129, 526 Main Road
Eddington, ME 04428-0129
Toll-Free: 888-244-0955
Phone #1: 207-843-7861
Phone #2: 207-843-6778
Fax: 207-843-5005
E-mail: info@pittauto.com
Web: www.peaveymfg.com
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(M) Perkins Engines, Inc.
26200 Town Center Drive, Ste. 280
Novi, MI 48375-1233
Toll-Free: 888-PERK-ENG (737-5364)
Phone: 248-374-3100
Fax: 248-374-3110
E-mail: mccllman_bruce@perkins.com
Web: www.perkins.com
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(D) Perkins Power Corporation
55 Industrial Loop North
Orange Park, FL 32073
Toll-Free: 888-PERK-ENG (737-5364)
Phone: 904-278-0881
Fax: 904-278-9919
E-mail: sales@perkins.com
Web: www.perkins.com
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(D) Pete Mainka Enterprises, Inc.
633 Cecilia Drive
Pewaukee, WI 53072-2542
Toll-Free: 800-223-3225
Phone: 904-278-9919
Fax: 904-278-0881
E-mail: info@pittauto.com
Web: www.perkins.com
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(D) Petzl America
PO Box 160447
Freeport Center, Building M-7
Clearfield, UT 84016
Phone: 801-327-3805
Fax: 801-327-3806
E-mail: info@petzl.com
Web: www.petzl.com
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(D) Pheo Tech Inc.
7572 Progress Way
Delta, B.C.
Canada V4G 1E9
Toll-Free: 800-665-0076
Phone: 604-940-9944
Fax: 604-940-9433
E-mail: sales@pherotech.com
Web: www.pherotech.com
Contact: Bruce Thomson
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(M) Pigeon Mountain Industries, Inc.
PO Box 803
Lafayette, GA 30728
Toll-Free: 800-282-7673
Phone: 706-764-1437
Fax: 706-764-1531
E-mail: info@pmirope.com
Web: www.pmirope.com
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(S) Pinnacle Concepts Inc.
Unit 2B, United Downs Indus. Estate
St Daym Redruth Cornwall
TR16 5HY U.K.
Phone: 01209 821613
Fax: 01209 821911
E-mail: sales@terravent.com
Contact: Mark Russell
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(D) Pitt Auto Electric Company
2900 Stayton Street
Pittsburgh, PA 15212
Toll-Free: 800-245-0711
Phone: 412-766-9112 x124
Fax 1: 800-551-5908
Fax 2: 412-766-3229
E-mail: info@pittauto.com
Web: www.pittauto.com
Contact: Dick Eiseman
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(M) Plastic Composites Corporation
8301 North Clinton Park Drive
Fort Wayne, IN 46825
Toll-Free: 800-747-9339
Phone: 219-484-3139
Fax: 219-483-2532
Web: www.pcc-buckettruckparts.com
Contact: Craig Keoun
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(M) Polecat Industries, Inc.
14141 SW 142nd Street
Miami, FL 33186
Toll-Free: 800-876-5322
Phone: 305-254-8999
Fax: 305-254-3889
E-mail: sales@polecatindustries.com
Web: www.polecatindustries.com
Contact: Wayne Gwilliam
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(M) Plant Health Care Inc.
440 William Pitt Way
Pittsburgh, PA 15238
Toll-Free: 800-421-9051
Phone: 412-826-5488
Fax: 412-826-5445
E-mail: sales@planthealthcare.com
Web: www.planthealthcare.com
Contact: Customer Service
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Phone: 765-789-6213
Fax: 765-789-6253
E-mail: sdp@sdpmfg.com
Web: www.sdpmfg.com
Contact: John P. Razmic

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(D/M) Safety Test & Equipment Co.
PO Drawer 400
Highway 150 East
Shelby, NC 28150
Toll-Free: 800-438-0671
Phone: 704-482-7346
Fax: 704-482-7349

(M) Salsco, Inc.
105 School House Road
Cheshire, CT 06410
Toll-Free: 800-872-5726
Phone: 203-271-1682
Fax: 203-271-2596
E-mail: salscoinc@aol.com
Web: www.salsco.com

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(M) SawJammer Company
PO Box 11395
Baltimore, MD 21239-0395
Toll-Free: 800-969-9276
Phone: 410-325-6860
Fax: 203-271-2596
E-mail: trimmer@sawjammer.com
Web: www.sawjammer.com

SawJammer® Pro and SawJammer® Slip-On can prevent cut injury from many types of outdoor power cutting equipment such as brush cutters, lawn mowers and trimmers.

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(M) Schodorf Truck Body & Equipment Company
885 Harmon Avenue
Columbus, OH 43223
Toll-Free: 800-288-0992
Phone: 614-228-6793
Fax: 614-228-6775
E-mail: forestry@schodorfruck.com
Web: www.schodorftruck.com
Contact: Mike Cassidy

Manufacturer of the “Silver Knight” forestry body for over 50 years. Get the advantage of “DRS” (Dust Release System). Options include removable aluminum roofs, liftgates, cranes for all applications and more. Complete packages with chassis and demo specials. Attractive lease/purchase programs and delivery available.

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Phone #2: 570-389-1040
Fax: 570-389-0126
E-mail: Romill@aol.com
Web: www.poison-ivy-protection.com
Contact: Bob Miller

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(M) Service Communication Software
7400 Industrial Parkway
Plain City, OH 43064
Toll-Free: 888-PICK-SCS (742-5727)
Phone: 614-873-6706
Fax: 614-873-4168
E-mail: sales@PICKSCS.com
Web: www.pickscs.com
Contact: Richard Deering

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(D) Shelter Tree, Inc./Tree Care Products
60 John Dietsch Boulevard
North Attleboro, MA 02763
Toll-Free: 800-720-8733
Phone: 508-699-6550
Fax: 508-699-6570
Contact: George Mellick
Northeast dealer for Wood/Chuck Chipper Corp. and J. P. Carlton stump grinders. Call us regarding used equipment.

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(D) Sherrill, Inc.
200 East Seneca Road
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Toll-Free: 800-525-8873
Phone: 336-378-0444
Fax: 336-378-1096
E-mail: sherrillarbor@att.net
Web: www.sherrillarbor.com

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(M) Shindaiwa, Inc.
PO Box 2810
11975 SW Herman Road
Tualatin, OR 97062-1090
Toll-Free: 800-521-7733
Phone: 503-692-3070
Fax: 503-692-6696
E-mail: info@shindaiwa.com
Web: www.shindaiwa.com
Contact: David Dahlstrom

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(D) Shindaiwa, Inc. Oral Ivy

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(M) Shindaiwa, Inc.
PO Box 1269
Cornelius, NC 28031
Phone: 704-236-1396
Fax: 704-987-8441
Contact: Mike Goodall

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(D) Sibtec Microprobes
2a Merrow Business Centre, Merrow Lane
Guildford, Surrey GU4 7WA U.K.
Phone: 01483 440 724
Fax: 01483 440 727
Contact: Michael White

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(D/S) Sierra Moreno
Mercantile Company
PO Box 292
Big Pool, MD 21711
Toll-Free: 800-262-0800
Phone: 301-842-2544
Fax: 301-582-3639
E-mail: quecuscusman@aol.com
Web: www.Simonds.cc
Contact: Ray Eluskie

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(M) Simonds Industries, Inc.
120 Pere Marquette Street
Big Rapids, MI 49307
Toll-Free: 800-343-1616
Phone: 231-796-4858
Fax: 231-796-4771
E-mail: REluskie@Simonds.cc
Web: www.Simonds.cc
Contact: Donald F. Blair

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(M) Southco Industries
1840 East Dixon Boulevard
Shelby, NC 28150
Toll-Free: 800-331-7655
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Phone: 770-271-8286
Fax: 770-271-4496
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Contact: Don Fowler
New and used chippers, stump grinders and bucket, chipper, log and crane trucks. Replacement parts and service.

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Phone: 704-753-4085
Fax: 704-753-4332
E-mail: sfe@perigee.net
Web: sfe@perigee.net
Contact: Sammy Keziah

(S) Specialized Hydraulics Inc.
PO Box 481
Zanesville, IN 46799
Phone: 219-638-4668
Fax: 219-638-4116
Contact: Donald Stoltz

(M) STIHL Incorporated
536 Viking Drive
Virginia Beach, VA 23450-2015
Toll-Free: 800-GO-STIHL (467-8445)
Fax: 757-486-9158
Web: www.stihlusa.com
Contact: Jim Hampton
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Fax: 800-752-8242
E-mail: Brownchuck@JDCorp.Deere.com
Contact: Chuck Brown

(S) Sunbelt Rentals
611 Templeton Avenue
Charlotte, NC 28203
Phone: 704-969-0232
Fax: 704-348-5722
E-mail: jswatson@sunbeltrents.com
Web: www.SunbeltRentals.com
Contact: Jake Stout

(M) SwapLoader, USA Ltd.
1800 NE Broadway Avenue
Des Moines, IA 50316-0386
Toll-Free: 888-767-8000
Phone: 515-266-3042
Fax: 515-266-3042
E-mail: swapidl@netins.net
Web: www.swaploader.com
Contact: Bob Kacher

(D/M) Sylvan Arborist Supplies
BANSTEAD
Hengest Farm
Woodmansterne Lane
Surrey SM7 3EY U.K.
Phone: 01737 353386
Fax: 01737 353382
E-mail: nick@oakwood.net
Web: www.oakwood.net
Contact: Nick Beardmore

(S) T. I. S. Insurance Services, Inc.
PO Box 10328
Knoxville, TN 37919
Toll-Free: 800-328-0293
Phone: 800-328-0293
Fax: 865-694-4847
E-mail: boakes@tisins.com
Web: www.tisins.com
Contact: R.L. "Bunny" Oakes III

(M/D) Tanaka Power Equipment
1028 4th Street SW, Ste. "B"
Auburn, WA 98001
Phone: 253-333-1200
Fax: 253-333-1212
E-mail: custsvc@tanaka-psm.com
Web: www.tanakapowerequipment.com
Contact: Steven Hall

(M) Terex Telelect Inc.
PO Box 1150
600 Oakwood Road
Watertown, SD 57201
Phone: 605-882-4000
Fax: 605-882-5533
E-mail: watertown@terexlifting.com
Web: www.terexlift.com
Contact: Tommy Nix
Track-mounted Hi-Ranger aerial devices. Hi-Ranger XT-5 Series Tree Trimmers provide working heights of up to 65 feet. Add a hydraulic lift for up to 75 feet of working height.

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PO Box 385
1225 North Main
Great Lakes Ford Nissan
Bowling Green, OH 43402 Phone: 419-353-5751
Fax: 419-352-0460
E-mail: phayer@thayerbg.com
Contact: Paul Thayer

(D/M) Tilton Equipment Company,
Dept. RPM/Jonsered PowerPro
PO Box 68
Rye, NH 03870
Toll-Free: 800-447-1152
Phone: 603-964-9450
Fax: 603-964-9380
E-mail: tilton@nh.ultranet.com
Web: www.tiltonequipment.com
Contact: Paul Thayer

(M) Timberwolf Manufacturing Corp.
118 Spruce Street
Rutland, VT 05701
Toll-Free: 800-340-4386
Phone: 419-353-5751
Fax: 419-352-0460
E-mail: pmhayer@thayerbg.com
Web: www.terexlift.com
Contact: Paul Thayer

(M) Timberwolf Manufacturing Corp.
118 Spruce Street
Rutland, VT 05701
Toll-Free: 800-340-4386
Phone: 419-353-5751
Fax: 419-352-0460
E-mail: pmhayer@thayerbg.com
Web: www.terexlift.com
Contact: Paul Thayer

(D) Tree Care Supplies, Ltd.
Chariton St. Peter
Pewsey, Wiltshire SN9 6EU U.K.
Phone: 09806 35380
Fax: 09806 35382
E-mail: TreeCareSupplies@aol.com
Contact: de Gouret Litchfield

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(S) Tree Climbers International  
628 West College Avenue  
Decatur, GA 30030  
Phone: 404-377-9663  
E-mail: treeeman@mindspring.com  
Web: www.treeclimbing.com  
Contact: Peter Jenkins

(M) Tree Feeder Division  
PO Box 974  
Warsaw, IN 46582-0974  
Phone #1: 219-268-9616  
Phone #2: 219-269-5888 (Main Plant)  
Fax: 219-269-1047  
E-mail: dclee@woodfun.com  
Web: www.treefeeder.com  
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Manufacturers of patented “Tree Feeder - The Fertilizer Is In The Tube®” and companion products. Five sizes for new tree, bush and rose transplants. Irrigation water into the tube carries water and nutrients already inside the product directly down to the root system where it is needed most!  
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Toll-Free: 800-933-1955  
Phone: 812-876-3664  
Fax: 812-876-7664  
Contact: Larry Brost  
Web: www.turftree.com  
Fax: 715-428-2207  
E-mail: timber@dwave.net  
Phone: 715-748-3636  
Prentice, WI 54556  
P0 Box 289  
(T) Tree Pro Direct™  
PO Box 39  
Woodbridge, NJ 07095  
Toll-Free: 800-282-6771  
Phone: 732-634-8400  
Fax: 732-634-1301  
E-mail: lennyA@Aianj.com  
Contact: Lenny Albanese

(S) TreeSage.com  
4848 South Highland Drive, #516  
Salt Lake City, UT 84117  
Phone: 801-727-5172  
Fax: 801-723-9312  
E-mail: sales@www.treesage.com  
Web: www.treesage.com  
Contact: Butch Trice

(D) Truaco, Inc.  
115 Longbranch Road  
Kings Mountain, NC 28086  
Toll-Free: 800-642-5438  
Phone: 704-739-9591  
Fax: 704-739-1401  
E-mail: trueco@shelby.net  
Web: www.trueco.com  
Contact: Butch Trice

(D) V & H Inc.  
PO Box 289  
406 Air Park Drive  
Prentice, WI 54556  
Toll-Free: 888-384-8418 x 223  
Phone: 715-748-3636  
Fax: 715-428-2207  
E-mail: timber@dwave.net  
Web: www.vhtrucks.com  
Contact: Larry Brost

(M) Tree Tech Microinjection Systems  
950 S.E. 215th Avenue  
Morrison, FL 32668  
Toll-Free: 800-622-2831  
Phone: 352-528-5335  
Fax: 352-528-0777  
E-mail: rwebb@treechom.com  
Web: www.treechom.com  
Contact: Dr. Roger Webb  
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Phone: 503-635-0063  
Fax: 503-635-0084  
Contact: Larry Campbell  
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(S) TreePro Direct™  
PO Box 259  
Spencer, NC 28159  
Phone: 704-737-7414  
Fax: 704-637-2434  
Contact: Bert Kenyon

(M) TreeSage.com  
4848 South Highland Drive, #516  
Salt Lake City, UT 84117  
Phone: 801-272-5172  
Fax: 801-273-9312  
E-mail: sales@www.treesage.com  
Web: www.treesage.com  
Contact: Butch Trice

(D) V & H Inc.  
PO Box 289  
406 Air Park Drive  
Prentice, WI 54556  
Toll-Free: 888-384-8418 x 223  
Phone: 715-748-3636  
Fax: 715-428-2207  
E-mail: timber@dwave.net  
Web: www.vhtrucks.com  
Contact: Larry Brost

(M) Vermeer Manufacturing Company  
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PO Box 200  
Pella, IA 50219  
Toll-Free: 888-VERMEER (837-6337)  
Phone: 641-628-3141  
Fax: 641-621-7734  
E-mail: salesinfo@vermeermfg.com  
Web: www.vermeer.com  
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Phone: 626-336-4999  
Fax: 626-336-4899  
Contact: Bert Kenyon

(M) Wall Industries  
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Spencer, NC 28159  
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E-mail: info@weaverleather.com
Web: www.weaverleather.com
Contact: Richard F. Kiefer

WesSpur, LLC
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Bellingham, WA 98226
Toll-Free: 800-268-2141
Phone: 360-734-5242
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E-mail: wesspur@wesspur.com
Web: www.wesspur.com
Contact: Ryan Aarstol

West Coast Shoe Company/WESCO
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Scappoose, OR 97056-0607
Toll-Free: 800-326-2711 (US & Canada)
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Web: www.totalpower.com
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Web: www.MotherEarth.com
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