MORE ON-THE-JOB ANSWERS.

Delivering diverse job-site solutions and dedicated support. The Vermeer commitment to customer satisfaction.

The worldwide network of Vermeer dealers makes the difference — get to know your local dealer. In the field or in the shop, nobody is more determined to see you succeed. Vermeer is an innovative leader in the manufacturing of underground and tree-care equipment. They can also be your most valued partner in your day-to-day operations.

Contact your dealer by calling 1-888-VERMEER, or visit the Web at www.vermeer.com.
SAVE 20% - BUY DIRECT FROM MANUFACTURER

733 Enterprise Avenue
DeKalb, Illinois 60115
Toll-Free: 888-316-8200
Phone: 815-787-6644

ORDER ONLINE:
www.stumpmachine.com

American Made, American Owned

Please circle 60 on Reader Service Card
Why It Matters …

Former Senator Alan Simpson once said, “If you have integrity, nothing else matters. If you don’t have integrity, nothing else matters.” It’s like when you were growing up and your Mom or Dad told you that your reputation was the only thing you had, and once you lost it, there was no getting it back.

Just for a moment, let’s picture ourselves sitting by a riverbank, in a beautiful forest, a nice lunch in front of us, and a few moments to chat. Remember when your Mom or your Dad said, “I’m disappointed in you” and how that cut to the core? Well, I’ve got to be honest with you – don’t mean to upset your stomach and spoil this lovely lunch – but I’ve got to tell you that I’m disappointed in some of you.

On the whole, I have seen from our membership and this association a desire to get better, work safer, and to earn the respect this industry feels strongly it deserves. However, what I’m hearing from others and witnessing firsthand is that we continue to have some crucial problems in how we are doing business. These problems are downright embarrassing to us as professionals – if that is truly what we want to earn the right to be called.

I’m hearing about cash under the table to employees; not putting employees appropriately on the payroll for workers’ compensation; and open discussions about pricing.

Aside from the fact that any of the above are illegal (and that should be reason enough), I’m concerned that we do not have an understanding of the consequences of these actions. First of all, the assumption that if your competitors are doing it, it’s the only way you can be competitive, is downright wrong. You don’t have to “beat the system” to be successful. Quality work is a choice that permeates everything you do from business to technical practices. It stands up for itself, and it sells itself.

More importantly, as an entire industry, we are putting the lives of people at stake. You ask how on earth a little cash under the table does that? How about the fact that you are mentoring people who work for you that the only way to be successful in business is to break the law? How about the fact that if they get caught in this, they could wind up with significant tax burdens that could impact their families for years? How about the fact that if you do this to seasonal workers who are here with the INS’ blessing, they may never get to come back and work here again? How about the fact that you are underinsured? If you have a bad accident, your insurance options disappear – and so might your business and the livelihood of the people you employ.

As for price fixing, there is no defense that you can have for having these conversations. Anti-trust laws are clear on this issue. The end result can be jail – not to mention the fact that your participation could bring the Justice Department down on an entire industry and cause years of scrutiny.

So, my friends, I’m asking you to take a very serious look at how you are running your business. If you think you can get away with this kind of activity, you need to think again. You’re paying the price for it every day, and it isn’t cheap. What’s more, you’re asking all your fellow industry professionals to pay the price too. It’s not professional. It’s not legal. It’s not good for your business.

And your integrity matters.

Cynthia Mills, CAE
Publisher

Copyright 2001 by the National Arborist Association. All rights reserved. Reproduction in whole or in part without written permission is prohibited. The National Arborist Association is dedicated to the advancement of commercial tree care businesses. Reference to commercial products or brand names in editorial does not constitute an endorsement by Tree Care Industry magazine or the National Arborist Association. Tree Care Industry is published monthly by the National Arborist Association, 3 Perimeter Road, Unit 1, Manchester, NH 03103. Subscriptions $30 per year (Canadian/International orders $45 per year, U.S. funds; $2.50 per single copy). Periodicals postage paid at Manchester, NH. POSTMASTER: Send address changes to Tree Care Industry, PO Box 15907, North Hollywood, CA 91615-5907. 

TREE CARE INDUSTRY - JULY 2001
simple, available and cost effective

TEREX LIFTING

Introducing a truck mounted tree trimmer for only

$74,999

NOW THAT'S VALUE!

*FOB Mfg Location.

It's the Telelect XT-55.

- 60 ft. maximum working height
- Side reach up to 43.5 ft.
- Fully equipped, ready to work

IN STOCK FOR IMMEDIATE DELIVERY!

Contact your Terex Telelect distributor today for this special value!

<table>
<thead>
<tr>
<th>Distributor</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combatel Distribution, Inc.</td>
<td>(605) 259-7602</td>
</tr>
<tr>
<td>Commercial Body Corporation</td>
<td>(800) 292-1931</td>
</tr>
<tr>
<td>Dueco, Inc.</td>
<td>(800) 558-4004</td>
</tr>
<tr>
<td>Eusco, Inc.</td>
<td>(800) 672-4911</td>
</tr>
<tr>
<td>James A. Kiley Company</td>
<td>(617) 776-0344</td>
</tr>
<tr>
<td>Pacific Utility Equipment Company</td>
<td>(800) 878-0611</td>
</tr>
<tr>
<td>Teague Equipment Company</td>
<td>(888) TEAGUE 1</td>
</tr>
<tr>
<td>Telelect East</td>
<td>(800) 778-9851</td>
</tr>
<tr>
<td>Wajax Industries, Ltd.</td>
<td>(888) 364-1080</td>
</tr>
</tbody>
</table>

www.terexlift.com

TEREX TELELECT
600 Oakwood Road • Watertown, SD 57201 • (605) 882-4000 • FAX (605) 882-1842

Please circle 77 on Reader Service Card
July
continued on page 6

Features

8 Carbon & Tree Growth
By Donald H. Marx

30 Preserving Trees & Soil During Construction
By David L. Schwartz

45 Prioritizing Risk Trees
By Brian Kane, Dr. H. Dennis P. Ryan and Dr. David V. Bloniarz

Departments

2 Outlook
By Cynthia Mills, CAE
Run your business with integrity. It matters to the entire profession.

18 Branch Office
By Mary McVicker
What good is management? Managers make it possible for others to do their jobs well.

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

24 Washington in Review
By Peter Gerstenberger
A new Senate power structure produces changes in the legislative and regulatory landscape.

26 NAA Forum
TCI EXPO 2001 in Columbus has a full schedule of classes and events.

TCI's mission is to engage and enlighten readers with the latest industry news and information on regulations, standards, practices, safety, innovations, products and equipment. We strive to serve as the definitive resource for commercial, residential, municipal and utility arborists, as well as for others involved in the care and maintenance of trees. The official publication of the non-profit National Arborist Association, we vow to sustain the same uncompromising standards of excellence as our members in the field, who adhere to the highest professional practices worldwide.
This diesel powered general-duty model provides greater field production than the RG 1635 A - plus, it includes the swing-away operator console for a shielded, close-up view of the work in progress. Although the RG 1642 M is a mid-range size machine, the full-size frame and large tires give it the look and feel of higher horsepower models. It is the first of the towable RAYCO’s equipped with a suspension ride frame for transporting with less shock load to the stump cutter and tow vehicle.

The RG 1642 M is also powered by a 3-cylinder, 45 HP diesel engine. Horsepower is transferred to the cutting wheel by a mechanical drive system consisting of a banded V-belt and Polychain GT® system.

This model is beneficial where general duty conditions exist, deeper cutting is required, and a diesel engine is preferred.

SUPER TOOTH
The single-piece design, constructed of high alloy steel, adds structural integrity to the Super Tooth. The massive tooth behind the cutting action better supports the carbide tip while eliminating tooth bending, twisting and breaking.
July
continued from page 4

**Departments**

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

38 **Operational Safety**
   By Peter Gerstenberger
   The NAA’ Hazard Tree Subcommittee develops solutions to reduce the risk of working with hazardous trees.

40 **Management Exchange**
   By Mark E. Battersby
   Tax saving that add up for family businesses.

45 **TCI Magazine Buyers Guide**

52 **Arborist Equipment**
   Preparing maintenance accidents with brush chippers and guidelines for a lockout/tagout program.

60 **Business of Tree Care**
   By Phil Perry
   Direct mail success secrets for the small tree care business.

66 **Classified Advertising**
   Help wanted, services, businesses, new and used products for sale

80 **Readers Forum**
   By Tim Jackson
   How do climbers rate climbs? A reader offers a possible system for discussion.

30 **Saving Trees During Construction**

45 **Risk Trees in the Community**

84 **Forestry**
   By Thomas L. Houston
   We could learn a few things from beavers - precision felling ... the natural way.

86 **Tree News Digest**
   Compiled by Keith A. Regan
   News, stories and information on trees from around the world

88 **From the Field**
   By Al Liotta, Bill Magner and Stan Strain
   The unlikely tale of the tulips.
In the real world, one requirement that never changes is finding ways to help your crews work more safely. That's why Altec tree care equipment is built rugged, reliable and designed with integral safety features. Our complete line of aerial devices and wood chippers is highlighted by our newest machine – the Altec LRV60. It will help your crews work smarter and more efficiently. This unit combines 65 feet of working height and smooth maneuverability with the lowest cost of equipment ownership in the industry and unmatched financing options. For tree care units that help you work safer and smarter, call the company that builds them – Altec.
Carbon and Tree Growth

By Donald H. Marx

All life—whether it is the smallest microbe or the largest animal or tree—is dependent on the availability and utilization of carbon. This carbon occurs as the basic chemical skeleton of carbohydrates, proteins, amino acids, fats, oils and etc. Organic chemicals are needed by all forms of life as building units for growth and for energy. Carbon is the most abundant organic chemical on our planet. Of course, we all know this! But, do we fully appreciate that all of this organic carbon comes from one primary source and that is “photosynthesis”?
Photosynthesis

This is the process by which light energy from the sun is captured by chloroplasts in leaves and other green parts of plants to make glucose, the photosynthate, from inorganic carbon-dioxide and water. This chemical reaction also produces oxygen. The importance of photosynthesis cannot be overemphasized since all life is dependent on this fixed carbon, its stored energy and the oxygen. Without it, there would be no life!!

Photosynthesis occurs at much higher rates in leaves near the top of the tree canopy than in leaves near the bottom of the canopy. This is because there is more light saturation of the chloroplasts in direct sunlight. Inefficient lower branches of shade intolerant trees, with relatively few and highly shaded leaves, often do not contribute any new carbohydrates for growth of the main stem. The limited amounts produced in these shaded leaves are mainly used for maintenance of these leaves. These branches normally shed (natural branch pruning) because of limited maintenance respiration (see below). At low light intensities, the rate of photosynthesis is higher in shade-tolerant than in shade-intolerant trees. That’s why shade-tolerant trees and shrubs can grow and thrive under the dominant and closed canopies of shade-intolerant trees.

Respiration

Excess energy from photosynthesis is stored in phosphorus-containing carbon compounds, like ATP, for later use. All of this stored energy can be traced back to the light energy originally captured by the chloroplasts during photosynthesis. This stored chemical energy is released by the oxidation of carbon-based chemicals (i.e. substrates like glucose)...the process is called respiration. There are two main forms of respiration. Growth respiration provides energy needed to synthesize new tissues and maintenance respiration provides energy needed to keep existing tissues alive and healthy. These respiratory activities can utilize from 30 to 60 percent of the daily production of photosynthate. Practically all sugars are synthesized in leaves but they are consumed by respiration in every living cell of the tree. New growth occurs when the rate of photosynthesis, which creates sugar, exceeds the rate of respiration, which burns the sugar, releasing energy, CO₂ and water. Most of the glucose is converted into hundreds of other organic chemicals needed by trees. Some carbon is stored as insoluble starch and lipids, to be used later by the tree. Trees use both stored and currently produced carbohydrates, often at the same time, for growth.

Let’s compare your earnings and how you spend it to a tree’s production of photosynthate and how it spends it (Fig. 1). Your first priority for using your money is day-to-day expenses like food, utilities and rent/mortgage payments. The tree also has day-to-day expenses. It must grow, respire, make minor repairs and produce secondary metabolites (phenols, terpenes, etc.) to help ward off pests. Next, if you’re wise, you set aside something for savings needed for emergencies, your children’s education, retirement, and etc. The same logic applies to trees. Only after the immediate carbohydrate expenses have been paid can the tree now afford to put carbohydrates into storage for later use. If the tree spends too much carbon on stimulated growth, like when it has been over-fertil-
When it comes to arborist supplies, there may not be adequate carbon left for storage. Without storage, the tree is in danger of not having adequate carbon to support itself during periods of reduced photosynthesis (drought or mineral deficiencies), or re-growth following pruning, insect defoliation, or killing of young leaves by early season frosts. Early season shoot and leaf development on hardwoods and some conifers depend on stored carbohydrates. We save money to spend for a rainy day...trees save carbon to spend on days without rain.

Growth is the end result of the interactions of physiological processes that influence the availability of essential internal resources (sugars, minerals, water, etc.) at meristematic sites. Trees have three main meristems...stem tips, root tips and the cambium. They grow up, down and around. The partitioning of tree growth between roots and shoots is a functional balance between the production and allocation of carbon and the absorption and utilization of soil resources. How does the tree move, or allocate, the sugars from their site of production - the leaves - to all living cells and especially to the meristems where they are chemically converted into protoplasm, cellulose, pectins, and lignin creating new tissue?

Carbon allocation

The carbohydrates produced in leaves are translocated to the meristems, reproductive structures and other growth sinks where it is converted to energy (respiration) or to new tissue (protoplasm and cell walls). The main translocated sugar is sucrose...a disaccharide...which is glucose combined with fructose. Some carbohydrates are diverted to produce secondary or defensive chemicals and for other processes. What signals the tree to move these carbohydrates? Very simply, the plant growth regulators (auxins, cytokinins, gibberellins, abscisic acid and ethylene) are considered to be the carbon traffic police in that they direct the flow of carbohydrates from their site of production to where they are needed for growth and respiration. Since new growth occurs at the meristems that's where most plant growth regulators are produced and concentrated.

A very simplified version of the growth response (carbon allocation) of a tree to different stresses is shown in Figure 2. On average, a tree allocates about 70 percent of its carbon for growth and respiration above ground and about 30 percent for below ground needs. Let's consider that normal. Now let's create a soil or root stress caused by compaction, root disease, trenching or by the balling and burlapping...

Figure 2
Specifications:

A. General:
1. All G-60 Galvannealed Material (zinc coated, resists rust)
2. All Wiring in Conduit
3. Sealed Lexan Lens Lights Meet FMVSS 108 Specifications
4. Anti-Sail Mud Flaps
5. Hoist with Power Take Off
6. Trailer Light Connector, Six Pole
7. Pintle, Pin, or Pintle/Ball Combination Trailer Hitch with Tow Hooks
8. Bodies: Mounted, Undercoated, Chemically Degreased, Coal Tar Epoxy Coating inside Chip Box, Primed and Painted
9. Stainless Steel Hinge Pins with Grease Zerks
10. Weatherproofed Tool Boxes
11. Chipper Air Exhaust Vents

B. Overall Body Dimensions:
- Length: 168”
- Height: 72” (Inside)
- Width: 92”

C. Chip Box Material: (Galvannealed)
1. Floor: 10-ga. plate
2. Sides & Front: 12-ga. plate
3. Top: 14-ga. plate
4. Tailgate: 12-ga. plate with tubing frame (270° swing)
5. Runners: 8” structural channel
6. Cross Members: 3” structural channel
7. Rear Vertical Support: formed 1/4” plate
8. Rear Horizontal Support: 4” x 4” x 1/4” square tubing

D. Tool Boxes: (14-ga. Galvannealed)
1. Underbody Tool Boxes:
   - (two) 48” long x 20” high x 20” deep
2. “L” Cross Box:
   - 24” long x 92” wide x 26” high across chassis rails
   - Door: 24” long x 48” high; six rope hooks, stationary shelf and water cooler holder
3. Ladder Box: (inside chip box)
   - 143” long x 17” wide x 27” high
4. Pruner Box: (inside chip box)
   - 168” long x 17” wide x 12” high
5. Locks:
   - Slam, keyed with hidden theft resistant rods

E. Optional
1. Tool boxes and Step-Type Rear Bumper
   - Behind rear axle 34” long x 20” high x 20” deep
2. Cab Protector
3. Top Ladder Rack with Access Steps
4. Electric Trailer Brake Control
5. Wheel Chocks and Holder

NOTE: Chassis Cabs Available to complete the package 102”
CA Chassis Cab required.

Please circle 71 on Reader Service Card
(B&B) of nursery saplings, which may remove 95 percent of the roots (and stored carbohydrates). In these situations, the tree will allocate very large amounts of carbohydrates below ground to replace and repair the damaged roots. This will be at the expense of carbohydrates normally allocated to the top. This explains why one of the most obvious symptoms of root damage is top dieback. This indicates an inadequate supply of carbohydrates to maintain growth and respiration of the top. Now let's create a top stress. Examples are severe defoliation due to pests, major branch loss due to storms and severe pruning like topping. The most obvious effect of these top stresses is loss of leaves and, thereby, loss of current photosynthesis and the physical loss of stored carbohydrates in the larger branches. This will cause a carbohydrate deficiency to the root system. Roots will die back as a result of reduced carbon allocation below ground. This, in turn, causes a snowballing effect. Reduced roots equal reduced absorption of soil resources (water and minerals), which equals a reduced supply of these resources above ground. The net result is a very unhealthy tree. What happens when the tree has a root and top stress at the same time? An example is a B&B tree with limited roots, planted too deep, no irrigation and all new leaf development is repeatedly killed by early frosts. This tree will utilize stored carbohydrates to deal with these stresses but will eventually die if conditions for significant root growth (to obtain soil resources) and for significant leaf growth (to obtain new photosynthate) are not met. The last example in Figure 2 is where too much of all positive growth factors occur. Example is a high maintenance landscape where trees are pruned for aesthetics, heavily fertilized and irrigated. After a few years of this high maintenance the tree has adapted by producing a very large top but proportionately a smaller root system. What happens when the high maintenance stops? The tree will readapt to a site of reduced soil resources (water and minerals) resulting eventually in some top and root dieback due to limited carbohydrate production and allocation. In all of these examples in Fig. 2, the tree utilizes and allocates current photosynthate and stored carbohydrates to these growth sinks.

Table 1 is a good example of how loblolly pine can adapt (allocate carbon) to changes in availability of soil resources.
150 SPECIALIZED TRUCKS AT WWW.OPDYKES.COM

98 Ford LNT8000: 8.3L. Fuller Road Ranger 8 spd +LO+LOO, tandem axle, with 2½ ton RO crane model TC4792, 146' hook ht, 21' wood flatbed. $99,500.

93 Ford LTS8000: 8.3L, Fuller Road Ranger 8 spd + LO + LOO, tandem axle, with 10 ton National crane, model 538B, 64' hook ht, 3 section hydraulic boom. $49,500.

92 Kenworth T450A tractor: CAT 3176, Fuller Road Ranger 9 spd, tandem axle, with 10 ton National crane, model 538B, 64' hook ht. $59,500.

90 Ford LTS9000: CAT 3406B, Fuller Road Ranger 8 spd + LO + LOO, tandem axle, with 15 ton Fassi knuckleboom, 57' max side reach. $59,500.

88 Ford LNT9000: Cummins LTA10, Fuller Road Ranger 8 spd +LO, tandem axle, with 9 ton Copma knuckleboom, 46'9" max side reach. $44,900.

88 Autocar ACM64: Cummins LTA10, Fuller Road Ranger 8 spd +LO, tandem axle, with 7 ton IMT knuckleboom, 417" max side reach, pin-on forks, remote controls. $39,500.

89 INT 2375: Cummins LTA10, Fuller Road Ranger 8 spd trans + LO, tandem axle, with 8½ ton Hiab knuckleboom, model 160, 332" max side reach, 42" forks, 20' wood flatbed. $32,500.

1992 - 93 Ford & Mack diesels with Altec 60' AN660 buckets. $34,500 each.

1990 Ford F8000: Gas, V8 on propane, 6 speed, with Hi-Ranger - model 6H65 bucket, 6,218 original miles. Looks and runs like new. $56,500.

1999 Ford F350: Used only as a demonstrator, V10, Auto, A/C, 110GVW, with 9/1\2 aluminum dump chip body (muck, firewood, etc...), roof comes off, 2,000 miles. $24,900.


1997 Ford LNT8000: 275 HP, Cummins, 8 speed, 58 GVW, 20ft flatbed, with 22 ton JLG - model 2250, 95ft hook ht. $59,500.

1995 Ford F8000: 5.9L Cummins diesel, 3 spd + 2 spd, with 4 ton Hiab 671 crane with choice of body. CALL FOR INFO.

1994 Ford L8700: Cummins 8.3L, 225 HP, 8 speed, 11t steel flatbed, 60,000 miles, with 10 ton National Crane, 66ft hook ht. $39,500.

1994 LN9000: CAT 3306, 350 HP, 9 speed, 33 GVW, 198,000 miles, with NEW 9t Rugby 6 to 8 yard dump, with pintle hook. $29,500.

1993 Ford F8000 Crew Cab: Cummins 8.3L, 5 spd + 2 spd, 14ft bed, with 7 ton National Crane, 47ft hook ht. $34,500.


1988 Rayco T175: We have owned since new, 500 hours, rock teeth on stump cutter, with flat mower, excellent condition. $69,500.

1995 Peterbilt 320/CO: 8.3L Cummins, Allison auto, 18ft dump body, 5 ton Effer Knuckleboom, 19ft side reach. $34,500.

1991 Ford LNT9000: 3306 CAT with Hiab 671 crane with choice of body. CALL FOR INFO.

1990 Rayco T175: Stump cutter with super teeth, 1,400 hours, no flat mower. $69,500.

1987 Ford LTS9000: L10 Cummins, 8 speed +Lo +Lo+Lo, 18ft, 44 gears with Barko model 80 log loader. $34,500.

1981 Ford F8000: 5.9L Cummins, 8 speed +Lo +Lo+Lo, 18ft, 8 speed, with Hiab knuckleboom, 417" max side reach. $39,500.

1988 Chevy C70: diesel, Allison Auto, 8t dump body, 7 ton National Crane, 47ft hook ht. $34,500.

1988 Rayco T175: We have owned since new, 500 hours, rock teeth on stump cutter, with flat mower, excellent condition. $69,500.

Opdyke's Truck & Equipment Sales Call Toll Free 866-250-8262

3123 Bethlehem Pike • Hatfield, Pennsylvania 19440 • Fax 215-721-4350 • www.opdykes.com

Please circle 56 on Reader Service Card
(Albaugh, et al. 1998). Under conditions considered normal for this forest site (i.e., the control), there was a 65:35 ratio of above and below ground biomass on these 8-year-old trees. Biomass is dry weight, or carbon content, of tissues but doesn't reflect carbon spent in respiration. In this example, as soil resources are improved, i.e. with irrigation, fertilization, or both, this ratio eventually shifted to 77:23 after 4 years of treatment. In comparison to the control, this is considerably more top than roots. These trees were also nearly twice the total size of the controls. These trees had no need for an extensive root system since they were supplied with abundant water and minerals. In this situation, fewer roots can supply the needed quantities of soil resources since the resources are more concentrated. This reflects much more carbon allocation below ground for trees in the normal or control treatments compared to allocations below ground for trees with improved availability of essential soil resources. The tree compensates for root loss, poor soil conditions, and limited soil resources by increasing carbon allocation to roots. More roots are necessary to acquire needed soil resources that are in limited supply.

The last example (See Table 2 on page 16) shows how trees alter the production and allocation of carbon under different levels of sunlight (Sung et.al. 1997). Northern red and white oaks are considered to be intermediate in shade tolerance. This means they can grow in partial shade but still require several hours of direct sunlight each day. In this two-year study, above and below ground biomass of seedlings grown under 30 percent shade were not significantly different from seedlings grown in full sun. However, biomass and allocation patterns were quite different in the 70 percent shade treatment. Seedlings in this treatment had 40 percent less photosynthesis, larger leaf size, twofold less total seedling dry weight and leaf number, and fourfold less weight of lateral roots than seedlings grown in full sun. With less photosynthesis most of the photosynthetic stayed in the top producing larger but fewer leaves at the expense of producing fewer and smaller roots. Total top/root biomass ratios reflected these alterations in carbon allocation. How many times have you seen oaks planted in heavily shaded landscapes that grew poorly and eventually died? Now you know why...no root systems!!

Conclusion

It should be obvious by now that growth is the manifestation of the tree’s ability to fix carbon in photosynthesis, to allocate it to the meristems where it is incorporated into protoplasm and cell walls, and to release the energy via respiration to fuel the needs of the chemical reactions and growth. The partitioning of growth between above and below ground tree parts is a function of the photosynthetic potential of the shoots and the absorptive potential of the roots for essential soil resources. Any process affecting leaf area,
GET A GRIP ON THE BEST THERE IS

Samson True-Blue™ and Samson BlueStreak™

Proven performance from a name you can trust.

At Samson, we've spent a lot of time listening to the people who have strong ideas about what they want in a climbing rope: professional arborists. What we learned led to the development of the highest quality 16-strand climbing line you can buy.

Extensive field testing indicates that, even brand new when most climbing ropes are slippery, BlueStreak was easy to climb. Exceptional strength, high visibility and extreme durability make BlueStreak the professional's first choice. It is ideal for the "footlock" climbing technique and is available in popular lengths with eye splices as well as short "split tail" lengths.

Firm and round, it holds knots exceptionally well, and the braided construction keeps it non-rotational for great control. The distinctive color pattern makes climbing line identification quick and easy, for increased security on busy job sites.

You now can get the best 12-strand and the best 16-strand climbing ropes from one source, Samson. True-Blue and BlueStreak, matching colors and unmatched quality and performance.

Samson offers a full line of professional Arborist products: climbing and bull ropes, prusik lines, climbing tails, spliced climbing lines and accessory cords. All are proven in the difficult world of the professional arborist, and all are available through your local Samson Arborist products supplier. Just ask for BlueStreak, or contact Samson directly for more information.

Made from specially treated polyester with a stabilized nylon core for high strength.

Very soft, strong and sized to minimize climber fatigue.

Larger size 1/2" diameter for easier grip and climbing.

Identified by alternating blue and white strands with a trademark red and green internal I.D. marker.

<table>
<thead>
<tr>
<th>Size Dia.</th>
<th>Weight per 100 ft.</th>
<th>Average Tensile</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BLUESTREAK SPECIFICATIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>7.9 lbs.</td>
<td>8,100 lbs.</td>
</tr>
<tr>
<td>TRUE-BLUE SPECIFICATIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8.5 lbs.</td>
<td>7,300 lbs.</td>
</tr>
</tbody>
</table>

Available Put-ups: 600' reels, 150' and 120' polybags

www.samsonrope.com
Please circle 64 on Reader Service Card
i.e. pruning, insect defoliation, storm damage or intense shade, will reduce the rate of photosynthesis and reduce the allocation of the carbohydrates to the roots. A consequence is reduced root function which contributes to less water and mineral absorption. The net result is usually top die back. Any process affecting root activity and vigor, such as root pruning via B&B and trenching utilities, soil compaction or root disease, will induce allocation of carbohydrates to the root system to repair this damage. This below ground allocation is at the expense of the carbohydrate in the canopy to fulfill the physiological needs of the canopy. The result is usually top dieback.

My point is simple!! Since photosynthesis and the allocation pattern of the photosynthate is essential to tree growth, development and health, it should be obvious that the most important single indicator of tree health is the health of the canopy. All growth comes from the nutrient...glucose...produced in the energy factory...the green canopy. For more information on tree physiology, see the excellent text by Kozlowski and Pallardy (1997).

Dr. Donald H. Marx is chairman and chief scientist with Plant Health Care, Inc. This article was excerpted and adapted from a lecture at TCI EXPO 2000 in Charlotte.

REFERENCES

Here's a New Breed of Chipper

The 1400SD is the latest addition to our full line of brush chippers ranging from 6", 9", 10", 12" and now 14-inch capacity. The 1400SD is the largest 90 degree in feed disc style chipper on the market today. Patent and patent pending features like threaded knives made from tungsten, slide back feed roller and hopper assembly, ratchet style feed system, and self cleaning non clogging bottom feed roller are just a few outstanding features found only on Dosko.

Exclusive Threaded Knife Design
It's only fitting that when you build the best chipper on the market today, you fit it with the best knife system available. The threaded knives are precisely positioned in place, assuring accurate knife point location with no adjustment required. Whether installing new knives or reversing worn knives, it can be done in minutes, even on the job site.

Chipper Maintenance Made Easy
By design, the 1400SD is the latest in chipper serviceability. Our slide back feed roller housing, hinged flywheel hood, and belt guard provide quick and easy access to bearings, clutch, belts, bed knife and chipper knives. There's no question about it, chipper maintenance doesn't get any easier than this.

Dealerships are now available across the country!
Come join our Dosko team of exclusive Dealers!

Doskocil Industries, Inc.
1324 Rialto Ave. • San Bernardino, CA 92410 • (909) 885-0988 • Fax (909) 381-4743

Please circle 28 on Reader Service Card
What Good Is Management?

By Mary McVicker

Millions of employees undoubtedly ask themselves that question every day – and many of them for good reason. In many companies, the real operations of the business are far removed from “management.” The real-life decisions of the business are often made at levels well removed from management. Income is generated in the field, well down the hierarchy. So, what good is management? After all, management is a not-for-profit activity.

It should be. But many managers have a strong sense that they should be making money for the business, and they lose sight of what their real position is and what their real role ought to be.

To begin with, management is at least one step removed from the moneymaking activities of the business. One hopes that many of management’s decisions will result in income to the business, perhaps indirectly, but the management team is not the direct revenue-generating part of the business.

This idea becomes blurry in the minds of some managers. When that happens, their notion of their role also blurs. The role of management is to manage. This statement, which sounds simplistic, involves a range of complexities. The underlying truth, however, is that managers may be trainers, counselors, facilitators, discussion leaders, decision makers, and/or planning experts. They oversee and consult.

They are proficient at coordinating efforts – theirs and others. What they should not do is work in the “front line” of the business – chipping, selling, and bookkeeping. Their jobs may involve these operations – and there are managers who also do much of the selling for the business – but this is an additional position that is not management and should be recognized as such.

Effective management is elusive to define. When a company has good management, you know it’s there. The opposite, poor management, is painfully obvious, and its characteristics are usually easier to list.

In addition to a list of about a dozen traits that come close to resembling sainthood, good managers are productive. Perhaps more important, good managers allow others to be productive. They don’t micromanage. They don’t interfere with their employees. They allow people to work.

There’s no guarantee that a productive workplace will also be profitable, and there are countless examples of companies that have made money in spite of wasting resources, including employees’ time and efforts. An unproductive business, however, is one that is loaded with problems. In today’s economy, that is a business at risk.

Like the concept of good management, a useful definition of productivity is elusive. You can point to various practices and people who contribute to a business’ productivity, but the process itself defies strict analysis. Productivity allows the various parts of a business to work together in a way that surpasses the company’s cumulative resources. In this case, the whole is greater than the sum of its parts.

Productivity also is much more complex than people simply working harder or more efficiently.

Let information flow

Certain management practices contribute to greater productivity. Study after study has concluded that employees are likely to be productive in a business that allows for flexibility. Employees are more motivated in an environment that’s less rigid, and a business that sets rigid procedures and is strict about everyone adhering to them removes decision-making from the levels where it matters most – close to the customer. Similarly, companies that do not seek or welcome input from employees are making decisions with information that is, at best, second or third-hand, having filtered up through the ranks. Characteristically, critical information is unavailable.

An autocratic management style, where all authority is centered in one person or position, is one of the most counterproductive management practices. Almost equally counterproductive is a manager who micromanages – that is, management by interference.

Focus on the long term

A counterproductive focus on the short term manifests itself in various ways. One of the more destructive is crisis management, where the business lurches along from crisis to half-baked solution to the next crisis. Management isn’t managing, and workers can’t do their work properly. Attention to short-term numbers is needed, of course, especially in a small business with limited capital reserves, where a few bad months could spell the end of the company. Creditors also demand quarterly results. Short-term benchmarks are intended to be informational monitoring devices, but they’re typically regarded as absolute measures of results. They are not.

On the other hand, a short-term view is often lacking where it’s most needed. Committees, projects, and certain structures should have firm, built-in termination points. And, ironically, improving productivity isn’t itself a short-term consideration. Some results may appear rather quickly, but basically changes and adjustments need time to settle in and become part of the business.
Don’t assume productivity problems begin at the bottom

When management starts to consider improving productivity, the first thought that usually comes to mind is that field employees need to be more productive. And here is where that element of management being a not-for-profit activity gets in the way. What better way to improve sales than to improve the productivity of those involved in the product? Well, a better way is usually to prove sales than to improve the productivity of those involved in the product? What better way to improve sales than to improve the productivity of those involved in the product? Well, a better way is usually to prove sales than to improve the productivity of those involved in the product? Well, a better way is usually to prove sales than to improve the productivity of those involved in the product?

Businesses operate in a trickle-down structure. Management style has an enormous impact on the business, and managers tend to disregard this, disbelieve it, or simply be unaware of it. Productivity problems in many businesses start at the top. Counterproductive actions and policies, sloppy work habits, lack of follow-through, excessive use of personal time, disregard of the value of other people’s time (meetings come to mind here!) all affect people’s jobs and the workplace.

The management culture also sets the tone for the workplace. Respect and consideration — and the opposite, rudeness and arrogance on the part of management — will be reflected throughout the business. . . . but that’s another topic.

Don’t believe in quick fix

This is similar to focusing on the short term, but it’s worth a separate mention. Does a preference for shortcuts stem from American’s love of gadgets? In business, the gadget is the quick fix, and it has a lot of appeal: it’s seen as easy, clever, and relatively painless. A quick fix is usually expensive in the long run, because it seldom fixes anything. It trivializes the problem and obscures or oversimplifies the causes. A quick fix also means that the business doesn’t invest in policies or actions that could have significantly beneficial effects over the longer term.

There’s nothing wrong with a quick bandage to reduce a problem as soon as possible. First aid has its place. A quick fix is not a solution.

Don’t expect everyone to be more productive . . .

. . . then keep the gains for yourself. Incentive isn’t a difficult concept. Most managers understand it and think they apply it. But too few managers ask themselves the basic question: why should employees care about being more productive when there’s nothing in it for them? With the exception of commissioned sales people, all too often incentives or “rewards” for being productive take the form of more work: “You did a good job on that, so let me give you twice as much work to do.”

Of course it’s not stated that way, but employees quickly see that at some companies no good deed goes unpunished. A formal profit-sharing plan can be difficult to design and administer for a small business. A fair share bonus plan, however, is within reach of any business.

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.

Don’t expect everyone to be more productive . . .
**Morbark** has introduced the 3000-P N-Viro Mulch Coloring Unit, the latest addition to the Morbark recycling equipment line-up. It is capable of producing consistently colored wood waste in a variety of popular pigments at a rate of 30 to 50 cubic yards per hour, depending on material. This adds to the versatility of Morbark's recycling equipment line. The 3000-P is built with a heavy-duty, hydraulic-operated tilt hopper with a 3.5-yard capacity. This allows convenient access to lower augers and helps make maintenance and servicing easier. The hydraulic tilt function also allows easy clean out of the hopper by simply dumping material. Other standard equipment includes an adjustable water flow ball valve with water meter, an adjustable colorant pump, Charlyn drive motor for auger drive with #100 chain, Greason V20 valve bank and six replaceable colorant nozzles. With a heavy-duty tube-type frame, hydraulic tongue jack, single 6,000-pound suspension and 2-inch ball hitch, the 3000-P is easily towed with a three-quarter ton pickup truck. Available as a stationary or portable unit, the 3000-P can be easily loaded with a small skid steer loader. Other options include a stationary set-up with either a 25hp Kohler gasoline motor or a 20hp electric motor. For more information, call (800) 233-6065 or visit www.morbark.com.

**Bandit Industries** has designed a conveyor feed system for its Model 1850 and 1900 towable and self-propelled whole-tree chippers that will enable these machines to more efficiently tackle piled brush, logging slash and whole trees. These units, now equipped with a 5 1/2-foot conveyor, are perfect for seasonal brush clean-ups and by making it more practical for towable versions to process piled brush and logs from the curb by using the loader to place material onto the conveyor for travel into the chipper. The 18-inch diameter capacity 1850 whole tree chipper is available with engines up to 275 hp while the 19-inch diameter capacity 1900 is available with engines up to 500 hp. Both units are available as the towable Tree Bandit or the self propelled Track Bandit. For more information, contact Bandit Industries Inc. at (800) 952-0178 or visit www.banditchippers.com.

**Bobcat Company**, a business unit of Ingersoll-Rand Company, has introduced the 500K Limited Edition 773 G-Series skid-steer loader. The Limited Edition 773 commemorates the production of the company’s 500,000th skid-steer loader and will be offered through the end of 2001. It features a high-end operator package that includes 13-inch super flotation tires; enclosed cab with fully integrated heat, ventilation and air conditioning system; deluxe instrumentation with keyless start security and automatic shut down; hydraulic Power Bob-Tach for quick change of non-hydraulic attachments from inside the cab suspension seat; and a 56hp turbo-charged diesel engine. The loader has a rated operating capacity of 1,850 pounds, which can be increased to 1,950 pounds by adding an optional counterweight package. For more information, contact a Bobcat dealer or visit www.bobcat.com.

**Rid-A-Critter** is labeled to repel at least six animals. Controls rabbits around ornamental plants and controls squirrels, bats, pigeons, starlings and house sparrows from indoor environments. It can be used to protect gardens against rabbits and will get squirrels out of your attic or fireplace. Only authorized indoor squirrel repellent giving the capability to safely rid squirrels and birds from fireplaces, rafters and attics. World’s only registered bat repellent. The aroma of Rid-A-Critter affects respiration and pulmonary rate of animals, forcing them to relocate. It is safe to use around humans and pets when used as directed. A 1.25 pound container will protect 500 square feet. The purpose for Rid-A-Critter is to “train” nuisance animals to migrate and carry on with their activities elsewhere. For information, contact Dr. T’s Nature Products, Inc., phone: (800) 921-3080, fax: (912) 294-3027 or visit www.animalrepellents.com.
The Efco 956 is a new mid-size professional saw, suitable for a wide variety of cutting applications. With a 4.1hp engine, the 956 is capable of felling and bucking large trees, yet the saw's light weight makes it easy to handle for limbing, pruning and a variety of other chores. The 956 features, a 56.5cc/3.4 cubic inch engine, 12.1 pound powerhead, air purge and compression-release for easy starting, inertia/manual chain brake, magnesium crankcase and an adjustable automatic oiler. Efco products are imported and distributed in the U.S. and the Caribbean by Tilton Equipment Company. For more information, call (800) 447-1152.

Tanaka's powerful TBC-2501 Grass Trimmer / Brushcutter is both affordable and lightweight. This 24cc, 1.2hp workhorse is very popular with rental companies and professional power equipment users alike. It comes standard with a bearing-supported, solid steel drive shaft which provides smooth and efficient power transfer from the engine to the cutting head. The heavy-duty anti-vibration system includes a padded front handle and a heavy-duty rubber mount between the engine and shaft. Topped off with a 5-inch semi-automatic cutting head and a low-profile guard, this is the perfect grass trimmer / brushcutter for anyone looking to use, or step up to, a long-lasting professional model. For more information, contact Tanaka Power Equipment at 1028 4th St. SW, Bldg. B, Auburn, WA 98001, call (253) 333-1200, fax: (253) 333-1212 or visit www.tanaka-usa.com.

Future Forestry Products Inc. recently added two products to its line, that should be of great interest to tree service professionals nationwide. Moving large logs without heavy or expensive equipment can be accomplished with the T30 and T40 Tractor arches. Similar in concept to the ATV Forwarding Arch, but capable of much larger diameter logs and heavier loads, the T-series arches lift and carry the logs clean off the ground for low impact removals, clean logs for portable sawmills and low power requirements. No longer do high-value logs need to be cut into pieces for removal, when they can be cleanly forwarded to roadside or further. For more information call 888 258 1445 or visit our web site www.futureforestry.com.

When you need a workhorse to get those tough jobs done, look no further. SwapLoader has a hook-lift hoist that is perfect for you.

Expand your budget by eliminating the need for multiple trucks. Swap bodies from a flatbed, dump body, water tank or sand/salt spreader in a matter of minutes; all from the safety of your cab with SwapLoader.
Dow acquires ag section of Rohm and Haas

The Dow Chemical Co. and Rohm and Haas Co. announced they have completed the sale of Rohm and Haas Company’s agricultural business to Dow Chemical for approximately $1 billion, including working capital. The acquisition will be integrated into Dow AgroSciences LLC, a wholly owned subsidiary of Dow.

Under terms of the agreement, Dow AgroSciences acquired Rohm and Haas’s Agricultural Chemicals business, including fungicides, insecticides, herbicides, other product lines, trademarks, and license to all agricultural uses of the Rohm and Haas biotechnology assets. With this acquisition, Dow AgroSciences’ annual sales are expected to grow to approximately $3 billion annually.

“We are very pleased with this acquisition, which is consistent with our overall growth strategy of adding value through mergers, acquisitions, alliances and our own R&D efforts,” said A. Charles Fischer, President and CEO of Dow AgroSciences.

Products acquired through this acquisition include the fungicide Dithane, the herbicide Goal and the MAC family of insecticides, including Confirm, Mimic and Intrepid.

AmeriQuip expands manufacturing at plant

AmeriQuip’s recently opened LaVerne, Calif., headquarters and manufacturing plant now includes final assembly of the EAGLE line of towable lifts for the rental, tree care and facility maintenance industries. This plant has been expanded to include final assembly of truck-mounted units for the telecommunications and electrical industries, which includes products for the Telsta and MTI Insulated Product divisions of Mobile Tool International, Inc.

The customer lift maintenance facilities at Chino also have been consolidated into operations at the LaVerne plant.

This building expands AmeriQuip’s manufacturing capacity by another 15,000 square feet, for more than 45,000 square feet of total manufacturing and office space.

The plant’s primary focus continues to be the manufacturing of AmeriQuip products.

AmeriQuip, a division of Mobile Tool International, Inc., offers a full line of EAGLE trailer, truck, and TRAX lifts in a variety of heights for the rental, tree, sign and contractor markets.

For more information, call (800) 824-9776.

PPEMA to discontinue operations Dec. 31

The Portable Power Equipment Manufacturers Association, which has served as a voice for handheld power equipment manufacturers for more than 45 years, will discontinue operations Dec. 31, 2001.

“PPEMA has been the industry leader in handheld product issues for more than four decades,” noted Joseph V. Rund, chairman of the PPEMA Board of Directors and vice president, Marketing and Sales for Echo, Inc. “Our decision was a very difficult one for all the PPEMA members.”

The PPEMA Membership reached its decision at its recent Annual Meeting. Many PPEMA members are also members of the Outdoor Power Equipment Institute, which will now be able to speak with a more effective voice.

Sherrill, Vermeer form exclusive alliance

Sherrill, Inc., a supplier of arborist equipment, has entered into an exclusive alliance with Vermeer Manufacturing Co., an environmental equipment manufacturer, to jointly distribute environmental materials through the Vermeer worldwide dealership network.

“Together we will deliver the quality you’ve come to expect from the leaders in environmental products,” said Tobe Sherrill, owner of Sherrill, Inc. “By combining experience and expertise, we intend to extend an unprecedented level of service and product access through the Vermeer worldwide dealership network.”

“Our agreement with Sherrill represents all the right characteristics we were looking for in a strong alliance,” said Mary Vermeer Andringa, Vermeer president and chief operating officer.
Max footlocked his way skyward with a cadenced clinking sound with every thrust of his legs. He peered into the overcast neighborhood from the treetop vantage point amidst the Widow Carter's towering sycamore tree.

Once aloft, Max cautiously tied in and navigated his pole saw above his head to begin pruning. With every other cut, Max's safety glasses started to "fog-up" and limit his visibility. Max removed the glasses, wiped them off, and replaced them several times. With time passing, and bothered by the inconvenience of fooling around with his eye protection, he mumbled, "It is more dangerous to work with foggy glasses than without. I'm takin' these puppies off."

With that going for him, Max reached above his knobby little head with his pole saw and started to saw away a co-dominant leader. Sawdust started to rain upon him. At first, it was just a sprinkle. Max squinted his eyes and continued. A couple of flakes dusted Max's face as his eyelashes and eyelids involuntarily (and frantically) battered them away in response to the miniature sawdust "storm" now overtaking him. Max paused a moment, looked down and blinked his eyes a half dozen times in an effort to dislodge a wood crumb from his exposed eyeball. Clenching his pole saw with one hand, and unable to dislodge the embedded crumb by blinking, Max wiped his sweaty hand on his sawdust covered shirt and aimed his finger into the corner of his eye. He unwittingly planted even more sawdust into the reddening socket. Sensing a problem, Max looked up to assess his predicament. Just then, the branch started to lean to one side, and dumped a fresh load of sawdust into his sticky face. Now, covered with a fine crust of dust, Max found himself hopelessly blind, stranded, and badly in need of getting to the ground.

Tears streamed from Max's face as his feeble yelps for help went unanswered. Things can certainly get out of hand quickly and unexpectedly.

Personal protective equipment... shall be required where there is a reasonable probability of injury or illness that can be prevented by such protection. (ANSI Z133.1-1994, 3.2.1)

Eye and face protection when required shall comply to applicable provisions of ANSI 87.1-1979 (ANSI Z133.1 1994, 3.2.4)

We only have one set of eyeballs. Even though an eye injury may not be "life threatening," life as we know it would certainly be threatened without being able to see. Believe it.
Washington in Review  By Peter Gerstenberger

Changes in the Legislative and Regulatory Landscape

Sen. Jim Jeffords (R-VT), a lifelong Republican, officially became an Independent on May 24, throwing Congress in turmoil and giving Democrats a one-vote Senate majority as well as control of committee and subcommittee chairmanships. Jeffords' decision will drastically change the way the Bush administration, as well as our industry and others, works with Congress.

Jeffords' announcement means Democrats and Republicans will have to renegotiate the Senate's current organizing resolution (S.Res. 8) that provided equal party representation on committees. Democratic took control of the Senate on June 6, giving them leadership posts for the first time since 1994.

Democrats offered Jeffords the Environment and Public Works Committee chair upon his switch. Sen. Olympia Snowe (R-ME), and other Senate colleagues told reporters the senator has been frustrated with the GOP over a number of his issues, including a potential threat to the Northeast's dairy compact and increased funding in certain educational areas.

Before he made his party switch, Jeffords chaired the Senate Health, Education, Labor and Pensions Committee with oversight of the Occupational Safety and Health Administration. The full committee was made up of 10 Republicans and 10 Democrats.

Sen. Edward Kennedy (D-Mass.), the ranking Democrat, will take over the chairmanship vacated by Jeffords.

Sen. Paul Wellstone (D-Minn.) will chair the HELP Subcommittee on Employment, Safety, and Training, replacing Sen. Michael Enzi (R-Wyo.) (31 OSHR 501). The employment subcommittee has more direct authority over OSHA and job safety issues, and had four members from each party.

At the start of the 107th Congress, party leaders Daschle and Lott agreed that if the makeup of the Senate changed, the new majority party would have just a one-seat advantage. Still, some Republicans were uneasy that Democrats would try to seek seats beyond the one-seat advantage.

One issue left unresolved is whether committees will grow in size by adding a Democrat, shrink by removing a Republican, or change in size altogether.

On the regulatory front, the Senate confirmed Linda Fisher as deputy EPA administrator prior to its Memorial Day recess. Still pending are other EPA nominations resulting from a "hold" by Sen. Reid (D-NV) over concerns he has raised with EPA Administrator Whitman. Fisher, formerly the government affairs vice president with Monsanto, will be Whitman's top managerial and policy assistant.

Mitchell Daniels, the new head of the White House Office of Management and Budget (OMB), recently told a House joint committee hearing that oversight of "cost-benefit" economic impacts of new regulations will be "strongly enforced" in the current administration. The OMB director said his agency will abide by the Unfunded Mandate Act that requires justification for federal regulations that place financial burdens on industry and governments.

Peter Gerstenberger is vice president of business management, safety and education for the National Arborist Association.

The Kan-Du Stump Grinder ...

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


Please circle 72 on Reader Service Card
SURVIVAL OF THE Fittest

The Natural Selection when you're up against hostile environments, unexpected hazards and you need constant readiness. Under these conditions, only the strong survive. Track down a RACINE product. You'll discover a prevailing species of efficient, heavy-duty, low pressure hydraulic tooling and evolutionary designs specifically for the job at hand.

Witness the Power. Versatility, Stamina. Watch for RACINE tool's Nimble, Lean, Fast and Quieter characteristics. Wonder at their long life expectancy... just what you'd expect in such a prime specimen.

For RACINE products call: 1-800-763-3843.
Let the Show Begin!
TCI EXPO 2001 visits Columbus, Nov. 1-3

What is your company's biggest challenge? If you have an established business, it's a safe guess the answer is finding employees. The problem isn't new, nor is it about to go away. The question is, what can we do about it?

Where can you turn for new ideas to enhance your company's recruitment and retention? Where can you talk with industry leaders who have faced the same challenges? TCI EXPO 2001 in Columbus, Ohio, Nov. 1-3, may hold some of the answers.

The Smart Manager Series program offers two seminars, "Hiring and Retaining Talented Employees in the New Millennium" and "Careers in Arboriculture," that offer fresh ideas on finding and retaining your valuable employees. And there is no better place to recruit the next generation of arborists than at EXPO's Job and Internship Fair (see article on page 7).

The Expert Practitioner Series features well-known industry specialists from around the country who will address new standards and practices, as well as offer insights on long-standing industry challenges. Two in particular, "Building a Company Safety Program" and "Tree Failure Risk Assessment for the Climber," will help everyone in arboriculture improve their safe work practices. This series offers ISA CEUs for certified arborists.

Last but not least, there is the trade show itself. You will find the latest equipment, products, and services ready for review. More than 100,000 square feet of exhibit space will be packed with the products your company needs to thrive. Your employees will have an opportunity to increase their potential and expand their horizons at the live climbing and rigging demonstrations on the trade show floor. The cost is the price of admittance: $15 for those who register before Oct. 5.

Below is a detailed look at all of the exciting events scheduled for TCI EXPO 2001.

Keynote Address
Fifteen Ways to Motivate Your Employees, Increase Productivity, and Improve Morale - Jean Seawright Pileggi
Jean operates one of the most respected management consulting firms in the nation and is the author of the renowned Employment Genie, the employment system of choice for small businesses. Known for her unique and visionary approach to everyday business challenges, Jean will share with you her acclaimed 15 secrets to motivating employees, increasing productivity, and improving morale! Using the insights, inspirations, and proven principles that she has applied to her successful consulting ventures, Jean will offer clear, passionate guidelines on reaching for and achieving new heights in your business through people. Don't miss it!

Expert Practitioner Series
Putting the Revised A300 Pruning Standards to Work for You - Sharon Lilly & Dr. Thomas Smiley
The A300 Pruning Standard was extensively revised this year. Learn how you can use this powerful tool to improve the quality of your work and the professionalism of your organization.

Building a Company Safety Program - Joseph Tommasi & Peter Gerstenberger
If you’re like most tree operations, you may hold pieces of the safety puzzle, but you don’t know how they all fit together in a cohesive program. Tommasi and Gerstenberger are going to share the outline and content of the NAA’s Model Company Safety Program.

Tree Planting Guidelines and Managing Soils - Dr. Bonnie Lee Appleton
Learn how to recognize the symptoms of problems relating to planting and/or site. Learn the steps in planting trees properly so you can educate your crews and your clients, limit your call-backs, and improve the overall health of your clients’ trees and your client relations.

Tree Failure Risk Assessment for the Climber - Joe Bones
The Bartlett Company wrote some of the original guidelines for Risk Tree Assessment by crew workers. Now they’ll be sharing the next generation of information generated by their laboratory research and field experiences.

Young Tree Planting - Larry Costello
As a practicing arborist pruning trees, you’ll achieve better tree results and greater customer satisfaction with less wear and tear on your crews and equipment if you learn to start with structural pruning when trees are still young. Dr. Costello will introduce you to a five-step process to train young trees with proven, positive results.
Dick Miller knows that having the right tools for the right job can make all the difference.

He prides himself on your success.

Providing you with:
- Fast Reliable Service
- The Right Tools for the Job
- Expert Advice
- A Great (Free!) Catalog
- Professional Tools for the Tree-Care Industry: Hand Tools to Climbing Gear, Pruning Supplies to the Latest Diagnostic Equipment.

Call Now! 800-441-8381
or fax: 888-441-8382

Dick Miller knows that having the right tools for the right job can make all the difference.

Please circle 7 on Reader Service Card

TREE CARE INDUSTRY - JULY 2001

27
**Events & Seminars**

**July 11, 2001**  
N.J. Chapter of ISA  
N.J. Certified Tree Expert Exam  
Rutgers University  
New Brunswick, N.J.  
Contact: John Perry (732) 833-0325

**July 14, 2001**  
Michigan Forestry & Park Association  
Tree Identification Workshop  
Michigan State University  
Contact: (517) 482-5530

**July 16-17, 2001**  
PLCAA  
12th Annual Legislative Day on the Hill and Cemetery Project  
Washington, D.C.  
Contact: PLCAA (800) 458-3466

**July 18, 2001**  
Evening with NAA - UK  
Visit to Gristwood & Toms  
Shenley, Herts - Chipper Safety  
Contact: Jean Leslie, phone: +44 (0) 1794 512367, fax: +44 (0) 1794 512376, e-mail: Leslie@natlarb.com

**July 18-22, 2001**  
Turfgrass Producers International Summer Convention and Field Day  
Westin Harbour Castle  
Toronto, Ontario, Canada  
Contact: TPI, (800) 405-8873

**July 19-20, 2001**  
Dr. Alex Shigo  
“The Mission: Better Tree Care through Better Understanding of Tree Life”  
Portsmouth, N.H.  
Contact: Jeff Ott, (800) 841-2498

**July 19, 2001**  
Professional Grounds Management Society – D.C. Branch and the Northern Virginia Nursery & Landscape Assoc.  
Green Industry Field Day & Tradeshow  
American University  
Washington, D.C.  
Contact: Mary Bean (703) 250-1368

**July 20, 2001**  
Conference on Woody Plants  
The Scott Arboretum  
Swarthmore, PA  
Contact: (610) 388-1000 x 507

**July 21-23, 2001**  
TPI Summer Convention & Field Day  
Spokane, Wash.  
Contact: (800) 405-8873
July 26-27, 2001
Emerald Expo
Green Industry Trade Show & Seminar
Seattle, Wash.
Contact: Julie Ellenhorn (877) GREEN55

August 12-15, 2001
International Society of Arboriculture
ISA Milwaukee 2001 Conference & Trade Show
Midwest Express Center
Milwaukee, Wisc.
Contact: (217) 355-9411

August 15, 2001
Ohio Turfgrass Foundation
Turfgrass Research Field Day
Ohio State University West Campus
Columbus, Ohio
Contact: (888) 683-3445 or visit www.ohioturfgrass.org

August 22, 2001
National Arbor Day Foundation
Trees and Utilities Seminar
Alexandria, La.
Contact: (888) 448-7337 or www.arborday.org

September 11-12, 2001
Michigan Forestry & Park Association
Annual Summer Meeting
Multi Lakes Conservation Camp
Contact: (517) 482-5530

September 12, 2001
Virginia Tech's Hampton Roads
Agricultural Research & Extension
Field Day
Virginia Beach, Va.
Contact: Bonnie Appleton,
(757) 363-3906

September 13, 2001
Wisconsin Arborist Association
Summer Workshop &
Tree Climbing Championship
Madison, Wis.
Contact: Jesse Zieminski,
(262) 542-0404; email: atetrees@aol.com

October 2, 2001
Washington Landscape
Trade Show & Field Day
Western Wash. Fairgrounds
Puyallup, Wash.
Contact: (800) 883-2186

October 18-21, 2001
Student Society of Arboriculture
6th Annual SSA Conference & Job Fair
Clemson University, South Carolina
Contact: www.uwsp.edu/stuorg/ssa or www.isa-arbor.com or e-mail Tim Walsh, SSADirector@att.net

November 1-3, 2001
National Arborist Association
TCI EXPO 2001
Greater Columbus Convention Center
Columbus, Ohio
Contact: Carol Crossland, (800) 733-2622; crossland@natlarb.com

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

---

**Pro Arborists Bars & Chains**

Upgrade your pro arborist saw with the fastest cutting bar and chain available. ArborPRO bars have sturdy 4 rivet noses and a wide contour body to give you much greater life than stock bars. WoodsmanPRO chain is a super aggressive .370 x .050 low profile chain that gives you excellent performance for limbing in a tree. Long cutter gives you plenty of sharpenings also. Both are available exclusively from Bailey's.

### Bars & Chains for Echo®/Poulan®/Husky® Saws

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>APM 12 30LP45</td>
<td>12&quot; Chain for Echo/Poulan/Husky (45 drive links)</td>
<td>$7.95</td>
</tr>
<tr>
<td>APM 14 30LP52</td>
<td>14&quot; Chain for Echo/Poulan/Husky (52 drive links)</td>
<td>$8.95</td>
</tr>
<tr>
<td>APM 16 30LP56</td>
<td>16&quot; Chain for Echo/Poulan/Husky (56 drive links)</td>
<td>$9.95</td>
</tr>
<tr>
<td>APM 12 SJ50</td>
<td>12&quot; Bar for Echo/Poulan/Husky</td>
<td>$14.95</td>
</tr>
<tr>
<td>APM 14 SJ50</td>
<td>14&quot; Bar for Echo/Poulan/Husky</td>
<td>$15.95</td>
</tr>
<tr>
<td>APM 16 SJ50</td>
<td>16&quot; Bar for Echo/Poulan/Husky</td>
<td>$16.95</td>
</tr>
</tbody>
</table>

### Bars & Chains for Stihl® Tree Saws

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>APM 14 30LP50</td>
<td>14&quot; Chain for Stihl (50 drive links)</td>
<td>$8.95</td>
</tr>
<tr>
<td>APM 16 30LP55</td>
<td>16&quot; Chain for Stihl (55 drive links)</td>
<td>$9.95</td>
</tr>
<tr>
<td>APM 14 MS50</td>
<td>14&quot; Bar for Stihl</td>
<td>$15.95</td>
</tr>
<tr>
<td>APM 16 MS50</td>
<td>16&quot; Bar for Stihl</td>
<td>$16.95</td>
</tr>
</tbody>
</table>

World's Largest Mail Order Woodsman Supplies Company - Selling at Discounted Prices with Over 5,000 Products in our TN & CA Warehouses.

Call Now for a Complete Listing of Bars and Chains and Our FREE Full-Color 116 Page Year 2001 Catalog!

---

**Pro Arborists Bars & Chains**

Upgrade your pro arborist saw with the fastest cutting bar and chain available. ArborPRO® bars have sturdy 4 rivet noses and a wide contour body to give you much greater life than stock bars. WoodsmanPRO® chain is a super aggressive .370 x .050 low profile chain that gives you excellent performance for limbing in a tree. Long cutter gives you plenty of sharpenings also. Both are available exclusively from Bailey's.

### Bars & Chains for Echo®/Poulan®/Husky® Saws

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>APM 12 30LP45</td>
<td>12&quot; Chain for Echo/Poulan/Husky (45 drive links)</td>
<td>$7.95</td>
</tr>
<tr>
<td>APM 14 30LP52</td>
<td>14&quot; Chain for Echo/Poulan/Husky (52 drive links)</td>
<td>$8.95</td>
</tr>
<tr>
<td>APM 16 30LP56</td>
<td>16&quot; Chain for Echo/Poulan/Husky (56 drive links)</td>
<td>$9.95</td>
</tr>
<tr>
<td>APM 12 SJ50</td>
<td>12&quot; Bar for Echo/Poulan/Husky</td>
<td>$14.95</td>
</tr>
<tr>
<td>APM 14 SJ50</td>
<td>14&quot; Bar for Echo/Poulan/Husky</td>
<td>$15.95</td>
</tr>
<tr>
<td>APM 16 SJ50</td>
<td>16&quot; Bar for Echo/Poulan/Husky</td>
<td>$16.95</td>
</tr>
</tbody>
</table>

### Bars & Chains for Stihl® Tree Saws

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>APM 14 30LP50</td>
<td>14&quot; Chain for Stihl (50 drive links)</td>
<td>$8.95</td>
</tr>
<tr>
<td>APM 16 30LP55</td>
<td>16&quot; Chain for Stihl (55 drive links)</td>
<td>$9.95</td>
</tr>
<tr>
<td>APM 14 MS50</td>
<td>14&quot; Bar for Stihl</td>
<td>$15.95</td>
</tr>
<tr>
<td>APM 16 MS50</td>
<td>16&quot; Bar for Stihl</td>
<td>$16.95</td>
</tr>
</tbody>
</table>

World's Largest Mail Order Woodsman Supplies Company - Selling at Discounted Prices with Over 5,000 Products in our TN & CA Warehouses.

Call Now for a Complete Listing of Bars and Chains and Our FREE Full-Color 116 Page Year 2001 Catalog!

---

**Pro Arborists Bars & Chains**

Upgrade your pro arborist saw with the fastest cutting bar and chain available. ArborPRO® bars have sturdy 4 rivet noses and a wide contour body to give you much greater life than stock bars. WoodsmanPRO® chain is a super aggressive .370 x .050 low profile chain that gives you excellent performance for limbing in a tree. Long cutter gives you plenty of sharpenings also. Both are available exclusively from Bailey's.

### Bars & Chains for Echo®/Poulan®/Husky® Saws

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>APM 12 30LP45</td>
<td>12&quot; Chain for Echo/Poulan/Husky (45 drive links)</td>
<td>$7.95</td>
</tr>
<tr>
<td>APM 14 30LP52</td>
<td>14&quot; Chain for Echo/Poulan/Husky (52 drive links)</td>
<td>$8.95</td>
</tr>
<tr>
<td>APM 16 30LP56</td>
<td>16&quot; Chain for Echo/Poulan/Husky (56 drive links)</td>
<td>$9.95</td>
</tr>
<tr>
<td>APM 12 SJ50</td>
<td>12&quot; Bar for Echo/Poulan/Husky</td>
<td>$14.95</td>
</tr>
<tr>
<td>APM 14 SJ50</td>
<td>14&quot; Bar for Echo/Poulan/Husky</td>
<td>$15.95</td>
</tr>
<tr>
<td>APM 16 SJ50</td>
<td>16&quot; Bar for Echo/Poulan/Husky</td>
<td>$16.95</td>
</tr>
</tbody>
</table>

### Bars & Chains for Stihl® Tree Saws

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>APM 14 30LP50</td>
<td>14&quot; Chain for Stihl (50 drive links)</td>
<td>$8.95</td>
</tr>
<tr>
<td>APM 16 30LP55</td>
<td>16&quot; Chain for Stihl (55 drive links)</td>
<td>$9.95</td>
</tr>
<tr>
<td>APM 14 MS50</td>
<td>14&quot; Bar for Stihl</td>
<td>$15.95</td>
</tr>
<tr>
<td>APM 16 MS50</td>
<td>16&quot; Bar for Stihl</td>
<td>$16.95</td>
</tr>
</tbody>
</table>

World's Largest Mail Order Woodsman Supplies Company - Selling at Discounted Prices with Over 5,000 Products in our TN & CA Warehouses.

Call Now for a Complete Listing of Bars and Chains and Our FREE Full-Color 116 Page Year 2001 Catalog!
Preserving Trees & Soil During Construction

By David Schwartz

Construction damage has become one of the most serious enemies of trees. Contractors kill trees in a few different ways. They scrape the soil that contain roots, tearing them and exposing them to pathogens. Then they add soil so the already damaged roots are smothered and can no longer provide the tree with nutrients. To finish the job, earth-moving equipment is driven inside of the dripline of the tree, compacting the soil so the pore space is reduced or eliminated. Thus begins the death of a tree.

To many developers, saving trees means little more than not cutting them down initially. It is not realized that trees are living entities with life processes. If trees are to be saved, their life processes have to be noted and respected.

In Rhode Island where I live, construction...
I first saw it in the mid-1970s, when a development company bought a former girl's school with the idea of building a residential neighborhood. By the time they were done, many of the sugar maples were dead. They named the development "The Arboretum."

Big trees have come under assault by a lot of different agents, but construction damage has been the most serious. For example, one time while on the job, a young lady called me to tell me that her trees "didn't look good." The first question that I asked was, "How old is your house?" When I learned it was only a year old, I immediately suspected construction damage.

At her house I found 40- and 50-year-old sugar maples that were just getting to the point where they would start making a maximum contribution to her property. The grade had been changed during construction. As we all know, once the grade is changed, trees begin to decline and die. The company that developed this woman's house was also building on another property down the street (shown in photo on bottom of page 30).

Construction damage in Rhode Island is completely epidemic today. It occurs in almost every new development. I can ride around to any development in Rhode Island and see poor preservation practices that will kill the trees eventually. By the time people move into their new houses, they will have a beautiful, smooth even front yard with sod, and seed in back. A year later the homeowner will call me to report that their trees "don't look so good."

**Irreparable soil damage**

Soil also plays a key role in construction damage. As harmful as construction damage is, it is merely a symptom of the death of the soil.

Many times we have the scenario where a developer goes into a new parcel of land, scrapes out 6 inches of soil, and sells it. Correcting this soil damage will take nature 3,000 years: according to the USDA, it takes nature 500 years to create an inch of loam. The small amount of soil that is replaced will not

---

**AUTO CLUTCH**

Industrial Spring Loaded PTO

655 Wheat Lane
Wood Dale, IL 60191
Ph 800.456.AUTO(2886)
Fax 800.432.9745
www.autoclutch.com

• Take replacement clutch cost out of your chipper's cost of ownership.
• The New Standard with the leading chipper manufacturers.
• Ask for AUTO clutch on your next chipper order.
• Call us for pricing on replacement clutch kits.
• No more worries! From the side load killer!
support plant life. Instead, the practice creates high-maintenance deserts of tomorrow.

Plant life, which was once abundant with no help from man, will now only survive with maximum irrigation, fertilization and pesticide use. What sort of soil amendment is it going to take to restore this soil to a workable level?

We are also going through an epidemic of over-mulching in our area. If mulch is piled around the base of any plant - in excess of 4 inches or touching the bark - it will kill the roots, because the existing root system will be deprived of air, causing it to root into the mulch. Mulch will not perform the functions of soil.

If bark is kept constantly moist, it will draw in many pathogens and borers. As a result, trees that somehow manage to survive construction damage are being killed by over-mulching.

Most arborists know this, but most mulch is spread by homeowners or landscapers. Educate them.

There are too many instances of construction damage to count. The photo on the right shows construction in a development called The Meadows in South Kingstown, R.I. You can see the Schwedler maple that they are "saving." The construction equipment under it, the scraping and the piling are killing it.

At left, the Schwedler maple is in a state of decline shortly after construction of the development is completed.

ADI HYDRAULICALLY POWERED PRUNING TOOLS

- Full line of loppers, circular saws, and chain saws.
- Four lengths to choose from.
- Light weight and durable.
- Can be operated on an open or closed center hydraulic system.
- Insulated models for line clearance work.
- Unique patented spool system to eliminate heat generation.

Unique Inline 360° swivel for easy tool twisting.

Dealer Inquiries Welcome

Tol Incorporated, 955 East Levin Ave. Tulare, CA 93275 USA
Phone: (559) 686-2844, 1-800-732-2142 Fax: (559) 685-1006
E-Mail: contact@tol-inc.com Web site: www.tol-inc.com

Please circle 1 on Reader Service Card
The picture on the left shows a 125-year-old white oak in the village of Hope, R.I. The Department of Environmental Management told the developers that in order to get a septic permit, they had to fill the tree 3 feet. One year later, the picture on the right shows the tree dead.

Again, on the left, we are reminded of what the developments used to look like. People actually knew how far away to plant plants and trees from the foundation of a house or another tree. On the right, we are reminded of the all-too-common tree-poor developments of today.

Trees add value to homes

A Realtor who is also a member of the Conservation Commission in Coventry, R.I., did a cost comparison on older homes with trees vs. newer homes without trees. The two houses that were compared were basically identical. The house built in an old-style development where plants can still grow and the trees live easily went for $13,000 more than the newer home.

In another instance, an older house with trees went for $44,000 more than a comparable new house. Also, the newer home was on the market for 241 days and the older home was on the market for only nine days. The Realtor calls it “curb appeal.” People visit the prospective home and wonder if that particular home will be a nice place to bring up children. One house will support plant life, the other will not.

I see too many new homes on barren sites. It wasn’t always so. Take a drive...
At right is another very interesting scenario. This development won an award for ecological design. This is in Coventry, R.I. The following is the criteria for this ecological award:

**ORIGINALITY:** How does the plan present a visionary approach or innovative concept that expands the envelope of accepted planning principles?

**QUALITY:** To what extent does the plan show excellence of thought analysis and application of ethical planning and natural resource planning principles? How were available resources used in a well-conceived and appropriate format?

**COLLABORATION:** Indicate the use of foresters, landscape architects, conservation by design principles, rural design manuals, best management practices, stewardship plans and other professional tools.

**EDUCATION:** How has the program been used to increase the understanding of the relationship between the built and natural environments?

This educated me quite a bit. The people that moved into this development are pretty upset. They not only have thousands of dollars of removals—which comes out of their own pockets—but they are being deprived of the contribution that the trees make.

On one particular job, my company was called to a new development where the houses sell for $265,000 to $400,000. We could not dig holes in the soil with a shovel; it had to be done with a stump grinder. We installed a beautiful Lion's Mane Maple, a very rare Japanese Maple, and we made the hole 10 feet wide. All of the planting that we did was with replacement soil. It was in actuality container planting. Planting in this plat was difficult because there was no soil. In such a scenario, planting is senseless without major soil replacement. Prior to our arrival, the developer had a landscaper plant ornamental trees in the subsoil with the burlap left on, and to complete it the nylon string was not removed. If by some chance the tree survived the conditions that it was thrown into, the nylon would surely finish it off.

Guidelines to protect trees

There are no viable tree ordinances in Rhode Island. We need strictly defined tree ordinances, because clearly developers won't or don't have the knowledge to develop properties in ways that save valuable shade trees. I have a lot clearing/tree preservation guideline that was submitted by a developer and accepted by two towns in Rhode Island. Here are the highlights:

* Any tree that is to be preserved will have a ribbon marked "Do not cut."
* An aluminum nail shall be placed in the trunk 36 inches above existing grade to monitor filling and cutting activities.
* There shall be no stockpiling of soil for more than four days under the dripline of any tree to be preserved.
* Any tree that has cutting or filling under the dripline in excess of 8 inches, or shows mechanical damage that will result...
TAILGATE SAFETY

ORDER TODAY!

Cost-Effective Training

1-800-733-2622
www.natlarb.com

60 Vital Safety Topics Available in Spanish

Please circle 53 on Reader Service Card
in the decline in the health of the tree, may be removed prior to final grading.

* It should be noted that trees might decline and die for reasons other than damage resulting from the construction process.

These guidelines, as I see it, are a recipe for disaster coupled with a disclaimer.

We, as arborists, must educate all involved parties that current construction methods are a recipe for disaster.

I think about stewardship. Stewardship is training and taking the treasures of the past, respecting and treating them gently enough so that our children and grandchildren can appreciate being under a mature tree. They can enjoy climbing trees and the wonderful feelings that appreciating nature’s gifts can produce.

David Schwartz is the owner of Schwartz Tree Care, Inc., in Cranston, R.I.

---

Here we see the way things used to be. This is from a 200-year-old farm in East Greenwich, R.I. This tree is 60 feet tall and 80 feet wide. Back then, people used common sense to determine how far away plants and trees needed to be from the foundation of a house or from another tree.

---

**Protect Your Lawns from equipment damage**

Specify AlturnaMATS® . . .

the Original black drive-on mat

When removing trees or just pruning them, use AlturnaMATS to protect your customers' lawns. These popular mats are easy-to-use and can save you thousands of dollars in needless restoration costs. The heavy cleat design gives your vehicle great traction.

- Leaves your lawns smooth, even in soft soil conditions
- Minimizes expensive ground restoration fees
- Tough, 1/2" thick polyethylene with heavy cleat design on both sides
- Can be made smooth on one side for special applications
- Lasts through years of hard use . . . even at extreme temperatures
- 4'x8', 3'x8', 2'x8', 2'x6' & 2'x4' sizes available
- NEW! 4-ply outrigger pads 2'x2', 3'x3' & 4'x4'

For the name of your nearby distributor, call 888-544-6287
814-827-8884

Ask for AlturnaMATS by name!

AlturamaMATS®
P.O. Box 344 • Titusville, PA 16354
alturnamat@aol.com

Please circle 6 on Reader Service Card
While this study guide has been developed for use by candidates for ISA Arborist Certification, it has also been immediately recognized as an invaluable addition to any reference library. With more than 220 pages of information and 237 illustrations and photos, it provides a ready reference for arborists on all levels.

Each chapter of the guide contains:
- objectives for study
- list of new terms
- narrative with illustrations/photos
- workbook section
- other suggested sources of information
- challenge questions
- sample exam questions.

Chapter Topics
Chapter 1: Tree Biology
Chapter 2: Tree Identification
Chapter 3: Tree/Soil Relations
Chapter 4: Water Management
Chapter 5: Tree Nutrition and Fertilization
Chapter 6: Tree Selection
Chapter 7: Installation and Establishment
Chapter 8: Pruning
Chapter 9: Tree Support and Protection Systems
Chapter 10: Diagnosis and Plant Disorders
Chapter 11: Plant Health Care
Chapter 12: Tree Assessment and Risk Management
Chapter 13: Trees and Construction
Chapter 14: Safety
Chapter 15: Climbing and Working in Trees
Glossary of Arboricultural Terms
Handy New Index

To order, call toll-free
(888) ISA-TREE
As a practicing arborist, perhaps you’ve encountered some variant of the following scenario. You are invited out to bid on a tree removal. The tree turns out to be dead and potentially very hazardous to a climber, and to make matters worse, it cannot be accessed with either a crane or aerial lift. The tree poses a threat to the people and property around it. What would you do?

Six years ago, the National Arborist Association Safety Committee formed a Hazard Tree subgroup to develop solutions that reduce the risk of working with hazardous trees that are not accessible through conventional methods and equipment.

With more trees becoming hazardous and the knowledge that tree climbers are getting hurt and/or killed while climbing/working in such trees, the committee felt that people in the industry should be making a more concerted effort to better understand and be able to deal with hazardous trees.

Among the Subgroup’s more active members are its chair Rip Tompkins of ArborMaster Training in Rhode Island, Scott Prophett with Arborguard Tree Service in Atlanta, and Norm Hall with Hendrickson the Care of Trees in Chicago.

One of the ways that the Subgroup hopes to accomplish their goals is by creating a list of various types of equipment available—along with the rental yards and dealers that carry it—and make this known to the tree care industry.

What the subgroup chose to focus on was not the “ordinary” hazardous tree removal where conventional equipment and techniques could be brought to bear. They set their sights on trees that defied all conventional means of removal. For example, some of the ideas that group has discussed and continues to explore are: alternative aerial lifts, free standing or guyed towers, scaffolds, cranes, gin poles, helicopters, guying trees, explosives, balloons, floating crotch, and man lifts designed for confined spaces.

Another of the Subgroup’s ideas was to solicit ideas from readers of TCI magazine. If the idea catches on, each month there would be a column to ask the reader “What would you do?” with photos and scenarios. Responses would be printed in the next month’s publication. The Subgroup decided to kick off this initiative by presenting a scenario and gathering the ideas of arborists at TCI EXPO 2000 in Charlotte, North Carolina. Here is the scenario presented, and some of the solutions suggested.

A large green ash leans precariously in a remote area of a city park, inaccessible to aerial lifts and other mobile equipment. It is bounded on one side by a tennis court and power line, and has a light pole and well-used bike path directly in the path of its fall. The root system is obviously failing, there are numerous structural flaws in the trunk and main limbs, and the canopy is dying. What would you do?
Ken Conaster - Valrico, Fla.

The job would require a climber, a rigger, a ground person and a loader driver as well as a chipper and loader truck, chainsaws and miscellaneous hand tools. Have the utility disassemble the light pole and move it out of the drop zone. Set up a transverse line to the nearest viable tree so that all the climber’s weight isn’t in the hazard tree. Starting in the top, cut limbs and drop them.

Jim Chastain - Tampa, Fla.

The job would require a climber, two ground people, a chipper and truck, a chainsaw, a bull rope and a throw line. No tree is worth a human life. I’d have the power company disconnect the power to the light, place heavy boards on tires over the walk, shoot a line into the tree, send a running bowline on the bull rope to the top, cut the tree at its base and guide the fall. The sidewalk may have to be repaired if it is damaged.

Paul Bunyan Tree Service - Lusby, Md

Unusual equipment required would be a towable man-lift that can be pushed by hand. The tree would be sectioned down as with a normal bucket removal, except that the tree would be guyed to the fence posts behind it.

Tom Procter - Security, Co.

Requires an experienced crew of four, a scissor lift that can negotiate the walkways and plywood to drive on. Start by coning off and barricading the area. Remove the light and the tennis court fence and drop the power line. Guy the tree with cable to a point on or behind the tennis courts. Use power pole pruner and pole saw to reach outlying limbs, prior to removing the heavier sections with a false crotch and lowering device. Another option would be to use a helicopter and vertical saws like those used in some rural right-of-way clearing operations.

We hope that you will share your hazard tree pictures and stories with fellow readers in an upcoming issue of TCI. In the meantime, having heard of balloon use somewhere in France, Scott Prophert is in hot pursuit of yet another idea to contribute to this effort.

LOWEST PRICES ON THE MARKET

G & A EQUIPMENT, INC.

1-800-856-8261

KNOXVILLE, TN

Visit Us At: www.gandaequipment.com

1991-1994 Top Kick chip trucks, new paint, low miles, gas, nice!

$13,900—$17,900

1992 • $39,400; 1993 • $42,400

Over center, Forestry Bucket Trucks, aerial lift of conn., diesels, low miles.

1994 Ford Bucket w/55° w.h.
material handler, rear mounted, flat bed, A/C, diesel, auto, 65k miles $41,500

55° w.h. Asplundh LR-50, 1989 F-700, gas, 5 speed. $28,500

1986-1987 Ford Buckets w/55° w.h. material handlers, rear mounted, diesels $25,500—$27,500

1992-1993 GMC top kick buckets, LR-3, 60° w.h., gas, pony motors, low miles, new paint. $42,500—$46,500

1986 Chevy, overcenter, material handler, air compressor, diesel, auto. $18,500

57° w.h. Hi-Rangers, 1986 Ford, Forestry Unit, Diesel $26,500

EXPAND YOUR FINANCE OPTIONS!

OBL Financial Services, Inc. is offering the Utility and Tree Care Industries the best available financing alternatives (for your new and used truck & equipment investments).

Please circle 33 on Reader Service Card

Please circle 55 on Reader Service Card
Much has been said and written about the disappearance or death of the family business. For the record, in commercial arboriculture the family business is alive and well. While consolidation has finally arrived in tree care—and to a greater extent landscaping—there are no Wal-Marts or Home Depots threatening to wipe out the local, family-run tree care company.

Since the family business enjoys a time-honored tradition in the United States, federal tax laws bestow a number of benefits on those who know how to structure their businesses appropriately. On the other hand, couples may find themselves in trouble without sound advice.

A married couple in business together may not be aware that our laws and tax rules consider them jointly liable for the income and debts of the tree care operation. Even in those situations where the married couple is aware of their liability and may have formalized the relationship by incorporating the business or forming a legal partnership, quite a few potential pitfalls remain for the unaware.

Under our complex and often confusing tax rules, there is no one “right” way to structure a business entity. The choices range from sole proprietorships to partnerships and even two choices of corporations, regular and the small business or “S” corporation, which is treated much in the same manner as a partnership for tax purposes. There is even the increasingly popular limited liability partnership (LLC), an entity offering the limited liability of a corporation and the pass-through tax effects of a partnership.

The legal question of liability of a spouse involved or not involved in the other spouse’s business is one best left to local legal experts. In the tax arena, however, the subject of spouses and family members must be considered.

**Spouses and family members**

Every business owner has different priorities. One tree care professional may be concerned with estate taxes some years down the road and feel that an incorporated business will reduce that eventual estate tax bite. (Yes, the tax bill recently signed by President Bush slowly reduces and eventually abolishes the estate tax. Whether that law will survive revision over the next ten years is open to question.) Another tree care professional and his or her spouse will be concerned with building up the required number of Social Security “quarters” for a spouse employed in the business operation. Still another arborist may prefer to split the operation’s current income among family members in order to reduce the bite of taxes.

**Payroll taxes and self-employment**

As a general rule, most arborists operating as sole proprietorships are liable for Social Security (FICA) as well as income tax withholding—even on wages paid to a spouse working in the tree care business. Wages that an arborist pays to his or her children working in the business are subject to income tax withholding but exempt from FICA if the child is under the age of 18.

Keep in mind that mere ownership, or joint ownership, of business property
does not automatically qualify a spouse for self-employment tax purposes. Thus, if a professional and spouse are personally operating a tree care business that they hold as joint tenants, the net profits are, generally, all treated as one partner’s net earnings from self-employment.

Ordinarily, an individual who owns a tree care or landscape maintenance business may create a “working family” by employing his or her spouse and paying the spouse a salary. Employing one’s spouse can be an extremely attractive method for splitting the family’s income in such a manner as to take full advantage of our tax system.

If handled properly, the employer gets a tax deduction for the compensation paid to a spouse while the spouse receives taxable cash income and, in some cases, other economic benefits such as insurance coverage, vehicle, pension plans, etc. with no or a low tax price to the tree care business.

Obviously, no employer can claim a legitimate income tax deduction if his or her spouse does not actually perform services for the operation. Nor can a tax deduction be taken if the services rendered bear no reasonable relationship to the amount of compensation paid. What’s more, in order for that spousal compensation to be tax deductible in full by the employer, it must also be “reasonable.”

In order to be considered reasonable under our tax rules, the compensation paid to the spouse must be in accord with the prevailing rate for comparable positions in the area.

In the event that the compensation paid is determined by the IRS to be excessive, the employer’s deduction will be lost to the extent that the amounts paid exceed reasonable compensation.

Another tax consequence of “spreading” the operation’s income between a husband and wife is to reduce the self-employment tax that the owner must pay on his or her own self-employment income.

This so-called “income-dividing” is subject to the reasonable compensation rules. But, assuming the operation’s burden of proof can be met, the reduction of combined family employment tax liability will be, once again, substantial.

Remember, however, that the employee-spouse who is not covered under the Social Security Act will not be earning credits for the normal Social Security benefits as do other compensated employees. In addition, the self-employed spouse with reduced earnings will be compiling proportionately fewer Social Security retirement benefits unless that spouse earns enough to pay the maximum in Social Security taxes for the year ($80,400 maximum earnings base for 2001).
Partners

Were the spouse is a partner in a partnership, the partnership entity is not legally required to withhold income tax from any distributions made to that partner. However, that partner may be subject to self-employment tax on any distributions.

Under our tax rules, a partnership does not exist where a spouse who assists in the tree care business does not actually participate in, or have a right to participate in, the management of the business – even where profits from the operation are treated as family funds.

As a rule, a person working as an employee for a partnership in which his or her spouse is a partner is considered to be an employee of the partnership, not of the spouse – and Social Security taxes must be paid on every employee’s wages.

While there is not a substantial income tax advantage for any arborist forming a husband/wife partnership simply to shift the tree care operation’s income from one spouse to another, this type of partnership may be desirable for another reason. Keep in mind that a husband/wife partnership entitles the so-called “non-working” spouse to Social Security retirement benefits as a result of the self-employment tax payable on partnership income. The IRS has agreed that such partnerships are valid for this purpose.

Although shareholders of a so-called “S” corporation are treated much in the same manner as partners, they are not subject to the self-employment tax on their share of the S corporation’s ordinary income that is attributable to the operation of the tree care operation.

Similarly, when it comes to determining the applicability of Social Security tax to employment, a person working for a regular corporation in which his or her spouse owns stock is considered under our tax rules to be an employee of the corporation – not of the spouse. Remember, a corporation is considered to be a completely separate, taxpaying entity for tax purposes. In fact, this is true even in those situations where the spouse is the sole shareholder of the corporation.

Estate taxes

The necessary trappings of passing the ownership of a family business to the surviving heirs using such devices as wills, trusts and estates, are best handled by legal experts. Within the tax arena, the Tax Relief Reconciliation Act of 2001, gives the appearance of repealing the estate tax. In reality, the new law repeals the estate tax for one year – 2010. Due to budgetary restrictions, the new law allows the current estate tax rates, rates and exemptions to come back in force in 2011. Whether they will is anyone’s guess at this point.

Thus, under the new law, estate taxes continue – albeit with an increasing exemption from $1 million to $3.5 million through 2009 – until 2010, when it is repealed only for that year. The estate tax rules continue to exert control over the business entity by dictating how it must be handled upon the death of one or both spouses. Those tax laws have placed a ceiling on the amount which one spouse may receive, tax-free, upon the death of the other spouse.

Today, a tree care company owned solely by one spouse would be passed in its entirety to the other spouse (ignoring wills, insurance and many other factors). The full value of that business would become part of the arborist’s estate and taxed accordingly. If, however, the spouse were a joint partner or joint shareholder in the operation, only part of the business would be included in the estate and subject to estate taxes.

Many arborists are not aware that their businesses may be operating as family businesses for tax purposes. In order to both profit and avoid the potential pitfalls, planning – early and often as things change or the family tree care business grows – is essential for a good and profitable working relationship and a low tax bill.

Mark E. Battersby is a tax and financial advisor, freelance writer and columnist. His syndicated weekly column on topical small business tax matters is carried by more than 60 newspapers.
1990 to 1997 International 4900's
DT466 Engine, 5-7 Speed, 33,000 GVW,
New Royal Forestry Body, Cormach
Knuckleboom Crane, Painted you color.

1994 Ford F700 Lo Pro
Cummins Turbo Diesel, Allison Auto-
matic, 23,900 GVW, AC, New Royal 14 ft.
Body with Removable Lids. $23,900

1994-1996 Freightliner Forestry Trucks
Cummins Turbo Diesel, 5 Speed
Transmission, 25,500 GVW (No CDL),
14 ft. Royal Forestry Body, Sharp trucks!

1990 Int'l 8100 Deluxe Forestry Package
Cummins Del, 9 spd, 32,000 GVW, New
14 ft. Body, Hoist, New Cormach 6600 E2
Knuckleboom, Ext Bumper for Winch.

1996 Freightliner FL60 Chip Truck
Cummins Turbo Diesel, 5 Speed, 25,500
GVW, New Royal 14 ft. Body with Re-
movable Lids. Ready to work. $27,900

1995 GMC Topkicks
3116 CAT, Allison Automatic or 5 Speed,
25,950 GVW, with Flatbed, Stake Body,
or Royal Forestry Body. From $19,900

Royal Truck Carries Cormach Cranes
The finest cranes in the industry.
Unbeatable quality and value especially
when mounted on a Royal chassis.

1990-1997 Intl Knuckleboom Trucks
10 to 16 ft. Royal Forestry Body with
Removable Lids, New and Used Cranes.
Let Royal build the perfect truck for you!

Royal Truck Carries Cormach Cranes
The finest cranes in the industry.
Unbeatable quality and value especially
when mounted on a Royal chassis.

New Royal heavy duty landscape bodies
mounted on clean, low mileage chassis.
Over or Under CDL, Automatic or
Manual Transmission. All makes.

Custom Built Landscape Bodies
Built To Your Specs
Mounted on our large selection of clean
chassis. Call Royal Truck today.

1995 GMC Topkick Dumps
3116 CAT, 25,950 GVW, Allison Auto or
5 Speed, New 10 ft. 5-7 yd. Rugby Dump
Body, Hoist. Painted your color. $24,900

Toll Free 1-800-283-4090

Royal Truck & Equipment
6910 Route 309 • Coopersburg, PA 18036
Phone (610) 282-4090 • Fax (610) 282-8986
www.royaltruckequip.com
Featured Course

"Plant Appraisal Workshop"

Online Arborist Education will:

- Improve your professionalism
- Fit self-improvement into your schedule
- Provide cost-effective training

... all conveniently delivered to your home or office PC

Presented by: American Society of Consulting Arborists

in association with: International Society of Arboriculture
National Arborist Association
Prioritizing Risk Trees in a Community

By Brian Kane, Dr. H. Dennis P. Ryan and Dr. David V. Bloniarz

Tree wardens, community arborists and urban foresters are responsible for maintaining park and street trees that are safe from problems that could lead to property damage or injury. The literature offers a general consensus about what makes a tree hazardous and how to rectify the risks once identified. Without exception, published references agree that a hazard tree must contain both a structural flaw - which could cause the tree, or part thereof, to fail - and a target of some value. In addition, a tree may be a hazard if it stands in an environment that might contribute to the potential for failure. Examples would be sites that are prone to high wind or wet soils.

Another problem that tree wardens must consider when inspecting for risk trees are trees planted too close to street signs, traffic lights, or street lighting, because branches obscuring such signs or lights could lead to traffic accidents or personal injury. Trees in urban and suburban areas can also create hazards to pedestrian and vehicular traffic with low branches that block sidewalks or streets. The minimum street clearance for thoroughfares is 14 feet. This is enough to allow standard-sized tractor-trailers to pass without encumbrance. Sidewalk clearance is most often on the order of 10 feet. Nevertheless, one can walk or drive through many neighborhoods, urban and rural, and find streets and sidewalks without the specified clearances.

Trees can also present a hazard in community settings with their roots. Planted too close to sidewalks and curbs, trees may grow roots that can interfere with adjacent physical infrastructure. Tree roots searching for oxygen, water, and nutrients will upset concrete sidewalk slabs quite easily. This is especially obvious when trees are planted in the utility strip, where soil conditions are frequently poor. In search of better growing conditions, tree roots travel under the sidewalk to nearby residential lawns. Over time, the roots grow in diameter and lift up the sidewalk, creating a trip hazard. Given our culture's current fondness for litigation, such a trip hazard has the potential to result in a large lawsuit.

A final hazard that trees present to
communities deals with utility lines, above and below ground. Utilities across the country spend over $1 million per day clearing power lines along roadways. In spite of this, power failures often occur as the result of tree-related damage. Here again, the trees are presenting a problem that is not necessarily the same as a hazard tree structural failure. In severe weather, even structurally sound trees are apt to fail. From this introduction, it should be clear that every community needs to prioritize its tree risk potential in a systematic way.

Community Tree Management Program

It is essential that a community’s tree risk management program be systematic. This point cannot be overemphasized. In a court of law, a plaintiff must prove negligence on the defendant’s part in order to win a lawsuit. Negligence arises from:
1. the responsibility to maintain safe trees in the community;
2. a subsequent breach of that responsibility, such as when a hazard tree is not removed;
3. damage or injury resulting from the breach of responsibility. For example, if the hazard tree failed and damaged a car.

In many instances, it is impossible for a municipality to remove all the potentially hazardous trees in its streets and parks. It therefore must abide by the reasonable person standard. The standard is used to judge if an action was reasonable and prudent. In other words, would a reasonable person, given the same situation, have behaved similarly? The best way for a community to obey the reasonable person standard is to develop a written, systematic procedure for locating and evaluating potentially risky trees. Because it is not feasible for a community with limited financial and personnel resources to remove every potentially hazardous tree, having a systematic procedure, in writing, is the best defense against negligence. The procedure should detail a rating system that prioritizes trees based on their risk of failure and potential to cause damage. The procedure should also provide a standard timeframe for inspecting, on some level, the community’s trees.

Inspection Cycle

It is reasonable for a community to inspect their street trees annually (park trees and open space trees are not included here, because their target ratings are usually less than for street trees). The extent of the inspection will vary, given available resources, but some form of inspection should occur annually. For many cities, this might be purely a windshield survey, where the urban forester drives each city street in the course of a year and looks for major and obvious defects in trees. As long as the procedure is standardized, systematic, and established in writing, a municipality can justify this inspection system given a limited budget. With adequate funding and labor, towns can undertake more intensive surveys, spending more inspection time on each tree. It’s important that – at a minimum – every tree be inspected using the visual windshield survey method. One exception is trees in low priority areas. After undertaking an initial hazard tree inventory, the urban forester can de-prioritize areas of the
community where target risk is so low that tree failure is extremely unlikely to cause damage. If it is reasonable to do so, surveying high-risk areas, like a downtown business district, should occur more frequently than undeveloped nature areas. This is reasonable prioritizing, designed to reduce tree risk. This type of prioritization has been implemented for recreation and park areas and is also useful in a community setting.

**Inspection Process**

An evaluator must inspect each part of the tree, crown, stem, and roots, especially if root damage is suspected. The tree should be viewed from all sides, although a windshield survey might miss something on the side of the tree facing away from the road. The inspector should proceed in the inspection in the same manner each time in order to achieve a pattern of investigation that will help make comparisons to other trees and defects.

The next section introduces crown, stem and root defects that are common to municipal trees. Municipalities that do not have qualified arborists on staff who can perform this type of tree inspection should contract with a consulting arborist to do the inspection each year. A list of commercial arborists is available from the National Arborist Association at 800-733-2622 or www.natarb.com.

In the crown, the inspector looks for problems with the branches. These can come in the form of broken, hanging branches; cracked branches; branches with significant decay or cavities; or dead branches. It is recommended that a threshold for defective branch size be established, generally around two inches in diameter (conforming to the ANSI A300 pruning standard for crown cleaning). Smaller defective branches may be present, but do not present a hazard risk. Weak branch crotches are also a common defect in street trees. Depending on the size of the branches involved, the stress on the crotch can be severe. In a recent survey of New England arborists and tree wardens, most respondents listed weak crotches and decay in the top three most common tree defects.

Weak crotches are a leading cause of branch and whole tree failure. They can be found not only between the stem and a lateral branch, but also between codominant leaders in a decurrent tree. Because tight, "V-shaped" crotches with included bark have little sound wood holding the branches together, they are more likely to fail when subjected to wind stress or snow load. In fact, as the branches continue to increase in girth, if annual rings cannot envelop both branches, the included bark acts like a plate preventing the stems from supporting one another. Eventually, the respective girths push each other apart enough to cause cracking or failure. Visually, included bark appears as a disappearance of the branch bark ridge one normally detects between stem and branch. It appears as if the branch bark ridge has been pulled back into the branch/stem union.

Stem and branch defects are commonly associated with wounds that lead to decay and open cavities. Cankers and cracks, common in park settings, are less

---

**Join A Winning Team!**

**Opportunity**

For over 30 years ECI's Family of Companies has been the world's leading provider of vegetation management solutions for the electric utility industry. We are currently seeking energetic professionals who enjoy working outdoors and value the freedom of working independently. Opportunities are now available for:

- Turnkey Project Managers
- Utility Arborists
- Vegetation Surveyors
- Auditors
- Work Planners
- System Arborists
- Supervisors
- Coordinators

**Qualifications**

Qualified candidates must be self-motivated and have the ability to work outdoors in remote areas and rugged terrain. A Degree in Forestry or a related field is desired, but not necessary, and we will consider equivalent experience in the green industry. Utility Line Clearance experience and certification as an ISA Arborist is a plus. Proficiency in tree/vegetation identification and PR/Customer Service skills is essential.

**Career**

If you enjoy a fast-paced environment and the challenges of a rewarding profession, consider a career in vegetation management with ECI's Family of Companies. Our exciting career opportunities include an excellent compensation package and ongoing growth potential.

**Application**

For consideration, please send your resume and salary requirements to:

**ECI's Family of Companies**
**Attn: HR**
**Job code: ECI07**
**P.O. Box 293**
**Southampton, PA 18966**
Fax 800.871.1308, hr@eci-consulting.com

Please circle 29 on Reader Service Card

**ECI's Family of Companies is an Equal Opportunity Employer.**
of a problem for street trees. Vehicular contact and vandalism are more likely causes of wounds on street trees. Again, certain decay thresholds need to be established, such as the 30 percent strength loss limit for considering a tree hazardous. With decay, trees can be up to 70 percent hollow before they approach the 30 percent strength loss threshold. With cavities, trees can have an open cavity between one-third and one-half of the stem circumference before reaching the 30 percent strength loss threshold.

As a tree defect, wood decay has received close scrutiny. Decay is common on tree trunks, branches and roots because any time bark ruptures the decay process can proceed. Dr. Walter Shortle of the USDA Forest Service called decay in living trees the most damaging disease for all species around the world. Dr. Thomas Smiley and Dr. Bruce Fraedrich of the Bartlett Tree Expert Company have published that they consider decay to be the most common hazardous defect of urban trees. Decay undermines wood strength properties. Each tree warden needs to determine just how much decay the community is willing to live with, since there is no national standard at this time.

In the root zone, the tree warden should look for cut roots, decay on the root crown, soil heaving or root plate lifting, and fruiting bodies in the soil indicative of root rot fungi. Trees that have lost up to one-half of their root systems should be considered hazardous. Sometimes root crown investigations are insufficient, and the inspector must excavate around the root crown to look more closely at the buttress roots. Trees without a root flare (they appear to go into the ground like a telephone pole) must be carefully evaluated below the ground, since root flare defects might have been hidden by the excess soil piled around them.

Ultimately responsible for a tree's structural stability, the roots also provide water and dissolved minerals from the soil. Large, woody roots offer support and anchor the tree; tiny root hairs and mycorrhizae absorb nutrients and water in the soil. Root damage or loss accounts for a large percentage of tree deaths and failures. Through a variety of injuries caused by construction, installations of irrigation systems, improper drainage, and soil compaction, roots can sustain exorbitant amounts of damage. Often, root injuries are covered with grass, fill, or concrete and this successfully hides the severity of the damage. This creates an especially dangerous situation since a casual tree examination can easily overlook the root system. Symptoms of root damage are manifested in the crown by poor growth, thinning and chlorosis of the foliage, as well as a general decline starting from the top of the tree. Other visible signs of root damage include bleeding wounds on the trunk; loose, peeling bark around the stem buttress; sunken areas around the lower stem and buttress; girdling roots and adventitious roots growing above the root flare, and cracks extending into the stem from the soil line. Any time an inspector notices recent roadwork, landscaping, irrigation system installation, or paving near a tree, they should inspect the root system for potential damage.

A final flaw to look for is the presence of a lean. Trees will lean as a result of various external forces. Competing for light or in reaction to prevailing winds, some trees naturally lean away from others. Leaning trees reacting to natural forces have built up reaction wood to compensate for the lean; this is not a hazardous situation. When trees show signs of leaning, but have gradually straightened up over time, this too is usually not a hazardous situation. These trees leaned due to a past impetus, but by straightening, they have regained apical dominance and, in
Basal decay on a street tree. At what point do you remove the tree?

most cases, will ultimately balance the crown. In scenarios where trees are unnaturally leaning, however, a hazard results. Poor soil conditions, mounding and cracking of the soil behind the leaning tree, and exposed roots protruding from the soil all manifest an unnatural lean, where the tree is in danger of completely falling over.

In addition to the structural defects listed above, the tree species is a closing element to consider when determining a tree’s hazard potential. Different species have different wood characteristics. Oaks generally have strong wood, which is less likely to fail than a tree with weak wood, such as willow. Because of this, similar defects on different tree species will not necessarily represent similar risk. Different species also have varying abilities to compartmentalize wounds. Certain species are prone to forming poor branch attachments, such as silver maple and American beech. Some are less likely to fail than others. The inspector must be knowledgeable regarding local trees and their growth habits.

Assessment System

Given all the data an inspector would collect from the defects listed above, it is imperative that a priority rating system be used in order to develop a risk-management strategy for a community’s trees. This way, the inspector can assign numerical rating values to each defect and target. For example, a simple rating system would rank defects in terms of their likelihood to cause failure: a rating of 1 means low failure probability; a rating of 3 means high failure probability. Next, the inspector ranks the size of the defective part: a rating of 1 indicates a small defective part (between 2 and 5 inches diameter); a rating of 3 indicates a large defective part (greater than 10 inches diameter). The inspector then evaluates the target from two perspectives – the likelihood of it being damaged if a failure occurred and the amount of damage likely to be incurred from a failure. Lastly the inspector would take into consideration the tree species. These variables would also be ranked 1 through 3, with 1 indicating a low damage probability and small amount of damage and 3 indicating a high probability of damage and a large amount of damage occurring. When totaled, the numerical values would fall between 3 and 12, lending an idea of the hazard priority of each tree. Using this rating system, a community will have identified problem trees and have them ranked by number. The tree warden could then start work on the trees highest ranked, reducing a municipality’s potential liability.

Assessment systems can be as detailed or simple as preferred. Simple systems that account for fewer variables are less powerful for analysis and prediction, but would require less time and effort on the inspector’s part. Currently, there are several forms for ranking trees being used by arborists. The International Society of Arboriculture has published a reference book on hazard trees, and the park agencies of California and Minnesota have been using a system designed for their parks for many years.

The Community Tree Evaluation Form that is attached to this article (See page ??) was first developed by Jill Pokorny of the USDA Forest Service St. Paul, Minn. It has been modified by the authors over the last three years with input from the New York State Department of Environmental Conservation, the
Massachusetts Department of Environmental Management and the Massachusetts Tree Wardens and Foresters Association. The intention was to give tree wardens and community foresters an easy-to-use and cost-effective tool designed for the efficient evaluation of street trees.

Corrective Action

Identifying hazard trees and then ignoring them undermines the original intent of performing the evaluation. Managers should establish hazard tree correction measures based on thresholds from the rating system. In other words, numerical or verbal ratings should correspond to a given remedial action to mitigate the problem. Corrective treatments, pruning, cabling, tree removal, moving the target, augmenting tree vigor, and excluding visitors from hazardous sites are some of the options. Astute tree managers will explore all possible ramifications of any corrective action. Community opposition to removals will vary, so an urban forester must be willing to explore different options for hazard reduction.

Corrective actions depend on what part of the tree is likely to fail, how likely it is to fail, and what special significance the tree might hold. Despite being hazardous, certain trees demand preservation efforts because of their historical, cultural or physical significance. An excellent example is the Balmville Tree in Orange County, New York. Although most consulting arborists agreed the tree was hazardous, residents of the community expended considerable effort and financial backing to preserve the tree because of its historical significance. In many cases, hazard tree correction can be as simple as moving playground equipment.

Conclusion

Some communities are under the impression that if they don’t know about a hazard tree, then they are not responsible when it fails. Nothing could be further from the truth. In a 1994 court case in Connecticut, for example, Judge Anne C. Dranginis ruled that "all property owners – state and private, city and rural – have the legal obligation to inspect their road or streetside trees for age, condition or weakness that might make them a hazard to passersby."

The key to a community’s tree inspection and maintenance program, then, is to establish a systematic protocol for assessing the community’s trees. The procedure should be formalized in writing and should contain methods for assigning values for tree defect severity, size of defective part, target value, and probability of defective part damaging a target. This is the most efficient way to manage hazard trees and reduce a community’s exposure to liability from a tree failure.

Brian Kane is a certified arborist and Ph.D. candidate at the University of Massachusetts researching risk tree analysis. Dr. H. Dennis P. Ryan is Professor of Arboriculture & Community Forestry at the University of Massachusetts, Amherst. Dr. David V. Bloniarz is an Urban Forester and head of the USDA Forest Service Northeast Center for Urban and Community Forestry at Amherst.
Preventing Maintenance Accidents with Brush Chippers

Brush Chipper Operation & Maintenance

As a chipper operator, your safety and that of your co-workers and bystanders depends on your ability to properly operate and maintain the equipment. Using caution and following proper safety practices can help you avoid serious injury or even death. Do not allow untrained people around the unit, and always supervise inexperienced operators.

Types of Chippers

Although there are many manufacturers of chippers, there are three basic types. The first type is a rotary drum chipper. With a rotary drum chipper, the operator feeds the brush directly into the cutters. The cutters pull brush through and chip it simultaneously. The second type is a disc knife chipper. The disc knife chipper uses hydraulic-powered feed wheels to push brush into the cutting wheel. The feed wheels (rollers) can be stopped and even reversed. The third type is almost a combination of the first two: it is a drum chipper with a mechanical infeed.

Chipper inspection

Here’s a list of items to check before you start, operate or tow the chipper:
- operator’s manual - contains important, specific information for every chipper
- safety decals - illegible decals must be replaced
- crankcase oil and engine coolant levels
- belt tension
- hydraulic fluid (if applicable)
- hydraulic fittings and hoses (if applicable)
- shields and guards
- missing or broken parts
- fuel tank (no smoking, please!)

Hooking up

Always get help when you have to hook the chipper to the work vehicle. Never stand between the chipper and the truck when it is backing.

Checklist for transporting chippers

- Grease the trailer hitch to prevent wear.
- Raise the tongue to the proper height and attach the hitch securely to the towing vehicle.
- If your chipper has an adjustable-length tongue, make sure its pin is secured.
- Keep your feet out from underneath the tongue when using the jack. A lot of weight rests on the jack. Make sure it is stable.
- Never stand on the tongue to force coupling.
- Be sure that the tow vehicle hitch is at a height that keeps the chipper more or less level. If the chipper leans too far backward, it may not tow properly.
- With the hitch attached, secure the jack in its transport position.
- Always hook safety chains to the vehicle by crossing the chains under the tongue, allowing enough slack to avoid binding when making turns.
- If your chipper is equipped with an electric run-away brake switch or hydraulic surge brake cable, make sure it is functioning and that it is attached with enough slack so that a sharp turn won’t activate it.
- Make sure the discharge chute is rotated to the correct transport position and locked in position. If the chipper has a folding infeed chute, be sure it is folded and secured.
- Plug the trailer’s electrical connection into the truck.
- Check brake and highway lights to make sure they work.
- Check the tire pressure.

Driving and backing with a chipper

Always drive safely and observe all towing ordinances. Remember that pulling a trailer weighing several thousand pounds will increase the time and distance it takes to stop.

Back up with a chipper is tricky, particularly when the driver’s rear vision is partly obscured. If you need to back up with the chipper in tow, one member of the crew should stand outside the truck to help guide the driver.

Setting up and positioning the chipper

Once at the job site, make sure to set the chipper up in a safe location. If working from streetside, place warning cones and signs or use a flag person to alert oncoming traffic. Wear reflective or high visibility clothing. Keep all bystanders clear of the working area.

Never set up a chipper directly beneath a tree that your crew is pruning or removing.

Provide enough room on the side of the chipper for the operator to maneuver while feeding brush.

If you leave the machine hooked to the towing vehicle, make sure the vehicle is turned off, the parking brake is engaged, and the wheels are chocked. When unhooking a chipper, be sure its wheels are chocked. If your chipper is equipped with rear jack stands, lower them.

Starting the chipper

Before you start the chipper, be sure:
the clutch is disengaged
the chip discharge chute is pointed in a safe direction
the chipper hood lock pin or hood bolts are secured
the infeed hopper is free of tools or foreign objects
the feed bar is in neutral on hydraulic feed chippers
all personnel are clear of the machine

PPE for chipping
It is extremely important to wear the proper safety clothing when operating a chipper:
- a hard hat
- eye protection (separate face protection is recommended)
- sturdy work boots
- loose-fitting, non-gauntlet gloves are recommended
- hearing protection
- You must:
  - avoid wearing loose clothing
  - keep long hair, shirtsleeves and shirttails properly contained
  - avoid wearing necklaces, rings, watches, or any other item of jewelry; neckties; gauntlet-style gloves; clothing or protective equipment that increases the chances of being caught on brush
  - remove your climbing saddle, body belt or harness before chipping brush
- Now you’re ready to start the chipper. Follow the manufacturer’s guidelines for starting the motor and engaging the clutch.
- After you start the chipper:
  - idle the engine to warm it up
  - slowly engage the clutch
  - raise the engine RPM to full throttle
  - check the operation of the feed bar and hydraulic feed wheels

Engaging and disengaging the clutch at high RPM or slipping the clutch will quickly wear out clutch plates or belts as well as bearings. If the clutch engages too easily, it may need to be adjusted.

Check the feed control bar (if equipped) for proper operation before you begin chipping.

Pulling the bar toward the rear of the chipper will push material into the machine. Pushing the bar to the farthest forward position reverses the feed system.

Operating the chipper
You are now ready to begin chipping! Always try to feed material from the side of the infeed hopper. If you are working on the street, be aware of traffic, and try to always work from the curbside. Limbs
to excavate plant roots in minutes, without root damage.

AIR-SPADE® is used in general plant care and maintenance, new construction, locating utilities, and many other applications.

- Digs over 50% faster than other air tools
- Can be used in heavy clay, and compacted soils
- Ergonomically designed with a lightweight body
- Easy to maintain, spare parts readily available

Used by tree care companies, municipalities, contractors, consultants, and arboricultural professionals all over the world.

Visit our website or see articles in TCI May 2001 issue

Concept Engineering Group, Inc. (CEG)
888-55-SAFEX (888-557-2339)
www.air-spade.com; E-mail: ceg@air-spade.com

Stacking brush

Brush for the chipper should be stacked in a way that makes it easy and convenient for the operator to feed the chipper. In most cases, that means that the butt ends of the brush should face the chipper infeed.

Take care not to let the brush become a trip hazard for the operator in the immediate vicinity of the chipper infeed. Keep walking paths and work areas as clear as possible.

Feeding brush

When possible, chipper operators should feed material into the chipper from the side of the infeed chute to minimize being struck by the material. On chippers with mechanical infeed, feeding from the side puts the operator within easy reach of the feed control bar.

Always feed the larger or butt end of the branches into the chipper first.

If branches are fed into the chipper the wrong way, they can become wedged in the disc knife chipper's throat past the feed wheels, making it very difficult to back the material out. By always feeding the butt end first, the feed wheels will open up to allow smoother operation. Lateral branches will catch on the edges of the infeed chute of the drum chipper, causing the chipper to sever the branch rather than pull in the entire branch.

When feeding large limbs into a rotary drum chipper you should hold the brush end of the limb higher than the butt. The limb will slide forward into the blades. When feeding small limbs, throw them into the blades. In both cases let go of the brush before your hands cross the plane of the hopper and before the brush hits the chipping blades. After you feed material into the machine, pivot your body and turn your face away in one continuous motion.

When feeding into a rotary drum, you should push small material against the blades with a long limb. You can also lay the material on the feed table and shove a long piece of brush in after it.

Vital safety points!
- Never reach or kick into the infeed hopper of a chipper for any reason!
- Never attempt to unclog, service or
CHIPPERS SO GOOD
WE **DOUBLED** THE WARRANTY

2
YEARS
ON ALL MORBARK COMPONENTS

Nine Heavy Duty Models
Disc and Drum Style

**ISN'T IT TIME YOU LOOKED AT A MORBARK?**

MORBARK
THE CHIPPER COMPANY
800-831-0042 www.morbark.com

Call or check our website for the location of your nearest dealer.

Please circle 51 on Reader Service Card
You couldn't chase the arborists we know up a tree without their Wesco Highliners. No way. A person builds trust in a boot that offers serious support and a rigid sole - one that will keep the old heels from getting painful climbing spurs. Your Wesco Highliner is the genuine article, no doubt about it. Anyone who thinks we put the leather side patch, steel side plate, and recessed metal heel breast plate on for decoration knows cuddly about safety or c

Call for a free catalog or shop for your Wescos online at www.westcoastshoe.com.

"Boots That Stand The Gaff"™
THE HIGHLINER
TOLL FREE 1-800-326-2711
(U.S. and Canada only)

WESCO IS AN ASSOCIATE MEMBER OF
THE NATIONAL ARBORIST ASSOCIATION

Photograph of Wesco Highliner

Simple safety solution: a padlock used to secure the disk cover lock pin.

An engine kill switch installed on a disk cover lock pin provides an extra measure of safety.

When it comes to choosing your creature comforts, there's just no substitute for a fine boot.

You couldn't chase the arborists we know up a tree without their Wesco Highliners. No way. A person builds trust in a boot that offers serious support and a rigid sole - one that will keep the old heels from getting painful climbing spurs. Your Wesco Highliner is the genuine article, no doubt about it. Anyone who thinks we put the leather side patch, steel side plate, and recessed metal heel breast plate on for decoration doesn't know diddly about safety or comfort.

Call for a free catalog or shop for your Wescos online at www.westcoastshoe.com.

"Boots That Stand The Gaff"™
THE HIGHLINER
TOLL FREE 1-800-326-2711
(U.S. and Canada only)

WESCO IS AN ASSOCIATE MEMBER OF
THE NATIONAL ARBORIST ASSOCIATION

Photograph of Wesco Highliner

Simple safety solution: a padlock used to secure the disk cover lock pin.

An engine kill switch installed on a disk cover lock pin provides an extra measure of safety.

When it comes to choosing your creature comforts, there's just no substitute for a fine boot.

You couldn't chase the arborists we know up a tree without their Wesco Highliners. No way. A person builds trust in a boot that offers serious support and a rigid sole - one that will keep the old heels from getting painful climbing spurs. Your Wesco Highliner is the genuine article, no doubt about it. Anyone who thinks we put the leather side patch, steel side plate, and recessed metal heel breast plate on for decoration doesn't know diddly about safety or comfort.

Call for a free catalog or shop for your Wescos online at www.westcoastshoe.com.

"Boots That Stand The Gaff"™
THE HIGHLINER
TOLL FREE 1-800-326-2711
(U.S. and Canada only)

WESCO IS AN ASSOCIATE MEMBER OF
THE NATIONAL ARBORIST ASSOCIATION

Photograph of Wesco Highliner

Simple safety solution: a padlock used to secure the disk cover lock pin.

An engine kill switch installed on a disk cover lock pin provides an extra measure of safety.

When it comes to choosing your creature comforts, there's just no substitute for a fine boot.

You couldn't chase the arborists we know up a tree without their Wesco Highliners. No way. A person builds trust in a boot that offers serious support and a rigid sole - one that will keep the old heels from getting painful climbing spurs. Your Wesco Highliner is the genuine article, no doubt about it. Anyone who thinks we put the leather side patch, steel side plate, and recessed metal heel breast plate on for decoration doesn't know diddly about safety or comfort.

Call for a free catalog or shop for your Wescos online at www.westcoastshoe.com.

"Boots That Stand The Gaff"™
THE HIGHLINER
TOLL FREE 1-800-326-2711
(U.S. and Canada only)

WESCO IS AN ASSOCIATE MEMBER OF
THE NATIONAL ARBORIST ASSOCIATION

Photograph of Wesco Highliner

Simple safety solution: a padlock used to secure the disk cover lock pin.

An engine kill switch installed on a disk cover lock pin provides an extra measure of safety.
PROBLEM: Economically Converting Waste Into Useable Products

SOLUTION: BANDIT

The BEAST has become the most popular waste reduction machine on the market for so many reasons:

- Low operating costs
- Energy efficient
- Up to 650 HP
- Reduces green waste, leaves, brush, stumps, whole trees, pallets, C&D, railroad ties, new shingle waste, asphalt and more to a consistent end product of varying sizes and consistencies
- Self-propelled unit available with 325 CAT undercarriage

MODEL 3680 BEAST RECYCLER

By Immacacy

MODEL 1850 TRACK BANDIT

Towable or Self-Propelled

18" x 19" capacity chippers that will convert an 80' whole tree to chips in under a minute.

MODEL 280 BRUSH BANDIT

Hand-Fed

Disc-style chippers in 6", 9", 12", 14" and 18" diameter capacities are highly efficient and extremely versatile.

MEGABYTE

The ultimate stump and log shear attachment with a wide 9'2" opening and dual pivoting shear.

BANDIT INDUSTRIES, INC.

6750 MILLBROOK ROAD • REMUS, MI 49340
PHONE: (800) 952-0178 OR (989) 561-2270 • FAX: (989) 561-2273
E-Mail: brushbandit@eclipsetel.com • Website: www.banditchippers.com

WO# 6707
Guidelines for an OSHA-Compliant Lockout/Tagout Program
(OSHA 1910.0147)

This factual incident, and others like it, is the reason for this article: Recently, a tree care supervisor trained on chipper operations was seriously injured when a chipper disk cover struck him. The employee knew the danger of the spinning disk and had in fact warned others not to open the cover until the wheel had come to a complete stop. His employer’s safety manual covered the issue and the chipper itself had several stickers warning against opening the cover before the wheel quit turning. After being opened, the chipper disk cover contacted the spinning disk and was violently propelled through the air, striking the employee.

The employee is likely to be permanently disabled. OSHA investigated and cited the employer for not having an adequate Lockout/Tagout program. The case is pending.

When your employees do maintenance or mechanical work – even if it is just clearing a jam in a chipper - there are safety precautions they must take to prevent injury caused by the accidental release of stored energy. Examples of stored energy commonly encountered in the arborist's work environment include hydraulic/ pneumatic pressure, raised truck beds, and moving parts on equipment such as chippers and stump grinders. Failure to do so could result in a serious, potentially maiming or fatal injury.

As a first line of defense, anyone performing maintenance or repair has to comply with manufacturers’ recommended procedures, and any piece of equipment being serviced or repaired must not be started, energized or used by any worker.

As an employer, you need to make sure you have an adequate Lockout/Tagout written policy and procedure, training that is documented and consistent with your policy, and enforcement and re-training to ensure behavior that is consistent with your policy and training.

Maintenance must be performed by the person(s) you authorize, and they should receive that authorization only after demonstrating that they have the knowledge and ability to perform the maintenance safely.

The following is a general Lockout/Tagout procedure for arborist operations:

Sequence for securing equipment
1. The authorized person shall notify the crew and/or affected employees that maintenance/repair is to be done and that such equipment must be shut down and secured.
2. The authorized person shall refer to the manufacturer's manual for proper procedures (as needed).
3. If equipment is in operation, shut it down by normal procedures.
4. Keyed ignition systems must be in working order. Keys shall be removed and pocketed by the foreman or mechanic. When there is no keyed ignition system, the battery cables or spark plug wires may be disconnected.
5. Materials/parts that must be raised or disconnected and suspended shall be properly secured, such as with an appropriate sling or jackstand. Flywheels, such as chipper cutter heads, are to be blocked to prevent pinch points.
6. Disengage the power take-off before servicing/repairing, such as with hose replacement. Disconnect all hydraulic tools before adjusting or servicing. Do not attempt to stop a hydraulic leak with your body.
7. Rotating parts, such as chipper blades, shall be stopped before maintenance/repair.
8. Ensure that equipment is isolated and will not operate before proceeding with maintenance/repair.
9. When the engine must be running for tuning or adjustment, special care must be given to moving parts.

Restoring equipment to service

When maintenance/repair is complete and equipment is ready to return to normal operation, the following steps shall be taken:
1. Check for loose parts or tools that may have been left in the immediate area to prevent accidental contact with moving or electrical components when the equipment is engaged.
2. Ensure that all guards are in place and employees are in the clear.
3. Confirm that controls are in neutral.
4. Reconnect key, cable or plug wires.
5. Notify affected employees that equipment is ready to return to service.

Training requirements

The following is taken directly from the OSHA Standard.

Training and communication. (i) The employer shall provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. The training shall include the following:

A. Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
B. Each affected employee shall be instructed in the purpose and use of the energy control procedure.
C. All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

The specific Control of Hazardous Energy requirements established by the Occupational Safety and Health Administration (OSHA) may be obtained by consulting 29 CFR 1910.147 or by writing: Department of Labor, OSHA, 200 Constitution Ave. NE, Washington, DC 20210.

 Portions of this article were excerpted from Annex C5, Control of Hazardous Energy, from ANSI Z133.1-2000 Standard for Tree Maintenance safe work practices. Copies of the Z133 Standard are available from the National Arborist Association, www.natarb.com or 1-800-733-2622.
STUMP CUTTERS

2500-4
- 25 Horsepower • Self Propelled
- Full Hydraulic Control • 35” Width

3500-4
- 35 Horsepower • Compact Tow Behind • Large Cutting Dimensions

3500-4
- 35 Horsepower • 35” Width
- Self Propelled

4400-4
- 44 Horsepower Diesel • Remote Control Available • Most Powerful Portable

7500
- 75 HP Diesel • 1 1/2” Thick 31” Diameter Cutterwheel • Suspension Available • Remote Control Available

Hurricane
- 125 Horsepower Diesel • 6’ Tongue Extension
- Suspension Standard • Remote Control

J.P. Carlton builds the highest quality stump cutters available. For more information, or to arrange a demonstration call: (800) 243-9335.
Postcards. Flyers. Announcements. Newsletters. Designed properly, direct mail promotions make your tree care business sing a joyful song of greater sales. Designed poorly, they fail with a deafening thud: the sound of your customers dropping unwanted mail into wastebaskets everywhere. How can your direct mail campaign whistle a happy tune? Advertising consultants say businesses make a number of common mistakes in direct mail promotions. Let’s see what these mistakes are, and how you can avoid making them.

Mistake No. 1: Sending an impersonal sales pitch

Too often, businesses insert their usual brochures into envelopes, stuff the mailboxes, and hope for the best. Bad move. Here’s why: Of all advertising vehicles, only direct mail creates an intimate communication with your customer. Successful advertisers take advantage of the fact that direct mail is the best medium for cementing ongoing relationships with customers.

“Make your mailing piece as personal as you can,” advises Brad Lehrer, president of Brad Lehrer Designs, Bronxville, N.Y., and winner of the 1995 American Graphic Design Award. “Relate as much
as you can with the interests of the recipients. The idea is to avoid having your mailing look like a direct mail piece. Make it look like a one-on-one communication.”

How? First things first. Don’t use those boring white mailing labels. “You should print addresses right on the envelope,” says Lehrer. “Better yet, use handwritten calligraphy if your mailing announces some special event. Remember that if people see their address has been generated by a mail merge program, they drop your mailing right into the garbage.”

Avoid the common white envelope so often used for business mailings. Pick an attractive paper with a slightly off-white color to stimulate interest.

“Stay away from the usual white envelope, unless you have a graphic that explodes from the paper and attracts the eye,” suggests Joe Shansky, president of Shansky Works, a direct mail design firm in Barrington, R.I.

Shansky also recommends trying an envelope size different from the usual business variety – as long as it conforms to postal service regulations. This will help your mailing stand out from the crowd. Still better is something completely out of the ordinary: “Try mailing tubes,” Shansky says. “They are so different that they create curiosity. They make people want to open them to see what’s inside.”

Cassette mailers serve the same purpose, according to Shansky. People are intrigued by the prospect of listening to what you have to say. The art of personalizing your mailing continues to the last minute when you slap on the postage. Imprint the envelope with a bulk mail indicia and save a bundle? No way.

“Use real postage stamps,” insists Jeff Berner, director of Jeff Berner Creations, an advertising agency in Dillon Beach, Calif. “Tests show they increase response. Because so much direct mail is automatically considered junk, real postage stamps make a favorable impression.” All this personalization pays rich dividends.

“People remember your personalized mailing,” says Robert Imbriale, president of Classique, an advertising firm in Commack, N.Y. “Next time they decide to shop, they think of your business.”

**Bonus tip:** Imprint “A special offer for our regular customers” on the envelope to emphasize the personalized, exclusive nature of the offer.
That reward should be a focused message with a real customer benefit. “You need a clearly defined offer if your mailing is to draw customers,” says Imbriale. Here are some ways to focus your message:

- Introduce a new or improved treatment or service timed for the season.
- Announce a special event, such as a reception for your best customers or a special sale on certain services.
- Enclose a coupon good for a discount if used within the next 30 days. “Such announcements are timely and will stimulate a lot of attention,” says Imbriale. They also add spice to your direct mail recipe.

**Bonus tip:** Focus your message further by restating your offer at the top of your sales flyer, in bold type.

**Mistake No. 3: Making open-ended offers**

“You can increase your direct mail success tremendously by adding a sense of urgency to every mailing,” explains Ivan Levison, an advertising consultant in Greenbrae, Calif. Here are techniques for doing just that:

- **“Hurry! This sale ends on (give a date).”**
- **“Respond by (date) and receive a free gift worth $X.”**
- **“We will honor the first 50 customers with a (name of gift)!”**

Without this sense of urgency, recipients are likely to park your mailing on a shelf where it stays until forgotten. With a deadline in mind, they know they have to take action or lose their advantage.

**Bonus tip:** “Print the deadline on the face of the envelope,” says Levison. “This is one way to get recipients to open the mailing and read what’s inside.”

**Mistake No. 4: Providing insufficient information**

Just what is it about your specific offer that is so great? Thank goodness direct mail gives you enough room to describe your offer in detail. This is in contrast to radio, newspaper and television, which limit your time and space to a headline and a few descriptive words.

“With direct mail, you can go into detail, really selling and building rapport and getting your message told completely,” says Rebecca Dominguez, director of strategic services at Sparks Direct Marketing in Seattle, Wash. Here are some examples of detailed information:

- What are all of the benefits (healthier or safer trees) to be had from the service being advertised?
- Why is this offer being made now instead of six months ago?
- What have other customers said about your offerings? (Include the testimonials you just don’t have space for in a newspaper ad.)
- How can the customer benefit from other services or treatments that build upon the specific offer?

**Bonus tip:** This is a good time to remind old customers of additional offerings. Even your regular customers might not realize you provide services other than pruning or spraying.
Reach. Grow. Succeed.

You depend on your experience, knowledge, and tools to take your business to its most attainable height. So reach for a company with the experience to handle your insurance needs.

For years, The Hartford has helped arborists protect their livelihood through an insurance program designed especially for your industry. Find out why hundreds of arborists across the country have chosen The Hartford to help them achieve their business goals.

Call your agent today.

Growth. Bring It On.

www.thehartford.com/arborists

For details, call: 1-800-533-7824
Mistake No. 5: 
Omitting a sales letter

“Always send a sales letter,” says Imbriale. “It is the part of the package that gets the response.” Recipients will usually read the sales letter first, so it’s vitally important that the letter state the benefit right up front. And the best place to do that is in the headline, which should be at the top of every sales letter. “Some businesses don’t like headlines, but the fact is that 80 percent of the power of the sales letter is in the headline,” notes Steve Veltkamp, president of BizShop in Port Angeles, Wash. “It should state a benefit or a solution to a problem that the recipients have.”

Bonus tip: No room for a sales letter in your self-mailer? Include a brief “note from the manager” in an upper corner of the flyer.

Mistake No. 6: 
Addressing a broad audience

“Your direct mail package has to be targeted,” cautions Imbriale. “Trying to speak to the whole world is bad.”

Among advertising media, direct mail has a unique ability to zero in on specific groups of people. This is in contrast to newspapers, radio and television — all terrific vehicles for broadcasting your message to broad groups of people. Indeed, placing targeted messages in those media would be a waste of money. So whom do you target first? Your best prospects by far are people you have already sold.

“Start a list of your current customers,” advises Dominguez. “In-house lists are gold mines. We are constantly amazed at the number of companies who overlook this. Businesses are often so busy prospecting for new customers that they forget most of their sales come from current ones.”

You can expand beyond your current in-house list, but pick your list carefully to avoid wasting money. It’s all too easy to end up with names outside the chosen neighborhoods where your tree care company operates. “One of direct mail’s major advantages is the way it can target with laser-like precision,” says Dominguez. “Suppose your business gets customers from a five to 10 mile radius. It’s a waste of money to advertise beyond those parameters. “You can also zero in on specific incomes, married people, single people, even people with children. Mailing list brokers will help you select the best list.”

Bonus tip: Invite your regular customers to introduce a friend for a free gift. What a great way to add new names to your in-house list!

Mistake No. 7. 
Mailing infrequently

Out of sight, out of mind. A single direct mail piece is soon forgotten. Wait too long between mailings, and customers move on to other suppliers.

The secret is to maintain a regular schedule of mailings. Some consultants advise mailing to regular customers every six weeks. “We see companies attempting one-shot advertising all the time,” laments James Yates, president of Sparks. “They mail once to their target market, sit back and wait for the money to pour in.”

This thinking is based on the belief that anybody interested will respond immediately. That couldn’t be further from the truth. Any salesman will tell you that few sales are made on the first call. The same goes for direct mail. Years ago, statistics revealed that 80 percent of sales were made on the sixth sales call. Today the competition’s even harder: 80 percent of sales are made between the 10th and 12th call.

The good news is that direct mail offers an economy of scale unmatched by personal sales calls. “Few companies can afford to send sales people out to the same prospect 10 or 12 times,” says Yates. “But most companies can afford to use direct mail to efficiently uncover serious prospects.” Economies are even more favorable when direct mail is used to keep current customers coming back.

“Regular mailings to current customers need not be expensive,” says Veltkamp. Simple postcards and self-mailers will do. These are great media for keeping current clientele happy by announcing seasonal specials and new services.

Mail frequently to regular customers. “Wait too long between mailings and customers start to forget about you,” says Veltkamp. “Your competitor might send something in the meantime. Part of success is being the one who is there with the right proposal at the right time.”

Bonus tip: Customers will not be irritated by your regular mailings if each one includes a new, valuable offer.
WMC
Winter Management Conference
2002

Feb. 12-17
Ritz Carlton Kapalua
Maui, Hawaii

HAWAII
HELP WANTED

TREE CLIMBERS & GROUNDPERSONS NEEDED
Tree Works Environmental Tree Care, Inc. is looking for qualified tree care professionals to become a part of a growing team of arborists. (Groundperson positions also available. Please call.) Applicants must meet the following criteria for consideration:

Must LOVE to climb
Must have current CDL
Must have 3 years experience
Certification a plus

Starting pay is $15.00 per hour, $18.00 per hour for Certified Arborist. Full benefit package. Send resume to: Tree Works ETC, Inc., 3915 Misty Court, Land O’ Lakes, FL 34639. Or for more info contact us at (813) 973-1931 or treeworksetc@iol14.com.

Climbers Wanted
Min. of 3 years experience in all aspects of aerial tree care. Must have or be willing to obtain Class A CDL and ISA certification. We offer top wages, benefits and continuing education. Please call (770) 992-1973 or fax resume to (770) 518-9527 (Atlanta, Ga.).

Climber Foreman

SIMPLY THE BEST

Joining the sales team at The F. A. Bartlett Tree Expert Company guarantees you unlimited growth potential, the use of cutting-edge technology and membership in one of the most prestigious firms in arboriculture.

At Bartlett, we’re not just utilizing the latest scientific advances in tree care we’re pioneering them. Our sales representatives stand head and shoulders above the competition because they’re backed by a team of scientists at the Bartlett Tree Research Laboratories. This gives both you and your customers an advantage you can’t get with just any other tree company.

THE F.A. BARTLETT TREE EXPERT COMPANY

Family-owned since 1907, Bartlett is experiencing rapid growth and expansion. We’re looking for the best and the brightest. Currently we are searching for individuals with a strong desire to succeed as arborist sales representatives in these regions: Northeast, Metro-New York, Mid-Atlantic, Southeast, Midwest, Texas and California.

We offer 401K, medical and dental benefits, flexible spending accounts and one of the most lucrative compensation packages in the industry. Don’t miss this opportunity to become part of the Company that sets the standard for an industry.

Please circle 14 on Reader Service Card
Tree Climbing Foreman Needed
Tallahassee, Fl. Office
Proven Climbing & Leadership Experience Required
Certified Arborist Preferred
Year-Round Work, Full Benefits Package
Paid Vacation & Holidays, Life & Health Insurance
401(k) & Safety Pays Program
Fax your resume to (770) 414-9762
or call (770) 938-0642

TREER CARE
PROFESSIONAL WANTED:

Climber/Leader
Well-established tree service, since 1952, in No. VA Area seeks reliable, dependable, motivated and experienced Tree climber/Crew Leader. Valid driver's license is required. 5+ years experience. Please contact Columbia Tree Service (703) 361-2832.

The New York Botanical Garden
Exciting gardening opportunity in 250-acre botanical garden available for energetic and talented horticulturists to become part of a growing and professional team.

Climber/Pruner will assist in and perform all types of work required for the planting, maintenance and removal of trees and large shrubs. Duties include: climb and prune, plant, transplant, mulch, perform removals, spray and fertilize trees and large shrubs to protect them against insects, fungi and/or parasites; may perform tree inspection as required. Will operate manual and power-driven equipment as well as cars, trucks and other motorized equipment incidental to the performance of the above duties. Must have 6 months of satisfactory experience in tree climbing, pruning, removals, and routine care of trees; Commercial Driver's License valid in NYS, and NYS Pesticide Applicator License. Competitive salary with excellent benefits.

Send resume with salary requirements to:
H.R. Representative
The New York Botanical Garden
200th Street and Kazimiroff Blvd.
Bronx, NY 10458-5126
E-mail: hr2@nybg.org
Fax: (718) 220-6504
AA/EOE/M/F/D/V

Plant Health Care Coordinator
Tree & Plant Health Care Company located in Northern Bergen County, N.J., has a management position open for a Plant Health Care Coordinator. Candidates must have sales & management experience in the green industry, excellent communication & customer service skills and be dedicated to the highest quality of industry standards. Company offers competitive salary & benefits. Send or fax resume to: Ken's Tree Care, Inc., 401 Paulding Ave., Northvale, N.J., 07647 Fax: (201) 768-6758 Phone: (201) 768-0694.

Trim Department manager. We're looking for an organized, self-motivated individual with excellent people skills to help achieve our vision of quality tree care. Our 29-year-old company has knowledgeable people and modern equipment. We live in Boulder, Colorado, an environmentally conscious community that is a great place to live. Call Boulder Tree & Landscape Co. at (303) 449-2525 or fax (303) 413-1042.

... continued on page 68

Why choose SavATree?

GROWTH
At SavATree, we are expanding throughout the northeast. Our team is growing along with us, propelled by our career advancement program, tuition reimbursement and creative compensation packages.

If professional growth is important to you, call SavATree.
Phone: (914) 241-4999, ext. 153
Fax: (914) 242-3934
Visit our website!
CALL US FOR YOUR BEST CHOICE OF PRE-OWNED EQUIPMENT

1-800-597-8283

60' w.h., LR III Altec on a 1993 GMC Topkick, 3116 Cat diesel, 6 speed, 77k miles, beautiful running chassis.

60' w.h., LR III Asplundh/Altec overcenter Forestry pkg., Kobota pony engines on 1991-96 GMC Topkicks, 5 spd. trans., 366 fuel injected engine, gone through painted your color. Many to choose from.

Loader, Hood 7000 with Grapple on a 1993 BHC 4900, DT 466 Diesel, 210 b.h.p., 5/2 Transmission, Air Brakes, Air Conditioning, 22 ft. Dump Box.

70' Hi-Ranger 6H65, single stick control, rear mount flatbed, cab guard on a 1990 Ford F800, 33,000 GVW, 5/2 trans., 7.8 diesel engine, hydraulic brakes, 61,481 miles.

55' w.h. Aerial Lift of CT's, rear mounts, flatbeds, custom build units, gas or diesel, automatics or standard transmissions.


70' w.h. 6H65 Hi-Ranger, rear-mount flatbed on a 1992 GMC Topkick, 215 b.h.p. 3116 Cat diesel turbo, air brakes, 46,012 miles, in beautiful condition.

55' w.h. Aerial Lift of CT, 1990-1994 Fords, gas or diesel, 1990 GMC Topkick, 3116 Cat diesel, auto trans., forestry package.


57 ft. w.h. Hi-Ranger 5 Ft, rear mount, flat bed, cab guard, on 1993 GMC Topkick, 5-spd. trans., approx. 50,000 miles. The Hi-Ranger has brand new upper boom and bucket; the unit has been totally redone.

FINANCING • LEASING • RENTALS

Pete Mainka Enterprises, Inc.
633 Celia Drive • Pewaukee, WI • 53072
Phone: 262-691-4306
Night Phone: 262-968-9763
33 years of Success
Specializing in Pre-Owned Equipment

Please circle 58 on Reader Service Card

HAWAI'I - Tree Climbers and Working Foremen. Climbers MUST have a minimum of 5 years climbing experience (which includes pruning, shaping, rigging, take downs and removals) and a current driver's license (a CDL license is preferred). Foreman applicants MUST be a certified arborist (with knowledge of disease diagnosis and fertilization), have a minimum of 5 years climbing experience (which includes pruning, shaping, rigging, take downs and removals), 5 years utility line clearance experience, experience working with cranes and have a current driver's license (a CDL license is preferred). Pay starts at $18.00 per hour but is based on experience. Benefits include paid medical and dental insurance, paid federal holidays, vacation pay, 401(k) pension plan and a profit-sharing plan. Send resume with salary history and employment references to:

Jacunski's Complete Tree Service, Inc.
PO Box 4513, Hilo, HI 96720
Phone: (808) 959-5868
Fax: (808) 959-0597

Share the Profits
Climber - Foreman for an area leader in tree removal and tree trimming will share in the results of his efforts. Base wage plus profit sharing, year-round work, good equipment and large heated shop are provided. Unlimited potential for an experienced and motivated individual. Call or write MRFS Inc., 901 Jana Lane Suite 3, Madison, WI 53704. (608) 246-8484 or e-mail MRFS@execpc.com

WHAT'S THE DAVEY DIFFERENCE?

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

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

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

Call Tim Jackson, Davey National Recruiter Today!

DAVEY
EOE/DFW
800-445-8733 ext. 218
tjackson@davey.com

Please circle 25 on Reader Service Card

TREE CARE INDUSTRY - JULY 2001

68
Great Opportunity!
Can you fill the demand for professional tree care in the North Shore area of Chicago? Do you have the experience and expert knowledge, but little upward mobility? Here’s your chance to earn a salary, benefits, and great commissions with established clients in Lake Forest, Highland Park, and more! We are a growing company looking for an experienced and motivated arborist to fill a current sales area - not a new, unproven area. Fax your resume to (847) 729-1966 or call Dan at (847) 729-1963, if you want to make a positive change for yourself or your family.

LANDSCAPER WANTED
IN FLORIDA
D&L Land Management, Inc. in Apopka, Fla., is organizing a new tree farm. We are seeking a landscaper with hands-on growing experience. Must be experienced in growing landscape trees and know how to spade trees out of the ground. For more information, contact Cheryl at (407) 886-0852, Ext. 24.

Plant Health Care Technician
Join the most prestigious firm in arboriculture. National leader in tree care seeks motivated individual interested in stable career opportunity. We require top-notch professional to implement plant health care/IPM programs on landscape plantings in North Florida. Knowledge of ornamental plant and pest identification required. Must be Florida Certified Applicator in turf and ornamental categories. Competitive salary, medical/dental benefits, 401(k) with company match, continuing education and potential career growth into sales & management. Please fax resume and cover letter to (770) 414-9762.

Hiring
Ambitious, energetic, ex’d tree climbers w/pick up truck & equip. $200 - $500 per day. Year-round work in warm, friendly Baton Rouge, LA. Potheads, drug addicts and ex-felons need not apply. Best time to call 8 a.m. or 7 p.m. Monday thru Friday; 10 a.m. to 12 noon on Saturday. Keep calling till you reach me personally. Tree Surgery by Ricky Vincent (225) 683-3800.

continued on page 70
Tree Sales
We're growing again! Medium-sized Tree Company in Rochester, N.H., seeking self-motivated, high-energy sales person for tree and plant health care divisions. Must have experience in the tree industry, Arborist Certification, and previous sales experience in a related field. Pesticide licenses helpful, but not required. Competitive salary and commission with full benefits. Please send resume and salary requirements to:

Urban Tree Service
PO Box 1631
Rochester, NH 03868-1631
Fax: (603) 335-0522
Uts@worldpath.net

Fairfield County, CT - 20+ years established company seeks Plant Health Care (IPM) Technician. We are looking for a professional, take-charge person to manage our IPM program. CDL and pesticide license preferred but not req. We offer exc. salary, commission opportunities, training & benefit packages (health, dental, pension, tuition reimbursement), pd. vacation & holidays. Call O'Neill’s Tree Care - (203) 655-7865 Fax resume (203) 327-5455 E-mail - otc2oneillstree@aol.com

Plant Health Care Coordinator
Tired of spraying? Do you want to be paid for your knowledge, experience and personality? Do you think you have what it takes to run a spraying operation in an aggressively expanding company? If you're organized, self-motivated and sociable, call Dan at Autumn Tree Care Experts, (847) 729-1963 or Fax resumes at (847) 729-1966.

Fairfield County, CT - Growing company with over 20 years impeccable tree care experience is looking for quality-oriented individuals to join our staff. Experienced and professional candidates are needed. Responsibilities would include tree removal, cabling and bracing, truck and equipment maintenance. Supervisory positions are available. Excellent compensation, paid vacation/holidays, medical benefits, including dental and pension plan. We offer a drug-free environment. Please contact O'Neill's Tree Care, Inc., P0 Box 2387, Darien, CT 06820, (203) 655-7865 or fax resume to (203) 327-5455.

**SHERRILL SALES REPRESENTATIVE**
Salesperson/experienced arborists needed to promote products and train in following territories; southern, western, and midwest US. Must have extensive climbing, rigging and plant health care experience. Travel required. Send resume to:

Sherrill, Inc.
C/O Arborist Sales Rep.
200 East Seneca Rd.
Greensboro, NC 27406

**Arborist Sales**
Experienced arborist/salesman to work in established sales territories on Hilton Head Island, SC and Savannah, GA. Full commission positions with 25K draw and benefits. Company vehicle purchase program and progressive commission schedule. Must be ISA Certified with 5 years experience. Call Chris at Historic Tree Preservation, Inc. (843) 682-2487 or email cgerards@ mindspring.com.

RESISTOGRAPH-F

**Know Your Trees Better**
Examine roadside trees, trees in parks and recreational areas, wooden poles, forests, timber structures such as bridges, framed buildings and playground equipment.

Easily operated, light weight and compact.

**Phone/Fax: 888-514-8851**
http://www.imlusa.com
E-Mail: sales@imlusa.com

**IML Instrument Mechanic Labor, Inc.**
1950 Barrett Lakes Blvd. Suite 2212
Kennesaw, GA 30144

Free application video available

Please circle 40 on Reader Service Card
Plant Health Care

Climbing Arborist. Sales. Boston-area company of professional arborists has sales, leadership and crew positions avail. for outstanding indiv(s) w/min. 2 years exp. Candidates must be committed to highest industry stds. of safety, workmanship & cust. service. Exc. wage & benefit package, including pension (401(k)), medical, education & more. Send resume to: Lueders, PO Box 920279, Needham, MA 02492 or call (508) 359-9905 or e-mail LuedersCo@AOL.com

Interested in relocating to beautiful Denver, Colorado? Mountain High Tree Service and Lawn Care, an industry leader since 1974, is hiring Tree Climbers, Plant Health Care and Lawn Technicians. We offer top pay, unmatched benefits and a modern facility with new equipment. Check out our Web Site: www.mountainhightreeservice.com. Call our office: (303) 232-0666 or fax your resume to: (303) 232-0711 or e-mail us: mhttree@pcisys.net. Please send attn: David Entwistle.

We Want You!
Arborists, Plant Healthcare, Crew Leaders, Climbers

Career team players. Work year-round. Relocation assistance, excellent compensation, retirement & benefits package. Fax, e-mail or send resume to:

Arborguard
PO Box 477
Avondale Estates, GA 30002
Phone: (404) 299-5555
Fax: (404) 294-0090
E-mail: sprophett@arborguard.com
Web: www.arborguard.com

Tree Climber & Climbing Foreman

We seek reliable, quality oriented people with 3 plus years experience. Good benefits and bonus plan. Must have valid drivers license.

Foreman $22.00 - $25.00 per hour
Climbers $19.00 - $22.00 per hour

Call Audubon/VTM Arborists at (703) 818-9484 in Fairfax, VA

Production Manager

Maxed out in your current position? St. Louis, Mo. residential tree care co. in operation for 25 years is looking for a well-rounded individual with strong leadership qualities and the ability to train 12-15 team members in safety, equipment use, proper technique and efficiency. Must be able to schedule multiple projects and crews, maintain client satisfaction and high quality standards. Climbing experience a must. Salaried position with benefits, vacation, holidays, medical, retirement, bonuses and advancement. Send resume to Metropolitan Forestry Services, Inc., 502 Old State Rd., Ballwin, MO 63021.

... continued on page 72

Forestry Equipment

3 Locations To Serve You Better:

Forestry Equipment of Virginia • 804.525.2929 Phone • 804.525.0917 Fax
Forestry Equipment of Shelby, NC • 866.824.1100 Toll Free • 570.558.6700 Phone • 570.558.6703 Fax
DeNaples Equipment, Pennsylvania • 866.824.1100 Toll Free • 570.558.6700 Phone • 570.558.6703 Fax

Please circle 31 on Reader Service Card

TREE CARE INDUSTRY - JULY 2001
Company Sales & Service Representative

Are you an experienced tree climber, foreman or plant health care technician motivated to advance your career? Can you provide excellent service to existing and new clients?

McFarland Tree & Landscape Services has opportunities for high energy and ambitious individuals to grow with our full-service tree care, landscaping and turf maintenance company, based in Philadelphia, Pa. The successful candidate will manage sales and services for existing clients while developing new clients in assigned territories.

After an initial training period, benefits will include pension and 401(K), vacation, choice of medical plans, and monthly auto allowance.

Certified Arborists and persons with a college degree related to the green industry are preferred but other qualified candidates will be considered. For a confidential discussion, contact:

Tom Shotzbarger, General Manager
McFARLAND TREE & LANDSCAPE SERVICES
255 W. Tulpehocken St.
Philadelphia, PA 19144-3297
Phone: (215) 438-3970
Fax: (215) 438-1879
E-mail: mcfarland@onrampcom.com

Tree Care Professionals Needed!

Large Chicago metro area firm needs experienced tree care personnel to immediately fill the following year-round openings: Production & Crew Foremen; Sales; Climbing Positions; Office Management.

Homer Tree Care, Inc. offers wages above industry standards with benefits including Health, Dental, Disability, Life, Paid Holidays, Paid Vacation and Profit Sharing. The overwhelming demand for our services proves that our name is synonymous with the tree care industry.

Please submit resume with cover letter to Homer Tree Care, Inc., 1400 S. Archer Ave., Lockport, IL 60441, or call Rich or Steve at (815) 838-0320 /Fax (815) 838-0375.

...continued on page 74
THIS BABY'S BUILT TO LAST

LET'S SEE...
IN 25 YEARS THE MAT-TREES SHOULD START TO HIT THE USED EQUIPMENT MARKET... JUST IN TIME FOR ME TO MUSCLE IN ON DAD'S TREE TRIMMING BUSINESS!

Unless you can wait 25 years to take advantage of the innovative features and quality construction of the MAT-TREE, we suggest you call your representative today. Take one look and you'll see the difference between a MAT-TREE and any of those 6 year “throw away” models.

Check out these great standard features:

- Innovative telescopic upper boom
- Solid boom construction - not pipe construction like our competitors
- Amazing horizontal reach of 41 feet at 30 feet above ground
- Non-over center design for greater stability
- No chains or cable for boom actuation
- Working height up to 65 feet
- Bearing ring with 3 ft. diameter, 360° rotation for smooth operation
- Faster tower operation - fastest in the industry!
- Platform capacity of 400 lbs.
- Stowed height like a 48 ft. machine
- Available for a non-CDL chassis configuration
- Unique patented hydraulic platform leveling system
- And much more!

For More Information: Call (262) 524-8810 or Fax (262) 524-8882

Please circle 48 on Reader Service Card

MAT-3 Inc. Waukesha, WI
Hino Delivers Satisfaction.

“Highest in Customer Satisfaction Among Cab-Over Medium Duty Trucks.”

J.D. Power and Associates

J.D. Power and Associates 2000 Medium Duty Truck Customer Satisfaction Study.”

Cab-Over Medium Duty Truck defined as Gross Vehicle Weight Class 5, 6 or 7 truck in which all, or a substantial part of its engine is located under the cab.

www.jpower.com

Make The Quality Choice your choice. 845-365-1400 www.hino.com

San Francisco Bay Area Tree Service
Tree Crew/Spray Technician

Experienced tree climbers and spray technicians needed. We have cake! Call Dan at Autumn Tree Care Experts, (847) 729-1963 or Fax resumes to (847) 729-1966.

Portland, Maine
Great place to live and work. We are seeking experienced climbers to join our company. Three positions to fill from entry level to foreman.

Please call (207) 828-0110.

Arborist Needed!

Tired of same old, same old? Time to break out and grab the reins. We are looking for certified/licensed arborists with four experience in their local area to maintain client base and fert crews. Must have experience to diagnose, sell and manage client base. Openings are available nationwide, including your city. We don’t want you to work for us, but rather with us. For a new start on a bright future, call (877) 288-8733.

Assistant Arborist at the Morris Arboretum of the University of Pennsylvania, Philadelphia. Duties: Assist with all arboriculture work, including climbing, tree pruning, removal and spraying; operation and care of equipment; supervision of interns and seasonal labor; assisting with IPM strategies; participating in education, outreach and consulting. Qualifications: High school diploma or equivalent, minimum of 3 years of climbing experience & valid driver’s license required; Assoc. or Bachelor’s degree desirable; valid pesticide applicator’s license & arborist certification preferred. Respond to: Lawrence Whitesell, Morris Arboretum, 9414 Meadowbrook Ave., Philadelphia, PA 19118. Phone: (215) 247-5777 Ext. 194 Fax: (215) 248-4439.

EQUIPMENT FOR SALE

For Sale – (1) 6TD 65-foot Hi Ranger mounted on 1984 Int. DT466, $27,500; (1) 4Fl 45-foot Hi Ranger mounted on 1985 Int. DT466, $13,500; (1) 1989 Vermeer model 630 stump grinder, low hrs., $5,000. Call (603) 424-1464.

Hardware and software by an arborist for the arborist. For more information about the industry’s best-selling package, call or write Arbor Computer Systems, 117 Weston Road, Westport, CT 06880. Phone: (203) 226-4335; Web site: www.Arborcomputer.com; E-mail: Phannan@Arborcomputer.com

USED EQUIPMENT

Brush Bandit Chippers
(2) 100 John Deere; (1) 65 Wisconsin 30HP; (3) 90W Perkins 50HP, Deutz 41HP, Wisconsin (3) 90 Wisconsin 37 and 65HP; (1) 95 GM 76HP; (4) 150 John Deere 80HP, Ford 6 cylinder; (3) 200+ Cummins 76 and 110HP, Ford 6 cylinder; (15) 250 Cummins, Perkins, Ford, John Deere; (3) 280 Cummins 200HP, John Deere 125HP; (2) 1290 drum John Deere 80HP; (3) 1890 drum John Deere 125HP, Cummins 130HP

Bandit Whole Tree Chippers
(2) 1254 Cummins 177 and 200HP; (6) 1400 tree & track Cummins 200HP; (1) 1700 John Deere 375HP; (2) 1850 track Cummins 250HP; (3) 1900 tree & track CAT 425HP, Cummins 475HP

Bandit Miscellaneous
(1) Log Buster John Deere 80HP; (4) 3680 Beast Recycler John Deere 375 and 500HP

Miscellaneous
(1) Morbark Mdl 7 Wisconsin 26HP; (2) Morbark Mdl 10 John Deere 50 & 56HP; (2) Morbark 16 Cummins 194 & 250HP; (1) Morbark Mdl 17 Turbo Perkins 102HP; (4) Eeger Beaver Wisconsin, Cummings, Ford; (1) Morbark 30/36, loader John Deere 325HP; (1) Morbark Mdl 18 Chip Harvester Cummins 400HP; (1) Morbark Mdl 20 whole tree; (2) Vermeer 1250 Perkins 80HP; (5) Olathe 966 Ford 4 cyi; (1) Olathe disc; (1) Olathe 12" drum Ford 3.30; (1) Wayne 16" drum Chrysler 318; (5) 12" Chipmore Ford 4 & 6 cylinder, Hercules; (2) Carlton Stump grinder; (1) Rayco stump grinder Deutz 72HP; (1) Gravely Kohler 23HP; (3) Asplundh 12" drum Ford; (3) Asplundh 16" Ford; (1) Asplundh Whisper Ford 172 gas; (1) Badger chipper; (1) Fecon Willibald CAT engine; (1) Woodchuck WC-17 John Deere 81HP; (1) Mitts & Merrill 6 cyl; (1) Trelan M-18 Deutz 250HP; (1) Innovator 8' tub Cummins 177HP; (1) Haybuster 10' tub CAT 300HP; (1) CMI Blogrind Cummins 174HP; (1) Royer grinder John Deere 375HP; (1) Stationary grinder 150HP; (1) Toro ProGrind Cummins 177HP

Bandit Industries, Inc. 6750 Millbrook Road, Remus, MI 49340. Phone: (800) 952-0178 or (517) 561-2270. Fax: (517) 561-2375.

VERMEER TREE SPADE-TS44 on trailer. Only lightly used since complete overhaul. Will move 5-inch trees. Ready to go to work. Private owner. Asking $14,000. Charlottesville, Va., (804) 984-5175.

94 GMC Topkick 32,000 miles. Aerial Lift of Conn. 36' bucket totally reconditioned. New paint, freshly serviced, rebuilt engine and new clutch. $49,000 (570) 842-3722.

For Sale:
RG 1625 Super Jr. 1997 Model Stump Grinder with Trailer, Good Condition $6,000 firm. For information call: (706) 628-4055.


continued on page 74
Bucket Truck

Stump grinder
Nicest Vermeer 630B you will find. Too many upgrades to list. $6,800. Call for details. (203) CUT-TREE (288-8733).

1997 Morbark chipper 200 hp; Fully updated Excellent condition $24,000.00 Call: (847) 634-9838

SKYWORKER PARTS
1-888-755-4144
Delaware, OH

28-inch Valley Firewood Processor with 35-inch conveyor, 4-cylinder Kubota motor, three-leg 10-foot live decks. Complete with sawdust blower, 2 bars and 100-foot roll of chain. 119 hours – 1 1/2 cords per hour. Like new, $34K. Call Mike’s Professional Tree Service (401) 823-7485 between 9 and 4.

1998 FMC 35 gal. a minute John Bean Pump, 3 compartments with mechanical agitation, 2 Hannay Reels and hoses. Also several other old used sprayers. (317) 898-3257 or (317) 894-5015.

1994 Morbark chipper 110 hp; Excellent condition $14,000 Call: (847) 634-9838

Alexander Equipment
The only used equipment source offering a full satisfaction guarantee! We have a huge selection of used chippers and stump grinders...fully serviced and ready to work! See our complete inventory list on the web at www.alexequip.com or call Matt or Steve at (630) 663-1400. Alexander Equipment Company, 4728 Yender Ave., Lisle, IL 60532. We can deliver anywhere!

1994 Brush Bandit 200+ disc chipper w/ 2950 hrs. 76hp Cummins 4B3.9 Asking $9500. (860) 344-1310


1997 Vermeer 1250 Brush Chipper, model 665B, Vermeer 620 Brush Chipper and Zieman 2650 Equipment Trailer. All Equipment is in Excellent condition Call Brad @ 1-877-435-8966

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


...continued on page 78

Please circle 75 on Reader Service Card
2001

Columbus
We're back!

November 1-3
Greater Columbus Convention Center
Columbus, Ohio

For more information contact:
National Arborist Association
800-733-2622 / 603-314-5380 (outside the US)
crossland@natlarb.com
www.natlarb.com

Please circle 76 on Reader Service Card
BUSINESSES
FOR SALE

Established tree care business for 36 years on Maryland’s Eastern Shore. Long-term contracts and good workforce in place. Year-round work with good growth opportunity. Possible owner financing. Box PL, TCI, 3 Perimeter Road, Unit 1, Manchester, NH 03103.

EMPLOYMENT/OWNERSHIP OPPORTUNITY

Successful tree care business in Midwest is seeking an experienced tree climber to earn ownership of company. Earn $16 to $20 per hour while building ownership. Total ownership may be earned in as little as four years. Company has no debt. Excellent reputation in community, repeat and referral business. Owner is wishing to retire. Fax resume to (217) 544-8113.

Established tree care and Firewood Co. $282,000.00 – Serious inquiries only

IT'S INC
AERIAL LIFT SERVICE

Repairing all types of aerial lift bucket trucks. Boom rebuilding, remounting, body refinishing, total restoration, Di-electric testing, and new or used chassis available to remount your unit. Mobile service available.

Servicing Mid-Atlantic region. (570) 842-3722.

For Sale: Tree Care Business
Est. 19 years
Gross sales 219K, Net 71k
Only 50k down. Contact American Business Brokers www.abbrokers.com
steve@abbrokers.com
Tel: (941) 765-1300

Established and profitable tree service for sale. Owner retiring. Located in upscale suburb of San Francisco Bay Area (Contra Costa County), Calif. Small company with excellent 3-man crew. Set up for ease of operation. Owner works 20-30 hours/week, nets $120,000/year w/1 week off every 6 weeks. Year-round work. Excellent reputation w/high percentage of repeat and referral business. Call (925) 689-4446 for information.

For Sale
Established Tree Care and Firewood Co.
$282,000.00 – Serious inquiries only

Ten years of professional accident free tree service in New Braunfels, Texas, with fenced ¾-acre commercial lot with office, 1997 Ford F350, 1995 Chevy 4X4 1/2 ton pick-up, 12-inch Vermeer chipper, 22 Pro Chain saws, 3,000 feet of arbor rope, Doscko stump grinder, 10 climbing saddles, three 20-ton hydraulic log splitters, Bobcat (with grapple), dump trailer, two 16-inch trailers, quality/trained work force, 1-800 service Yellow Page ads in several central Texas telephone books, 10+ years of established clientele base. Scott Cornelius at 1-800-662-6908 or (830) 629-3662.

For Sale: Tree Care Business
Est. 19 years
Gross sales 219K, Net 71k
Only 50k down. Contact American Business Brokers www.abbrokers.com
steve@abbrokers.com
Tel: (941) 765-1300

Well-established tree care business for sale in the heart of Silicon Valley, richest county in the world. Located in San Jose, California and serving the bay area communities for the past 9 years. Medium-sized company grossing over a million dollars annually with an average growth of over 20% per year in sales. Excellent reputation in the community with numerous repeat and referral work year-round. All trucks and equipment are late model. A well-trained, motivated tree care management team runs the company with little supervision from the owner. This is a turnkey operation for the right buyer. All inquiries can be made by either mailing to James Welsh at P0 Box 501, Cupertino, CA 95015 or through our Web site at: www.commercialtree.com by e-mailing Robert for more information.

Tree business in Central Jersey near Westfield for sale. Est. in 1955. Excellent location and clientele. Gross income over a million annually. For more information call (908) 482-8855.

PRODUCTS & SERVICES

ArborWare
The Business Solution for Arborist, Landscape & Lawn Care Professionals

Includes complete Customer Management: Estimates, Proposals, Work Orders, Invoices, Statements, and Accounts Receivables. Also includes: Customer Property Inventory, PHC and Pest/Disease control, chemical application and DOA reporting, maintenance and generation of Renewal Contracts, scheduling/routing of Crews and Sales Reps, Vehicle Maintenance and DOT reporting, Job Costing, Marketing and Management Reporting, comprehensive User Manual, and more ... Call (800) 49-ARBOR (2-7267) for more information.

ArborGold Software – Complete job management! Phone message center, proposals with built-in landscape CAD designer, scheduling, invoicing and more. Posts to QuickBooks. Print estimates on site with new hand-held PCs and download to office. Call Tree Management Systems – 1 (800) 993-1955, see demo at www.turftree.com

Classified ad rates for 2001

$65 per inch ($55 NAA members), 1-inch minimum. Payable in advance. Ad deadline is the 20th of the month, two months prior to publication.

Send ad and payment to:
TCL, 3 Perimeter Rd, Unit 1, Manchester, NH 03103
Phone: 800-733-2622
Fax: 603-314-5386
E-mail: Stone@natlarb.com

Reach Great New Heights with Weaver Arborist Supplies
How Do Climbers Rate Climbs and Themselves?

By Tim Jackson

Ever heard an applicant say "I can climb anything!" or "I get up in the big trees"? How about, "I climb in my backyard"?

Everyone charged with hiring new employees has heard statements like the ones above - and any number of other self-defined qualifications that are hard to put a value on. There is currently no standardized system to truly assess how well an applicant can climb (and what the safe limits to his skills are).

Rock climbers have a system to grade climbs, so why not follow that logic for arborists? What I propose here is a scale for arborists.

As a some-time rock climber, I was introduced to the Yosemite Decimal System, which gives a graduated number value to every climb.

Here's how it works:
1. Walking
2. Hiking
3. Scrambling: hands required
4. Dangerous scrambling: falls can be fatal
5. Technical free climbing: specialized techniques and equipment required
6. Aid climbing: equipment required to aid ascent

Class 5 or technical free climbing, is divided into a number of difficulty levels from 5.0 to 5.14d.

Important note: free-climbing on rock means climbing on rope while belayed by another climber. Free-soloing refers to climbing rocks without fall protection. Arborists often refer to free-climbing as climbing without a rope.

Here is a scale I proposed to evaluate climbing skills in trees.

Degree of Difficulty in trees can vary significantly. So we'll create a 1 to 5 scale, with 1 being the easiest and 5 the most difficult.

Class 1: Trees with a strong central leader. Canopy doesn't spread out and requires no lowering lines to complete.

Class 2: Trees have two or more leads or no ideal tie-in point to work the entire tree. Recrotch ing/re-direct may be necessary.
Class 3: Spread out tree where uncontrolled swings are possible and/or rigging is required for several branches.

Class 4: Trees requiring nearly all branches to be rigged and lowered. False crotch is required to lower the wood.

Class 5: Trees that pose immediate threats to climbers. Storm-damaged branches, hangers, and/or cavities may affect the rigging operation. All or many branches require lowering lines.

Tree height is a major factor as well. We’ll take 10 percent of the height, for example “9” for a 90-foot tree. If this tree requires technical rigging, it would be a 4.9 rating. Removal would be abbreviated to “R” and pruning would be “P.” So, the same tree to remove would be a 4.9.R.

Obstacles can be noted as “X.” Divide the drop zone into four quarters. See Figure 1. A tree between two houses with a fence on the backside would be an “X3,” which means only one-quarter of the canopy area is free of obstacles. Including obstacles, this tree would rate a 4.9.RX3. Placed on a work order, your foreman would have a good idea what the crew is getting into. This system would be much clearer than, “There's a big old oak in the side yard.”

The Yosemite Decimal system also protects climbers from over-climbing their skill level and getting in over their heads. Many climbs start out easy and get hard at what is called the crux move (hardest point) in the climb. When the guidebook says 5.12, and the climber can only safely lead 5.8, another route is in order.

If a foreman sent out to work on a 4.15.X4 (a tree requiring lots of rigging, 150 feet tall, with no drop zone) hasn’t conquered any 3.8.RX2s, then you might expect that job to go in the hole. It might get done, but not efficiently, and it would be done at the very edge of the climber’s skill sets.

A climber with appropriate skill sets can conquer any tree. Arborists need to combine their physical strength with technical skills and mental attributes. Physical qualities like upper body strength, balance and stamina come naturally to many climbers and can be developed by anyone. Technical skills can be acquired through training, but require time to develop and repetition to master. The mental game defines the combination of all three factors to propel a climber to increase their proficiency continually. We cannot expect 5.9 climbing from a 2.1 training level. So don’t jump too far ahead.

A 3.5 or 3.5.X1 (a spread-out tree, 50 feet tall with one obstacle) might instill fear in the hearts of some climbers. Only after several 3.5s and 3.5.Xs can an arborist be rated a 3.5 climber. A tree could be classified as a 3.5 for pruning, and a 4.5 to remove it. But, the climber who attempts the removal must rate 4.5 – or

Power & Performance That Will... Blow You Away!

Clean up with the power and performance that comes only from RedMax blowers. We have a whole family of hand held and backpack blowers. Choose from three different air volumes and air speeds, and a host of other features that make RedMax the choice of the pros.

You can’t know real blower power until you’ve tried one of our machines. Don’t let the quiet fool you. Performance is the air forced out of the nozzle, not the number of decibels coming from the engine.

All RedMax blowers carry our one year commercial warranty, with an optional two year warranty available. Check out our full line of hand held power equipment at your RedMax dealer, and check out our warranty. It’s just awesome.

RedMax®
Komatsu Zenoah America, Inc.
4344 Shackleford Road, Suite 500 • Norcross, GA 30093
800-291-8251, ext. 228 • Fax: 770-381-5150
www.redmax.com

Please circle 62 on Reader Service Card
be nearing that rating. Having the rating simply means that the climber is comfortable climbing that size tree in any condition. If trees in your area don’t get over 100 feet, then the maximum skill level required would be 5.10.

Consider this rating system for trainees. After they have climbed and pruned four to five crabapples and small maples, they should have reached a 1.1 level of proficiency and confidence. You now have confidence in their ability at this level. After a year of progressive improvement, they may reach a rating of 3.6. Pruning confidence should precede removal confidence for the same sized trees. In rock climbing it is possible that some climbers may never be able to complete very difficult climbs. For example a 5.10 climber may never reach a 5.11 rating, particularly if there is an overhang or a crack requiring a skill they just can’t achieve. In trees, arborists with sufficient training and experience can handle most everything. How swiftly and how safely are the questions to be answered, which is how rating their skills can benefit everyone.

Assigning a rating must include a level of safety and proficiency. Pruning one spread out, 100-foot oak over two houses on a sunny spring day doesn’t justify a climber rating increase to 4.10. After several such trees and a comfort level in doing them, we climbers can adjust our ratings.

Sitting around the fire at the end of the day sharing stories of the nasty 5.11 you climbed that day or talking about the three 5.12s you’re planning tomorrow are typical rock climber conversations. We rock and tree climbers can learn a lot from each other. Ratings are just the tip of the oak.

I am open to suggestions and amendments to this rating system. Oh, and a name for it, should it be widely adopted ... how about the Jackson Ratings? Blake has his hitch after all.

Tim Jackson is manager of national recruiting and advanced arborist trainer for the Davey Tree Expert Company.
NEW

Basic Training for Ground Operations in Tree Care

Five part video series with workbook and CEU tests

Peter Gerstenberger
VP of Business Management, Safety & Education, NAA

Sharon Lilly
Director of Technical Resources & Marketing, ISA

with their expertise and knowledge
you can expect the BEST

also available: Basic Training for Tree Climbers

Get your copy, TODAY!

NAA
1-800-733-2622
Web: www.natlarb.com
Email: naa@natlarb.com

ISA
1-888-ISA-TREE
Web: www.isa-arbor.com
Email: isa@isa-arbor.com

Please circle 52 on Reader Service Card
By Thomas L. Houston

Years ago I was fortunate to meet Jack Swedberg, who was the senior wildlife photographer for the Massachusetts Division of Fisheries and Wildlife. As a young man Swedberg was a great hunter of wildlife of Massachusetts. As he grew older, he became interested in photography and decided to do his hunting with his camera instead of his gun. Although he was most famous for his pictures of eagles on the Quabbin Reservoir, he also had photographed most of the animals native to the state.

As an arborist who has always been interested in nature, I was especially excited to see his movie of a beaver felling a tree. Unlike the arborist who carefully plans tree felling operations, the beaver seemed to have no idea where the tree would fall. The animal would approach the tree and take a bite and then back up and try to determine the direction of fall. When the tree failed to go over the beaver would take another bite until the tree finally fell. According to Jack, sometimes the unfortunate woodcutter who failed to plan escape routes would cause its own demise.

The white oak in the picture above was felled by a family of beavers at a small beaver pond in Shutesbury, Mass. Although the beaver used an unusual 360-degree notch, the 12-inch D.B.H. oak still fell toward the pond. Apparently, after working so hard to fell the tree, the beavers decided to give up chewing the limbs off to take to their lodge located nearby.

Beavers

Beavers, found throughout most of North America from northern Mexico to northern Canada, have played an active role in New England’s ecology for thousands of years. As natural engineers of the landscape they were agents of change, creating wetlands out of uplands and streams, and providing habitat for a variety of plants and animals. For native peoples, beavers were a source of meat, skins and medicine. As Europeans colonized New England, beaver pelts served as a form of currency, creating an incentive for settlers to move farther west and changing the relationship between Native Americans and Europeans, and Native Americans and beavers.

Intensive hunting and trapping, and deforestation that followed European colonization eliminated beavers throughout much of North America, including southern New England. They were re-established in Berkshire County, which is in western Massachusetts, in the 1930s.
Thanks (in part) to an active restoration campaign, beavers have since reclaimed most of their former range. When the beavers returned, an important component of our native ecosystem was restored. However, beavers returned to a landscape that had been substantially altered by people. In some areas, beaver activity conflicted with human needs. Property damage, Giardia (an intestinal parasite), and the flooding of roads, buildings and septic systems continue to be sources of concern for many communities.

Beavers have hind legs that are longer than their fore legs. They rise up on their hind legs to chew trees, gather food or just look around. Although they are slow moving and awkward out of water, they do venture on land in search of food and building materials. Beavers are strict vegetarians. As such, they feed on a variety of aquatic plants (especially water lilies) and the shoots, twigs, leaves, root, and bark of woody plants. In particular, bark and the inner bark of trees and shrubs are important foods, especially in winter. Aspen, birch, alder, and willow are favored food plants.

Trees and shrubs are felled by beavers to gain access to twigs, leaves and bark. Bark and leaves may be stripped where they fall or transported back to the safety of water. Well-used beaver trails typically lead from a beaver pond to upland stands of important food trees. Trails near the pond often fill with water, forming canals that are used by beavers to float sticks and logs from uplands to the pond. As winter approaches, branches are stockpiled on the pond bottom near the lodge. Beavers rely on this cache of food to see them through until spring. Once stripped of leaves and bark, branches and logs are used as construction material for dams or lodges.

Beavers stay with the same mate for life. They mate in winter (January to March) and females give birth sometime between April and June. A single litter each year usually contains four kits (but may have as many as nine). Young kits spend most of their time in the lodge where they are relatively safe from predators. Although they are weaned by three months of age, young beavers will stay with their parents through two winters before dispersing the following spring. A single family unit of beavers is typically made up of two adults, that year’s kits and young from the previous year. Such a group is called a colony and usually contains six to eight individuals in areas where harvest pressure is low. Most beavers become sexually mature in their third year at which time they leave, or are driven out by the parents, to seek mates and territories of their own. Adult beavers have few predators, and may live up to 20 years or more in the wild.

Thomas L. Houston is a lecturer with the Natural Resources Conservation Department at the University of Massachusetts. Information on beavers reprinted from the article written by Scott Jackson and Thomas Decker “Beavers in Massachusetts,” University of Massachusetts Extension/Massachusetts Division of Fisheries and Wildlife. TCI
A selling point for trees

Here's one benefit of having well-maintained trees in a yard you probably haven't thought to sell a customer with yet: They're great places to hide from elephants. But residents of a village outside of New Delhi, India are finding them useful for just that reason. According to an account from Reuters, dozens of villagers spent days hiding in trees from a herd of 60 or so elephants who went on a rampage. The elephants were apparently spurred on by the smell of a homemade liquor called handia being brewed from rice in the villages.

One Indian official was quoted as saying that "Close to two dozen people are staying in the treetops with family members because they are afraid of the elephants. They often take their bedding and food (with them) during the night." And some of them may be there for a while: The elephants have destroyed 200 homes in the past 18 months.

National tree tour cut short

The National Arbor Day Foundation's effort to find an official National Tree has highlighted just how deeply felt people's feelings are toward their favorite tree species. Regional rivalries have developed and some individuals have launched crusades of their own. But few people have gone to the same extremes as a retired U.S. Army Sergeant by the name of Otok Ben-Hvar.

Ben-Hvar has a maple tree that he planted in soil taken from each of the 50 states. But that's not enough for him. He is now in the midst of a national tour of sorts, showing off his maple seedling and extolling the virtues of the breed. That tour, however, ran into a snag when Ben-Hvar landed on the island of Hawaii. Federal agriculture officials confiscated the tree when he landed. Ben-Hvar, who planted the maple in 1999 and has already visited 20 states and U.S. territories with it, did not react lightly, to say the least.

"I'm not leaving Hawaii without the tree," Ben-Hvar told a Hawaiian TV station. "Either that or I die, one of the two. That's how committed I am to the tree and the project."

Department of Agriculture officials were eager to avoid that scenario and were discussing a compromise.

A warrant for your tree

As the ground battle to eradicate the citrus canker from South Florida continues, by one count more than 800,000 trees had been cut by early April – the legal battle is heating up as well. According to the Miami Herald, tree crews now must obtain a warrant in order to enter private property to cut trees suspected of infection. The judge found that cutting trees which many homeowners claimed had sentimental value violated the Fourth Amendment protection against unlawful search and seizure. And a second order requires that a cleanup and repair crew follow arborists around to immediately repair any damage to lawns, broken fences or other problems resulting from the removal work.

Meanwhile, central Florida, which has escaped the canker woes to date, is now facing the possible death of thousands of laurel oaks due to an extended drought. One arborist in the home of Disney World told the Orlando Sentinel that the trees are approaching the end of their normal life expectancy already and the drought is "speeding things up."
Please tell these advertisers where you saw their ad.
They appreciate your patronage.

<table>
<thead>
<tr>
<th>Reader Service No.</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ADI Tools by TOL, Incorporated</td>
<td>32</td>
</tr>
<tr>
<td>2. Aerial Equipment, Inc.</td>
<td>Inside Back Cover</td>
</tr>
<tr>
<td>3. Aerial Lift, Inc.</td>
<td>Back Cover</td>
</tr>
<tr>
<td>4. Almstead Tree Company, Inc.</td>
<td>69</td>
</tr>
<tr>
<td>Altec Industries, Inc.</td>
<td>7</td>
</tr>
<tr>
<td>5. Altturnamat</td>
<td>36</td>
</tr>
<tr>
<td>6. American Arborist Supplies</td>
<td>27</td>
</tr>
<tr>
<td>7. ArborLearn.org</td>
<td>44</td>
</tr>
<tr>
<td>8. Arborwear LLC</td>
<td>85</td>
</tr>
<tr>
<td>9. Autoclutch Manufacturing</td>
<td>31</td>
</tr>
<tr>
<td>10. Bailey’s</td>
<td>29</td>
</tr>
<tr>
<td>11. Bailey’s</td>
<td>85</td>
</tr>
<tr>
<td>12. Bandit Industries, Inc.</td>
<td>57</td>
</tr>
<tr>
<td>13. The F.A. Bartlett Tree Expert Company</td>
<td>66</td>
</tr>
<tr>
<td>14. Bioscape Inc.</td>
<td>61</td>
</tr>
<tr>
<td>15. Bishop Company</td>
<td>10</td>
</tr>
<tr>
<td>16. Bishop Company</td>
<td>23</td>
</tr>
<tr>
<td>17. Border City Tool &amp; Manufacturing Co.</td>
<td>86</td>
</tr>
<tr>
<td>18. C. A. G. Corporation</td>
<td>67</td>
</tr>
<tr>
<td>19. J.P. Carlton Company</td>
<td>59</td>
</tr>
<tr>
<td>20. CEI</td>
<td>21</td>
</tr>
<tr>
<td>Central Boiler</td>
<td>48</td>
</tr>
<tr>
<td>21. Concept Engineering Group, Inc. (CEG)</td>
<td>54</td>
</tr>
<tr>
<td>22. Cutter’s Choice</td>
<td>42</td>
</tr>
<tr>
<td>23. The Davey Tree Expert Company</td>
<td>68</td>
</tr>
<tr>
<td>24. Deere Power System Group</td>
<td>46</td>
</tr>
<tr>
<td>25. DICA Marketing Co.</td>
<td>42</td>
</tr>
<tr>
<td>26. Doskocil Industries, Inc.</td>
<td>17</td>
</tr>
<tr>
<td>27. ECI</td>
<td>47</td>
</tr>
<tr>
<td>28. FCI-Racine Hydraulic Tools</td>
<td>25</td>
</tr>
<tr>
<td>29. Forestry Equipment of Shelby, Inc.</td>
<td>71</td>
</tr>
<tr>
<td>30. Future Forestry Products, Inc.</td>
<td>10</td>
</tr>
<tr>
<td>31. G &amp; A Equipment Inc.</td>
<td>39</td>
</tr>
<tr>
<td>32. Good Tree Care Company</td>
<td>66</td>
</tr>
<tr>
<td>33. Gyro-Trac</td>
<td>79</td>
</tr>
<tr>
<td>34. Hartley Greyboom</td>
<td>63</td>
</tr>
<tr>
<td>35. Hendricksen the Care of Trees, Inc.</td>
<td>72</td>
</tr>
<tr>
<td>36. Hino Diesel Trucks (U.S.A.) Inc.</td>
<td>74</td>
</tr>
<tr>
<td>37. IML - Instrument Mechanic Labor, Inc.</td>
<td>70</td>
</tr>
<tr>
<td>38. IpleMax Equipment Co.</td>
<td>33</td>
</tr>
<tr>
<td>39. Independent Protection Company</td>
<td>75</td>
</tr>
<tr>
<td>40. Independent Tree Service, Inc.</td>
<td>78</td>
</tr>
<tr>
<td>41. International Knife &amp; Saw, Inc.</td>
<td>62</td>
</tr>
<tr>
<td>42. International Society of Arboriculture</td>
<td>37</td>
</tr>
<tr>
<td>43. Labonville</td>
<td>34</td>
</tr>
<tr>
<td>44. Lewis Utility Truck Sales, Inc.</td>
<td>75</td>
</tr>
<tr>
<td>45. MAT-3, Inc.</td>
<td>73</td>
</tr>
<tr>
<td>46. Mickey’s Truck &amp; Equipment Sales Inc.</td>
<td>54</td>
</tr>
<tr>
<td>47. Miller Machine Works</td>
<td>88</td>
</tr>
<tr>
<td>48. Morbark, Inc.</td>
<td>55</td>
</tr>
<tr>
<td>49. NAA - Ground Operations</td>
<td>83</td>
</tr>
<tr>
<td>50. NAA - Tailgate Safety</td>
<td>35</td>
</tr>
<tr>
<td>51. Northeastern Associates</td>
<td>64</td>
</tr>
<tr>
<td>52. OBL Financial Services, Inc.</td>
<td>39</td>
</tr>
<tr>
<td>53. Opdyke, Inc.</td>
<td>13</td>
</tr>
<tr>
<td>54. Payeur Distributions Inc.</td>
<td>49</td>
</tr>
<tr>
<td>55. Pete Mainka Enterprises, Inc.</td>
<td>68</td>
</tr>
<tr>
<td>56. Pieros</td>
<td>78</td>
</tr>
<tr>
<td>57. Praxis</td>
<td>1</td>
</tr>
<tr>
<td>58. Rayco Manufacturing, Inc.</td>
<td>5</td>
</tr>
<tr>
<td>59. Redmax-Komatsu Zenoah America Inc.</td>
<td>81</td>
</tr>
<tr>
<td>60. Royal Truck &amp; Equipment, Inc.</td>
<td>43</td>
</tr>
<tr>
<td>61. Samson Rope Technologies</td>
<td>15</td>
</tr>
<tr>
<td>62. SavATree</td>
<td>67</td>
</tr>
<tr>
<td>63. Schodof Truck Body &amp; Equip. Company</td>
<td>82</td>
</tr>
<tr>
<td>64. The Sharp Tool Company, Inc</td>
<td>72</td>
</tr>
<tr>
<td>65. Sherrill Arborist Equipment &amp; Supply, Inc.</td>
<td>12</td>
</tr>
<tr>
<td>66. Sheyenne Tooling &amp; Manufacturing</td>
<td>19</td>
</tr>
<tr>
<td>67. Shigo and Trees, Associates</td>
<td>41</td>
</tr>
<tr>
<td>68. Southco Industries, Inc.</td>
<td>11</td>
</tr>
<tr>
<td>69. Stump Removal Inc.</td>
<td>24</td>
</tr>
<tr>
<td>70. Swaploader U.S.A., Ltd.</td>
<td>21</td>
</tr>
<tr>
<td>71. Tamarack Clearing</td>
<td>14</td>
</tr>
<tr>
<td>72. Tamarack Clearing</td>
<td>76</td>
</tr>
<tr>
<td>73. TCI EXPO 2001</td>
<td>77</td>
</tr>
<tr>
<td>74. Terex Telelect, Inc.</td>
<td>3</td>
</tr>
<tr>
<td>75. Timberwolf Manufacturing Corporation</td>
<td>61</td>
</tr>
<tr>
<td>76. Trucks &amp; Parts of Tampa</td>
<td>28</td>
</tr>
<tr>
<td>77. Trueco, Inc.</td>
<td>69</td>
</tr>
<tr>
<td>78. V &amp; H Inc.</td>
<td>50</td>
</tr>
<tr>
<td>79. Vermeer Manufacturing Co.</td>
<td>Inside Front Cover</td>
</tr>
<tr>
<td>80. Versalift, Time Manufacturing Co.</td>
<td>16</td>
</tr>
<tr>
<td>81. Weaver Leather, Inc.</td>
<td>79</td>
</tr>
<tr>
<td>82. West Coast Shoe Co.</td>
<td>56</td>
</tr>
<tr>
<td>83. Western Tree Equipment &amp; Repairs</td>
<td>62</td>
</tr>
<tr>
<td>84. Winter Management Conference 2002</td>
<td>65</td>
</tr>
<tr>
<td>85. Zenith Cutter Company</td>
<td>53</td>
</tr>
</tbody>
</table>

* Please circle this number on the Reader Service Card for more information.

TREES CARE INDUSTRY - JULY 2001
One of the greatest and sturdiest of trees in the American East claims the most delicate of names: the tulip tree (Liriodendron tulipifera). Its name is derived from the large, yellow-green tulip-shaped flowers at the base of the leaf stalks. Tulip trees stretch to heights of almost 200 feet and expand to diameters of more than 7 feet, although it may take them more than 200 years to attain these remarkable dimensions.

Their towering height and overpowering aspect may be the cause – however unanticipated – of their downfall. Our experience relates to two ancient tulip trees that overlooked the southern section of Brookville, Long Island, N.Y. These specimens were admired by passers-by for their bright-green leaves that turned a golden yellow in the fall and sprouted large, six-petaled tulip flowers.

The two tulips were also admired and appreciated by a local colony of robins, who took advantage of the secure limbs and foliage to set up housekeeping and rear their young. In season during that special time when the young chicks matured, we could see them (if we were observant) take that courageous leap of faith that called on their tender young wings to sustain them on their first flight.

"These two are my favorites," said our friend John Sikes, on whose property the trees grew. "I’ve lived here for over 40 years. They were here when I came and I guess they’ll be here after I’m gone." Their massive trunks were about 50 feet apart; the tops of their network of roots barely visible at each base. Their stately structure of slender branches reached out and ended in aromatic, purplish-brown twigs covered with seasonal buds.

I received a call from Sikes at our company, "Knot Just Trees," after a devastating thunderstorm struck his property. "One of the tulips was hit," he said in a strained voice.

We saw the results of a lightning strike that had hit the tulip furthest from his house; huge sheets of bark stripped from the trunk, the remaining bare wood glistening. Massive roots exploded from the soil, exposed to the moist air that retained its odor of charred wood. The robins mourned as they circled soundlessly around the stricken tree, and then came to rest in the remaining healthy tulip.

Barely two weeks later, the second storm blew into Brookville with dark clouds, strong windblasts, sharp lightning strikes and pelting rain. Yes, the second tulip was struck. We responded to another call to find that the damage had repeated itself. From the ground up to the lower branches, the bark was stripped away, baring the smooth inner trunk.

Was the coincidence of the two thunderstorms and the lightning strikes part of a great spiritual Master Plan to reunite the separated spirits of the two tulips? The answer might be known to the ancient Druids, who lived in the Celtic forests in Ireland and communed with the tree spirits, but we bent to the disposal of the remains of the two giant tulip trees, even as the disconsolate robins circled overhead.
EQUIPMENT PRICELIST & INVENTORY

Stump Cutters
(1) 2000 Rayco RG 85 & Trailer $42,355  
(1) 2000 Rayco RG 50 & Trailer $26,530  
(1) 1999 Rayco RG 50 & Trailer $25,150  
(1) 2000 Rayco RG 1625 Jr & Trailer $11,040  
(1) 1995 Rayco RG 20 $3,066  
(1) 1998 Rayco RG 20 $4,360  
(1) Vermeer 186 $4,950  
(1) Vermeer Model 10 $3,800  
(1) 2001 Rayco RG 1672DXH $27,233  
(1) 1997 Rayco RG 1635A $8,993

Brush Chippers
(1) 1997 Woodsman 2018 200HP Dsl $19,000  
(1) 1999 Woodsman 2114 115HP Dsl $24,500  
(1) 2000 Woodchuck W-19 80HP Dsl $24,008  
(1) 2000 Brush Bandit Model 65 Gas $8,201

On Consignment
(1) 1994 Brush Bandit Track 1400 200 HP Cummins $69,900

Log Splitters
(2) TWMC TW2 $3,450

* Used Equipment Sold As Is Unless Otherwise Stated ** These Prices Do Not Include Freight or any Applicable Sales Tax

Please Call or Stop In for Further Information!!
The elevator may be raised from stowed to a vertical position.

The elevator is a compact stowed unit for travel. This Aerial Lift gives you the extra working height up to 75'.

The Aerial Lift may be operated without raising the elevator.

The full vertical position gives you a working height of 75' feet.

Crew Cabs also available.

All parts on an Aerial Lift are available for overnight delivery.

The elevator may be raised from stowed to a vertical position.

The Aerial Lift and the Elevator may be used in any position.
BUYERS' GUIDE

Color Product Guide ................. 2
List of Advertisers ................. 25
Subject Listing ..................... 26
Alphabetical Listing ............... 33
AERIAL LIFT, INC.

With the rear-mount design, this compact vehicle can maneuver with ease through tight spaces and gives you additional working height. From trimming to removals, you gain the extra reach by working over the rear of the truck, enabling you to set up in smaller and tighter areas. Aerial Lift of Connecticut, 571 Plains Road, Milford, CT 06460. Phone: (in CT) 800-245-5438 or (in other USA) 800-446-5438; Fax: 203-878-2549; E-mail: aerialinfo@aol.com; Web: www.aeriallift.com.

Please circle 100 on Reader Service Card

ALTEC INDUSTRIES, INC.

Altec offers a complete line of high quality tree care products. Our aerial lifts feature superior reach for maximum productivity and our wood chippers have a proven record of durability and performance. All of the tree care equipment we manufacture is supported by a direct nationwide sales and service network and a warranty policy unsurpassed in the industry. For more information on Altec tree care equipment, call 1-800-958-2555 or visit us on the Web at www.altec.com.

Please circle 101 on Reader Service Card

AERIAL LIFTS & CRANES

CRANE & SHOVEL SALES CORPORATION

Atlas Articulating Cranes with 3.5 to 60 metric ton capacities. Lighter weight crane means more payload. All hydraulic extensions, no cables. Safety load control system and emergency shutdown. Operator cannot overload crane. Options available: stand-up controls, rider seat, long boom version, hydraulic grapple mounted on trucks from 15,000 GVW and up. Crane & Shovel Sales Corporation, 26781 Cannon Road, Cleveland, OH 44146. Phone: 800-362-8494, 440-439-4749; Fax: 440-439-2177; E-mail: jmsuch@ameritech.net; on the Web: www.craneandshovel.net.

Please circle 102 on Reader Service Card

CUES, INC.

All new and ready to go to work! VERSALIFT’s VO-255 gives more side reach, more articulation, and more platform capacity than ever! 60-foot working height, lower boom articulation of 125 degrees, upper boom articulation of 270 degrees, 400-pound bucket capacity, 46 feet of overcenter side reach, non-lube bearings at all pivot points, side-by-side booms for lower travel height. The durability of a VERSALIFT, with the craftsmanship of CUES, Inc. makes this an aerial lift worth owning. Call for an on-site demonstration! Ask for Jeff Smart at 603-889-4071 or contact us at www.cuesnet.com. Cues, Inc., 14 Caldwell Drive, Amherst, NH 03031.

Please circle 103 on Reader Service Card
The MAT-Tree is the new tree care aerial unit designed to last! It uniquely features a telescopic upper boom for greater range of working height in the tree zone. An amazing horizontal extension up to 41 feet. Non-overcenter design for greater stability. Unique 1800 psi hydraulic system pressure for less heat and leaks. Low pressure 120 psi single hand controls powered at bucket. No chains or cables used in boom actuation. Mechanicals guarded or contained to prevent damage. Patented hydraulic platform leveling system is the same one offered on the MAT-3 big lift units. Call MAT-3 for more information at 262-524-8810. MAT-3, Inc., 300 Travis Lane, #16, Waukesha, WI 53186.

MODEL PC266. This lightweight, self-propelled, highway speed towable lift is an excellent complement to bucket trucks and climbers and makes a great first lift for companies without a bucket truck. Single joystick control makes operation safe and simple. Most components are “off the shelf” and the PC266 runs all day on less than seven gallons of gas. Meets ANSI A92.5-1992. Polecat Industries, Inc., 14141 SW 142nd Street, Miami, FL 33186. Phone: 800-876-5322 or 305-254-8999; Fax: 305-254-3889. Web: www.polecatindustries.com.

The Terex Telelect Hi-Ranger XT-5 Series has grown with the addition of the XT-58 and XT-60 with 63 ft. and 65 ft. working heights. An optional transverse hydraulic lift available for all XT-5 Series models adds another 10 ft. of working height. All units maintain a compact and maneuverable package as well as all of the attributes that have made the Terex Telelect Hi-Ranger XT Series the preferred aerial device for tree trimming. Check them out today! Terex Telelect, Inc., 600 Oakwood Road, Watertown, SD 57201. Phone: 605-882-4000; Fax: 605-882-5533. Web: www.telelect.com.

The VERSALIFT VO250/255, a tree trimming unit with 41-foot, 2-inch (12.50m) Overcenter Horizontal Reach features a maximum Platform Capacity of 400 pounds (181 kg), a Stowed Travel Height of 11-feet, 5-inch (3.48m) and a Lower Boom Lift Eye Capacity of 1,500 pounds (680 kg). Please call us at 254-399-2100 for detailed specifications! VERSALIFT, TIME Manufacturing Company, Waco, TX 76702. Fax: 254-399-2651; E-mail: danas@versalift.com; Web: www.versalift.com.
AMERICAN ARBORIST SUPPLIES INC.

Various Legends — "Tree Work Ahead," "Flagger Symbol," "Work Area Ahead." Check with DOT for appropriate legend and flag requirements for your state. Eastern Metal/USA-Sign® C-1102 Warning Kit w/flag holder. Buy complete kit or roll-up signs, sign case, flags and complete sign stand separately. Specify reflective or non-reflective signs. Many sign legends available. Compact, lightweight, wind resistant. Meets Fed. Hwy. NCHP-350 "crash worthy" standard. American Arborist Supplies, Inc., 882 South Matlack Street, Unit A, West Chester, PA 19382. Phone: 800-441-8381; Fax: 888-441-8382; E-mail: aas@arborist.com; Web: www.arborist.com.

Please circle 108 on Reader Service Card

BAILEY’S

Bailey’s is the world’s largest mail-order woodsman supplies company — selling at discount prices. They have hundreds of items for the arborist and tree work industry, including climbing rope, harnesses, spurs, blocks, brakes, hardware, and much, much, more. Ask for their free "Master Catalog" which displays thousands of products and supplies, such as portable sawmills, forestry tools, work clothing, boots, chaps, and unique gifts. Est. 1975. Warehouses in CA and TN. 1-800-322-4539. Bailey’s, PO Box 550, Laytonville, CA 95454. E-mail: baileys@baileys-online.com; Web: www.baileys-online.com.

Please circle 109 on Reader Service Card

BANDIT INDUSTRIES, INC.

Bandit Industries’ Knife Saver™ is designed to sharpen chipper knives while still in the machine. When held against a chipper knife, the diamond-honed tungsten carbide tool automatically adjusts to the blade. One pull will usually restore a sharp edge to a dull blade. In addition to the sharpener, the kit includes a mill file and cut-resistant gloves. For further information, contact Bandit Industries, Inc., 6750 Millbrook Road, Remus, MI 49340. Phone: 800-952-0178; Fax: 989-561-2273; E-mail: brushbandit@eclipsetel.com; Web: www.banditchippers.com.

Please circle 110 on Reader Service Card

BARTLETT MANUFACTURING COMPANY

Since 1912, Bartlett’s pole pruners, pole saws, loppers and hand saws have set the industry standard. We now also distribute a full line of state-of-the-art climbing and rigging equipment; cable and bracing hardware; hand pruners and brush-clearing tools; signs and safety equipment; boom truck accessories; mycorrhizal and other soil additives; Kioritz injectors and more! Bartlett Manufacturing Company, 3003 East Grand Boulevard, Detroit, MI 48202. Phone Toll-Free: 800-331-7101 or 313-873-7300; Fax: 313-873-5454.
**BISHOP COMPANY**

If you have the manpower, we have everything else! Bishop Company celebrates 54 years supplying the professional arborist and landscaper with quality tools, equipment and service. Our 160-page catalog represents products from over 400 manufacturers. Call toll-free for your free copy today! Remember, if you have the manpower, Bishop Company has everything else.

Bishop Company, 12519 East Putnam Street, PO Box 870, Whittier, CA 90602. Phone: 800-421-4833. (Se habla Espanol); Web: www.bishco.com.

*Please circle 112 on Reader Service Card*

**BLUE RIDGE ARBORIST SUPPLY**

Helping you reach new heights with arborist tools you know and trust. Names such as: The American Group, Buckingham, Bashlin, Columbian Rope, Corona, Fred Marvin Associates, French Creek, Gibbs, Klein, Peavey, Petzl, Sierra Moreno Mercantile and Wall Safety. Power Equipment: Timberwolf Wood Processors, Woodchuck Chippers, Kan-Du Stump Grinders, Tanaka and Dolmar saws and parts. Call 1-800-577-TREE (8733).

Blue Ridge Arborist Supply, 300 S. E Street, Culpeper, VA 22701. Phone: 540-829-6889; Fax: 540-829-6890; Web: www.blueridge.baweb.com.

*Please circle 113 on Reader Service Card*

**BUCKINGHAM MFG. COMPANY**

Buckingham Manufacturing Co., Inc. introduces a new arborist catalog featuring many new products to make our customers' jobs safer and more comfortable. Buckingham has specialized in producing equipment for arborists and linemen since 1896. Buckingham offers the widest choice of climbers, saddles and other personal protective equipment.

Buckingham Manufacturing Co., Inc., 1-11 Travis Avenue, PO Box 1690, Binghamton, NY 13902. Phone: 800-937-2825 or 607-773-2400; Fax: 607-773-2425; Web: www.buckinghammfg.com.

*Please circle 114 on Reader Service Card*

**FORESTRY SUPPLIERS, INC.**

The 2001 Arboriculture/Horticulture/Grounds Maintenance Catalog from Forestry Suppliers, Inc. features hundreds of quality products for tree care professionals. Inside its 96 full-color pages, you'll find tree climbing equipment, pruners, backpack sprayers, planting tools, GPS Receivers and much more. To get your free copy, contact our Catalog Department today at (800) 360-7788 or visit us on the Web at www.forestry-suppliers.com.

*Please circle 115 on Reader Service Card*
LOWE'S

Lowe’s Pros: Seasoned trades-people, with experience in plumbing, paint, electrical and hardware, who can answer business-sized questions. - Flexible Credit Services: Our plan to simplify your accounting with easy credit and billing by the job. - Extended Hours: We open early, close late and work weekends. Because you do, too - Commercial Business Catalog: Order from over 17,000 items, from the office or even the jobsite. - Ready-To-Go Phone and Fax Orders: Pick it out. Order it. We’ll have any of over 40,000 in-stock items ready when you get here. - Professional supplies: Name brands you can stake your reputation on. - Special Order Services: If we don’t stock it in our stores, we’ll get it for you - fast and easy. Call (800) 44LOWES.

MIDWEST ARBORIST SUPPLIES

SHOP ON-LINE at www.treecaresupplies.com or call us at 800-423-3789 for your tree care and equipment needs. We inventory fertilizer from NU-ARBOR Products, the Kioritz Soil Injector, Mauget Microinjection and Arbotect Macro-injection, mycorrhizae from Plant Health Care, a complete line of climbing and rigging gear, pruning equipment, safety apparel, and much, much more! Shop online at: www.treecaresupplies.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: nna@natlarb.com; Web: www.natlarb.com.

NORTHEASTERN ASSOCIATES

Your arborist supply depot, Northeastern Associates provides the arborist industry with the most complete line of arborist tools, supplies and equipment. Rope, slings, saws, lowering devices—tools and supplies used every day. Plus, a wide range of sprayers with tank sizes from 30 to 1000 gallons; pump capacities from 3 to 60 gpm. Everything is affordable and dependable while easy to use. Northeastern Associates, 50 Notch Road, West Paterson, NJ 07424. Toll-Free: 800-261-SPRAY (7772) or 973-837-1390; Fax: 973-837-1391; Web: www.northeasternarborist.com.
SHERRILL, INC.

Sherrill Arborist Supply is focused on customer service and order accuracy. Our warehouse is stocked with a wide range of all the products arborists need. Orders can be placed directly with Sherrill by calling 1-800-525-8873, or online at www.wtsherrill.com. Also, in an effort to better serve arborists, Sherrill products are now available at participating Vermeer dealers worldwide. Sherrill Arborist Supply is a member and active supporter of the National Arborist Association (NAA), ISA and ArborMaster Training. The 2001 catalog is now available! Call us today at 1-800-525-8873 or visit our website www.wtsherrill.com; Toll-Free Fax: 1-866-SHERRILL; e-mail:sherrillarbor@wt.sherrill.com.

Please circle 120 on Reader Service Card

WESTERN TREE EQUIPMENT AND REPAIRS

Variety and availability of quality arborist supplies are at your fingertips. We've got the "right stuff." Whether the job is big or small, supplying your needs is our goal. Phone orders are shipped the day they are received. If we don't have an item, we will find it! Call for your free catalog. Western Tree Equipment & Repairs, 11530-B Elks Circle, Rancho Cordova, CA 95742-7357. Phone: 800-94-ARBOR (942-7267); Fax: 916-852-5800.

Please circle 121 on Reader Service Card

RAPCO INDUSTRIES, INC.

Rapco Carbide Saw Chains are available on Carlton and Oregon chain bodies from .325-inch pitch to 3/4-inch pitch and are available in all gauges. For additional information, contact: Ron Blehm, Rapco Industries, Inc., 6000 N.E. 88th Street, Ste. D-104, Vancouver, WA 98665-0958. Phone: 800-959-6130 or 360-573-0090; Fax: 360-573-0046; or contact us via E-mail: Ron@rapcoindustries.com Web: www.rapcoindustries.com.

Please circle 122 on Reader Service Card

STIHL INCORPORATED

The new STIHL MS 200T is designed for precision cutting in confined conditions. It is an extremely well-balanced machine, with the same durability and a narrower profile than the legendary 020T; it is also 24% lighter than its predecessor model. The MS 200T is built with a Quad-Power™ engine that has four transfer ports for better distribution of mix in the firing chamber and more efficient expulsion of exhaust gasses, allowing for increased power and fuel efficiency. Other performance features include a side access chain tensioner, Master Control Lever™, IntelliCarb™ compensating carburetor, adjustable oiler, STIHL Quickstop chain brake and retractable carry ring. For more information, call 1-800-GO-STIHL (1-800-467-8445), or visit our Web site at www.stihlusa.com.

Please circle 123 on Reader Service Card
BANDIT INDUSTRIES, INC.

Bandit’s Chipper/Chip Box Combo eliminates the need for a separate chip truck and related costs like insurance, licensing, etc. Is available with Bandit’s Model 65 (6-inch diameter capacity) or Model 90XP (9-inch diameter capacity). Combo unit features an 8.5 cubic yard dump box with hydraulic lift. Chipper is mounted on a turntable. Seven different chipping positions are provided and can be changed in a matter of seconds. For further information, contact Bandit Industries, Inc., 6750 Millbrook Road, Remus, MI 49340. Phone: 800-952-0178; Fax: 989-561-2273; E-mail: brushbandit@eclipsetel; or visit online at: www.banditchippers.com.

KARL KUEMMERLING, INC.

Manufacturer of the Mitts & Merrill Brush Chippers. Takes brush up to 8-inch diameter. Makes small chips which pack together on truck, resulting in fewer loads to dump. Small chips also excellent for mulch. Both standard and hydraulic feed roll chippers. 12-inch or 16-inch wide cutterheads. Gas or diesel engines. Karl Kuemmerling, Inc., 129 Edgewater Avenue, NW, Massillon, OH 44646. Phone: 330-477-3457, 800-464-8227, 888-222-6166; Fax: 330-477-8528; E-mail: kuemmerling@ezo.net; Web: www.karlkuemmerling.com.

MORBARK, INC.

The Morbark Model 13 Tornado is the most versatile chipper on the market today. With horsepower ranging from 80 hp to 130 hp, the Tornado will handle brush, trees, limbs and other wood waste debris for tree services, landscapers, contractors, utility and right-of-way clearing and municipalities. This unit has more standard equipment than any other machine in the industry. Call your local Morbark dealer for a demonstration of the Model 13 Tornado and for more key benefits, or contact Morbark directly at 800-831-0042.

NATIONAL ARBORIST ASSOCIATION

Give your crews comprehensive training in chipper use and maintenance, plus a lot more. Basic Training for Ground Operations in Tree Care is the newest video series available from the National Arborist Association. The program’s five videos and fully illustrated workbook break new ground in crew training with unique subject matter and presentation style. Video titles are: An Orientation to the Arboriculture Profession; Vehicle Safety; Job Planning and Preparation; Working Safely and Efficiently; and Brush Chipper Operation and Maintenance. To order your set, contact the NAA at 1-800-733-2622 or save shipping and order online at www.natarb.com.
ZENITH CUTTER CO.

Industrial-quality chipper knives to precise OEM specifications. Zenith chipper knives are manufactured from the same high quality materials as the cutters Zenith provides to the corrugated, plastic and tire recycling industries. Zenith chipper knives give you more chipping performance because they hold their edge and stand up to repeated sharpenings! Guaranteed to be your best value, these quality industrial knives are 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

Please circle 128 on Reader Service Card

PETZL AMERICA

Petzl has designed and manufactured the finest equipment for those heading into the vertical world. We are on the cutting edge of work positioning and rope access gear. Petzl is renowned for its innovation and dedication to quality. Our specialized inventory includes: harnesses, ascenders, descenders, rope grabs, helmets and headlamps, as well as other fall-arrest equipment. For a catalog, call toll-free: 877-807-3805 or write: Petzl America, PO Box 160447, Clearfield, UT 84016. Also, visit our Web site at www.petzl.com.

Please circle 129 on Reader Service Card

ARBORWEAR® LLC

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.

Please circle 130 on Reader Service Card

IML - INSTRUMENT MECHANIC LABOR, INC.

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. Free application video is available! 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.

Please circle 131 on Reader Service Card
ARBORLEARN.ORG

Learn plant appraisal from the comfort of your computer! The American Society of Consulting Arborists, the International Society of Arboriculture and the National Arborist Association are offering online educational seminars to arborists. The first seminar, Plant Appraisal Workshop, is based on material from the Guide for Plant Appraisal, 9th Edition. It features five interactive sessions that will take participants through the three methods of appraisal. Online arborist education will improve your professionalism, fit self-improvement into your schedule, and provide cost-effective training - all conveniently delivered to your home or office PC. For more information, go to ArborLearn's Web site, www.arborlearn.org.

INTERNATIONAL SOCIETY OF ARBORICULTURE

The International Society of Arboriculture keeps its members informed of 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

One of the fastest and easiest ways to improve your employees' knowledge and professionalism is with the NAA's newly revised Home Study program. The numerous improvements and changes provide you with a cutting-edge education that is almost impossible to find outside the college classroom. To enhance your learning experience, the newly revised Home Study program is full of new and updated diagrams, drawings and photos that clearly illustrate what is being taught. For more information, contact the National Arborist Association, 3 Perimeter Road, Unit 1, Manchester NH 03103, Phone: (800) 733-2622, Fax: (603) 314-5380, or visit: www.natlarb.com.

NATIONAL ARBORIST ASSOCIATION

The NAA's Treeworker newsletter for the field employees of tree care companies. Each colorful issue gives employees "how-to" pointers on subjects such as improving client relations and avoiding vehicular accidents. Special features on disease and pest alerts, tree identification or technical features appear in many issues. Those often-hilarious, always informative Mr. Safety cartoons, created by the tree care industry's own Brian Kotwica, are on the back cover. Many arborists use each issue as a monthly safety tailgate training session. To subscribe, call the NAA at (800) 733-2622 or (603) 314-5380; Fax: (603) 314-5386; or Web: www.natlarb.com.
AUTOCLUTCH MANUFACTURING

Here's a PTO clutch designed for the Arbor industry—specifically wood chipper applications. Our product is manufactured using current heavy-duty truck components. We are so confident that this will be the most durable clutch you will ever use, we are offering as standard, a two-year warranty—a first in the industrial marketplace.


Please circle 136 on Reader Service Card

FINANCING

C. A. G. CORPORATION

We help thousands of people all over America achieve their entrepreneurial dreams. We listen to people, we don’t make decisions with computers or models. We work with you to develop custom payment plans to fit your budget. We can finance older trucks for longer terms. Are you thinking of starting your own business and not sure if you qualify? Are you looking to expand your business? Does your bank understand? C. A. G. understands—call today for your pre-approval!


Please circle 138 on Reader Service Card

OBL FINANCIAL SERVICES, INC.

Leasing and Financing programs tailored to the tree care and utility Industries for new and used trucks and equipment. Explore your options today and let OBL offer you flexibility in your financial decision process! If you have issues with rate, structure or credit, call us today for a free quote or to ask about our pre-approval process.

OBL Financial Services, Inc., Phone: 800-772-7180; Fax: 630-850-9236; E-mail: oblfin@oblfinancial.com; Web: www.oblfinancial.com.

Please circle 139 on Reader Service Card
RACINE HYDRAULIC TOOLS/FCI

FCI/Racine Products are designed specifically for heavy duty professional applications. Manufactured to the highest quality, thus assuring unmatched reliability and performance in harsh work environments. FCI/Racine Products also provides you with one of the industry's most comprehensive warranties and the only to offer the GEROTOR Motor lifetime warranty. FCI is the leader in the industrial and electronics markets. Racine Hydraulic Tools/FCI, 47 East Industrial Park Drive, Manchester, NH 03108. Phone Toll-Free: 800-346-4175 or 603-647-5121; Fax: 603-647-5205.

Please circle 140 on Reader Service Card

THE HARTFORD


Please circle 141 on Reader Service Card

FUTURE FORESTRY PRODUCTS INC.

You can take trees down, we can take the trees out! Future Forestry Products Inc. has a full line of equipment. For moving logs by hand, ATV, Tractor or winch line; For low impact, low cost log moving options, any log, anywhere. Future Forestry Products Inc. P.O. Box 1083, Willamina, OR 97396 Phone/Fax toll-free 888 258 1445; Web: www.futureforestry.com.

Please circle 142 on Reader Service Card

THE LOADER DIVISION OF NMC-WOLLARD

Swinger articulated loaders/tool carriers preserve turf and terrain. No tire dragging or ruts in turns. Virtually ends turf damage – saves “fix-it” time – cuts labor. Lets you bid more jobs – bigger jobs – and increase profit margins. Swinger loaders/carriers feature low maintenance hydro/mechanical 4-wheel drive, excellent visibility, easy operation, articulated steering, axle oscillation, auxiliary hydraulics, quick-attach and ample power (up to 80 hp John Deere diesel). Swinger loaders/carriers are ideal for grapples, saws and other tree attachments. Discover why tree care companies are replacing skid machines with Swinger loaders/carriers. Visit our Web site or call for details. Phone: 800-656-6867; Web: www.nmc-wollard.com; E-mail: kbird@nmc-wollard.com.

Please circle 143 on Reader Service Card

TCI BUYERS’ GUIDE - JULY 2001 - 12
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.

WEST COAST SHOE COMPANY/WESCO

The WESCO Highliner has been worn by arborists and professional linemen for over 62 years. Designed for optimal support while climbing, the Highliner offers rugged comfort and superior craftsmanship. A heavy steel shank, leather half-slips, straight heel with a countersunk metal heel plate, double-stitched soles, steel side plates and leather side patches contribute to overall durability. In 10-inch, 12-inch, 14-inch, 16-inch, 18-inch, and 20-inch heights. West Coast Shoe Company, 1-800-326-2711. E-mail: boots@westcoastshoe.com; Web: www.westcoastshoe.com.

ADI PRUNING TOOLS BY TOL INC.

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.

CORONA CLIPPER

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; or on the Web: www.coronaclipper.com.
FANNO SAW WORKS

Fanno Saw Works continues its reputation of offering tree care professionals quality and unique tools through the Fanno International name. The FI-1311 Tri-Edge hand saw offers its user the most durable saw of its type on the market. Fanno Saw Works, PO Box 628, Chico, CA 95927. Phone: 530-895-1762; Fax: 530-895-0302; Web: www.fannosaw.com.

GROWTECH, INC.

Tools that make pruning a breeze! High-end quality, ergonomically designed, lightweight and innovative for your pruning pleasure. From ARS Corporation/Japan and the best around the world. Available at your favorite distributor or catalog house. Visit our Web site for detailed specifications. Contact us by E-mail to receive our catalog and price list. Growtech, Inc., Fax: 630-980-4877; E-mail: pruningtools@aol.com; Web: www.growtech.com.

JAMESON CORPORATION

What’s up at Jameson? Plenty. A complete line of fiberglass poles and accessories for all your landscaping needs, including a new tree trimming pole designed to provide peak performance for landscapers. We’ve also added the JA-14, a rugged 1 1/4" side cut pruner head to our line. It features forged steel components, which deliver extra cutting power to the blade. Innovations like these are nothing new to Jameson. We’ve been leading the way ever since we pioneered fiberglass poles years ago. They’re versatile, durable, safe, lightweight, and meet OSHA regulations. And our interchangeable pruning and sawing heads, with unique adapter system, are second to none. Call us at 800.346.1956, or visit us at www.jamesoncorp.com.

FRED MARVIN ASSOCIATES

For over 50 years, Marvin pruners and saws have become standard equipment for the Professional Arborist. Marvin also has its own line of fiberglass poles, extension couplings, wood poles and saw blades. Call 1-800-540-6680 for a brochure, or visit our Web site: www.pruner.com.
Looking for incredible cutting performance? Get the best pruning tools at:

OrchardsEDGE.com

**ORCHARD’S EDGE**

OrchardsEDGE.com—where professionals go for quality tools. Ergonomically designed for working longer with less effort and greater comfort. We stock ARS hand shears, saws, loppers, long-reach pruners and hedge shears. Shop online 24/7. Wholesale prices available. Request our catalog. Orchard’s Edge 836 Arlington Heights, Rd., Suite 233, Elk Grove Village, IL 60007. Phone toll-free: 877-881-1426 or 847-228-7443; Fax: 847-228-3889; E-mail info@orchardsedge.com; Web: www.orchardsedge.com.

**BANDIT INDUSTRIES, INC.**

Bandit’s new Megabyte large stump and log shear attachment is the most productive stump and log shear ever developed. This powerful double pivoting shear will effectively split stumps and logs of any length. The shear opens to 9-feet 2-inches, while its ripper or anvil side knuckles under to increase cycle time when shearing smaller materials. This unit also serves as an excellent stump puller. For further information, contact Bandit Industries, Inc., 6750 Millbrook Road, Remus, MI 49340. Phone: 800-952-0178; Fax: 989-561-2273; E-mail: brushbandit@eclipselnet.com; Web: www.banditchippers.com.

**JOHN BROWN & SONS, INC.**

Major utilities are maintaining up to 25,000 acre ROWs with the Brontosaurus System ... some using the Bronto exclusively! This is truly hassle-free ROW management—with few or no safety or environmental issues. The Brontosaurus is the safest, most durable and versatile method of brush and small tree management available today. John Brown & Sons, Inc., Sawyer Industrial Park, Weare, NH 03281. Phone Toll-Free: 888-BBRONTO (227-6686) or 603-529-7974; Fax: 603-529-7976; E-mail: bronto@gsinet.net; Web: www.brownbronto.com.

**BUCCANEER ROPE COMPANY**

NEW ENGLAND ROPES, INC.

The name you know. The line you trust. The answer is New England Ropes. Available at finer dealers throughout the world. For a catalog and 9-inch sample, write: New England Ropes, 848 Airport Road, Fall River, MA 02720. Phone: 800-333-6679; Fax: 508-679-2363; E-mail: NEROPES@NEROPES.com; Web: www.NEROPES.com.

SAMSON ROPE TECHNOLOGIES

Standards for strength and usage • knots and rigging • rope inspection and retirement • product specifications. The Samson Professional Arborist Ropes catalog includes complete information and specifications for selecting Samson ropes and products developed specifically for the professional arborist. To get a copy, see your local Samson Arborist Products dealer; or contact us directly at 800-227-7673. We will be glad to send you a copy. Web: www.theamericangroup.com.

YALE CORDAGE

From our XTC, XTC-Plus and XTC-12 climbing and bull ropes to our Double Estenol lowering ropes, Yale Cordage manufactures the most versatile, high-performance tree care lines available. We also produce a full range of splice rope tools, slings, lanyards and wire core fliplines designed to meet—and exceed—the needs of today’s tree care experts. Write, call or fax for more information on Yale’s full range of arborist ropes, tools and accessories. Yale Cordage, 26 Morin Street, Biddeford, ME 04005. Phone: 207-282-3396; Fax: 207-282-4620; Web: www.yalecordage.com.

ARBORGOLD SOFTWARE

Manage customers from the initial phone call to proposals, scheduling, invoicing and receiving payments. Features include an appointment scheduler, directions map, built-in landscape CAD designer, and most importantly a 100% SYNCHRONIZABLE database. Each salesman and/or crew can become a mobile office! Synchronize with a laptop or the new tablet PC’s — size of a legal pad, which includes a CD-ROM & digital video camera, built-in handwriting and voice recognition! New QuickBooks posting option. 30-day money back guarantee! For more information call Tree Management Systems, Inc. at (800) 933-1955 or go to www.turftree.com and download a free demo presentation.
BORDER CITY TOOL & MANUFACTURING COMPANY

Established in 1954, Border City Tool is the original manufacturer of carbide-tipped stump cutter teeth. After 42 years, our commitment to quality products, prompt service and reasonable prices is still our goal. We have a full line of products for your stump cutter needs. Call our toll-free number for information on our products or to place an order. Border City Tool & Manufacturing Company, 23325 Blackstone Avenue, Warren, MI 48089-2675. Phone Toll-Free: 800-421-5985 or 810-758-5574; Fax: 810-758-7829.

J. P. CARLTON COMPANY, DIV. DAF, 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 at: 864-578-0210; or visit online at: www.stumpcutters.com.

DOSKOCIL INDUSTRIES, INC.

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.

EXCEL INDUSTRIES INC.

LEONARDI MANUFACTURING

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.” Leonard Manufacturing Company, Inc., 2728 Erie Drive, Weedsport, NY, 13166-9505. Phone Toll-Free: 800-537-2552 or 315-834-6611; Fax: 315-834-9220.

Please circle 164 on Reader Service Card

MILLER MACHINE WORKS

Stump grinding attachments for use on tractors and skidsteer loaders. Using your tractor or skidsteer as both power source and tool carrier provides the lowest cost per delivered horsepower on the market ... by far! When combined with a tractor, front-end loader or skidsteer bucket, then stump removal, back filling and wood handling becomes a one-man mechanized job. Eight models are available from 24 to 150 horsepower. All are professional-grade machines with simplicity, durability and high productivity. Miller Machine Works, 3309 East Washington Avenue, Frankfort, IN 46041. Phone: 765-659-1524; Fax: 765-659-0613.

Please circle 165 on Reader Service Card

RAYCO MANUFACTURING, INC.

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.

Please circle 166 on Reader Service Card

ARBORSYSTEMS, LLC

The ArborSystems tree injection system 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: chip@arborsystemsllc.com; Web: www.arborsystemsllc.com.

Please circle 167 on Reader Service Card
CONCEPT ENGINEERING GROUP, INC. (CEG)

The AIR-SPADE® handtool is used to excavate plant roots without damaging them. It has a powerful supersonic nozzle which changes compressed air into an effective soil removal tool, used by plant professionals to uncover roots for applying treatments for diseases, eliminating girdling roots, root pruning, soil compaction reduction, aeration, utility locating and a host of other applications. Can be customized to fit any application—the product line includes many labor-saving and useful accessories. Concept Engineering Group, Inc. (CEG), 15 Plum Street, Verona, PA 15147-2100. Phone: 888-557-2339 or 412-826-8800; Fax: 412-826-8601; E-Mail: ceg@air-spade.com; Web: www.air-spade.com.

Please circle 168 on Reader Service Card

CLEARY CHEMICAL

Cleary’s 3336 systemic and Protect T/O fungicides form the basis of a complete plant protection program for deciduous and evergreen trees and shrubs. Used separately, or tank-mixed for complete protection, these products provide control of anthracnose, diplodia tip blight, phomopsis, and over 25 leaf spot diseases. Cleary Chemical, 178 Ridge Road, Ste. A, Dayton, NJ 08810-1501. Phone: 800-524-1662 or 732-329-8399 for more information.

Please circle 169 on Reader Service Card

THE DOGGETT CORPORATION

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

Please circle 170 on Reader Service Card

GROWTH PRODUCTS, LTD.

The highest analysis crystal-clear liquid fertilizers, chelated micronutrients, Essential®, Companion®, and a citric acid pH reducer. All of our products are made from the highest grade raw materials available. There is no need for mixing or agitation, and clogging, abrasion, and downtime are eliminated. Growth Products, Ltd. (“The Liquid Solutions Company”) is dedicated to serving the Green Industry by providing agronomically sound and environmentally friendly products. For information, call 1-800-648-7626; E-Mail: info@growthproducts.com; Web: www.growthproducts.com. Growth Products, Ltd., PO Box 1252, White Plains, NY 10602-1252.

Please circle 171 on Reader Service Card
J.J. MAUGET COMPANY

The Mauget HOME STUDY COURSE is a comprehensive package of Mauget Educational Materials enabling those who may not be able to attend a Mauget Educational Seminar or just want to keep UP TO DATE. The package includes: A four videotape training program and the Mauget Applicators Manual containing product labels, MSDS, the certification examination, and more! J.J. Mauget Company, 5435 Peck Road, Arcadia, CA 91006-5847. Phone toll-free: 800-TREES-RX (873-3779) or 626-444-1057; Fax: 626-444-7414; E-mail: mauget@mauget.com; Web: www.mauget.com.

MONTEREY LAWN & GARDEN PRODUCTS, INC.

Florel Fruit Eliminator, long used to control nuisance fruits (olives, carobs, crab apples and apples) is now registered to control both leafy mistletoe on deciduous trees and dwarf mistletoe on conifers, as well as nuisance fruits on cottonwood, elm, pear, maple, oak, pine, sour orange, sweet gum, and syca-more. Odorless, non-staining, fast-acting. Monterey Lawn & Garden Products, Inc., P.O. Box 35000, Fresno, CA 93745-5000. Phone: 559-499-2100; Fax: 559-499-1015; or online at: www.montereylawngarden.com.

NU-ARBOR TREE & SHRUB CARE PRODUCTS

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, PO 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.

TERRAVENT BY TERRA CARE

Terravent is a pneumatic soil aerator, a pneumatic soil decompactor and a pneumatic liquid injector. It is an essential part of any Groundsman's, Groundskeeper's, Arborist's and Landscaper's equipment. Terravent is simply the most efficient, effective and versatile machine created for soil improvement. Terravent and the Terravention process are both endorsed by The Royal Botanic Gardens Kew in England. For more information, please call 1-866-895-8002.
TREE HEALTH PRODUCTS

TREE TECH MICROINJECTION SYSTEMS

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.

Please circle 176 on Reader Service Card

TREES PROTECTION DEVICES

INDEPENDENT PROTECTION COMPANY

Lightning protection systems for trees, golf shelters, restrooms, clubhouses, maintenance buildings and secondary lightning surge protection for sprinkler systems. Tree lightning protection sales and installation kit available along with VHS, “How to Install Lightning Protection in Trees.” Free computer estimating program provides itemized material list for a specific tree. Independent Protection Company, PO Box 537, Goshen, IN 46527. Phone Toll-Free: 800-860-8388 or 219-533-4116; Fax: 219-534-3719; E-mail: info@ipclp.com; Web: www.ipclp.com.

Please circle 177 on Reader Service Card

TREE PROTECTION DEVICES

PREFORMED LINE PRODUCTS

Labor-saving, economical, strong. Those are the benefits you get when you use the TREE-CROTCH™ Grip to reinforce the crotch of a tree, and what you can expect from the TREE-GRIP™ Dead-End for tree cabling installation. Both the TREE-CROTCH™ Grip and the TREE-GRIP™ Dead-End use the proven helical concept to grip strand. The helical method ensures that the Published Rated Breaking Strength of the strand is achieved. Installation time is greatly reduced, saving time and labor cost. Preformed Line Products, PO Box 91129, Cleveland, OH 44101. Phone: 440-461-5200; Web: www.preformed.com.

Please circle 178 on Reader Service Card

TRUCKS & TRUCK ACCESSORIES

ALTURANAMATS, INC.

For arborists everywhere: super tough polyethylene drive-on matting system for easy accessibility over lawns and grounds that need to be protected. Also available – economical and durable outrigger pads. Call for order information. Alturnamats, Inc., PO Box 344, Titusville, PA 16345. Phone Toll-Free: 888-544-6287; Fax: 814-827-2903; Web: www.alturnamats.com.

Please circle 179 on Reader Service Card

TCI BUYERS' GUIDE - JULY 2001 - 21
For over 15 years, Arbortech has been one of the nation's leading manufacturers of forestry bodies and arboriculture products. The Arbortech produce line includes chip bodies, crew cabs, utility tree vehicles and toolboxes. Arbortech, 3203 West Old Lincoln Way, Wooster, OH 44691. Phone: 800-255-5715; Fax: 330-264-0891 www.arbortech.cc.

Your one-stop source for quality new and used arborist equipment. Aerial lifts, chip/dump box trucks, wood chippers, skidders and more. Forestry Equipment of Shelby, 2510 Taylor Road, Shelby, NC 28152. Phone: 704-487-7245; Fax: 704-482-4685. Evenings call 704-905-4462; E-mail: FES@Shelby.net; Contact: Steve Barkwell.

"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.

"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.
**DUECO, INC.**

DUECO has a huge inventory of used bucket trucks for sale. In fact, DUECO has one of the largest inventories of used bucket trucks in the country! DUECO sells and services all makes and models of aerial lifts, chippers, custom forestry bodies, utility equipment, and all varieties of truck bodies and equipment. With six branch locations—covering 14 states, DUECO can service and provide parts for your equipment wherever you are located. Call today! DUECO, Inc., N4 W22610 Bluemound Road, Waukesha, WI 53186. Contact: David Roembke or Heffner; Phone: 800-558-4004 or 262-547-8500; Fax: 262-547-8407; E-mail: info@dueco.com; Web: www.dueco.com.

Please circle 184 on Reader Service Card

**TAMARACK CLEARING**

Tamarack Clearing Service has been building chipper dump trucks since 1985. Choices include Ford, GM, Int., gas or diesel chassis with 12-foot, 14-foot or 16-foot standard or tall boy boxes, L-boxes and removable tops or built to your own specs. Tamarack Clearing also has an inventory of bucket trucks, chippers and other related equipment. Quality products at affordable pricing. Tamarack Clearing Service, PO Box 370, 80 Lincoln St., Canton, NY 13617. Phone: 800-858-0437; Fax: 315-386-8331, Web site: www.tamarackclearing.com or e-mail: Tamarack-John@northnet.org.

Please circle 185 on Reader Service Card

**DRIVE AWAY**

**MAYO GLOBAL TRANSPORTATION, INC.**

We specialize in Utility Fleet Transportation. “When it absolutely has to be there, we’ll make it happen!” Call us for the fastest response in the industry. Mayo Global Transportation (MGT), 4841 Chesnee Highway, Chesnee, SC 29323. Phone: Cly Gilbert - 888-918-8733; Steve Wade - 888-918-8733; Sue Stanton - 877-481-1919. Fax: 1-888-258-8733; or visit online at: www.mayoglobal.com.

Please circle 186 on Reader Service Card

**WOOD PROCESSORS**

**B & B MANUFACTURING**

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 package samples at nominal fee. B & B Manufacturing, 3007 West River Road, Olean, NY 14760. Phone: 800-654-5320; E-Mail: bbmfg@sprynet.com; www.home.sprynet.com/~bbmfg/

Please circle 187 on Reader Service Card
BANDIT INDUSTRIES, INC.

This unit from Bandit quarters logs and stumps in a single pass so they can be easily processed by a chipper or grinder. Rids stumps of rock and dirt, reducing maintenance costs to chippers and grinders. This machine is able to tackle materials of almost unlimited diameter and easily handles 106 inches long logs. For further information, contact Bandit Industries, Inc., 6750 Millbrook Road; Remus, MI 49340. Phone: 800-952-0178; Fax: 517-561-2273; E-mail: brushbandit@eclipsetel.com; Web: www.brushbandit.com.

BIG FOOT INDUSTRIES, INC.


FECON, INC.

Fecon develops profitable solutions in the recovery and re-use of wood and organic materials with a full range of resource recovery equipment and systems. Product lines include Horizontal Grinders, Satellite Screens®, FECON Mulch Coloring Systems®, the Bull Hog® wood shredder and specialty attachments for re-forestation and remediation. FECON, Inc. 10350 Evendale Drive, Cincinnati, OH 45241 Phone: 800-528-3113 Fax: 513-956-5701 E-mail: Fecon@fuse.net Web: www.fecon.com.

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.
Please tell these advertisers where you saw their ad.
They appreciate your patronage.

<table>
<thead>
<tr>
<th>Reader Service No.</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>146. ADI Pruning Tools by TOL Incorporated</td>
<td>13</td>
</tr>
<tr>
<td>100. Aerial Lift, Inc</td>
<td>2</td>
</tr>
<tr>
<td>101. Altec Industries Inc</td>
<td>2</td>
</tr>
<tr>
<td>179. Alumamats, Inc</td>
<td>21</td>
</tr>
<tr>
<td>108. American Arborist Supplies Inc</td>
<td>4</td>
</tr>
<tr>
<td>159. Arborgold Software</td>
<td>16</td>
</tr>
<tr>
<td>132. ArborLearn.org</td>
<td>10</td>
</tr>
<tr>
<td>167. Arborsystems, LLC</td>
<td>18</td>
</tr>
<tr>
<td>180. Arbortech</td>
<td>22</td>
</tr>
<tr>
<td>130. Arborwear Inc</td>
<td>9</td>
</tr>
<tr>
<td>136. Autoclutch Manufacturing</td>
<td>11</td>
</tr>
<tr>
<td>187. B &amp; B Manufacturing</td>
<td>23</td>
</tr>
<tr>
<td>109. Bailey’s</td>
<td>4</td>
</tr>
<tr>
<td>110. Bandit Industries, Inc</td>
<td>4</td>
</tr>
<tr>
<td>124. Bandit Industries, Inc</td>
<td>8</td>
</tr>
<tr>
<td>153. Bandit Industries, Inc</td>
<td>15</td>
</tr>
<tr>
<td>188. Bandit Industries, Inc</td>
<td>24</td>
</tr>
<tr>
<td>111. Bartlett Manufacturing Company</td>
<td>4</td>
</tr>
<tr>
<td>189. Big Foot Industries, Inc</td>
<td>24</td>
</tr>
<tr>
<td>112. Bishop Company</td>
<td>5</td>
</tr>
<tr>
<td>113. Blue Ridge Arborist Supply</td>
<td>5</td>
</tr>
<tr>
<td>160. Border City Tool &amp; Manufacturing Company</td>
<td>17</td>
</tr>
<tr>
<td>154. John Brown &amp; Sons, Inc</td>
<td>15</td>
</tr>
<tr>
<td>155. Buccaneer Rope</td>
<td>15</td>
</tr>
<tr>
<td>138. C. A. G., Inc</td>
<td>11</td>
</tr>
<tr>
<td>161. J. P. Carlton Company, Div. DAF,Inc</td>
<td>17</td>
</tr>
<tr>
<td>169. Cleary Chemical Corporation</td>
<td>19</td>
</tr>
<tr>
<td>168. Concept Engineering Group, Inc. (CEG)</td>
<td>19</td>
</tr>
<tr>
<td>147. Corona Clipper</td>
<td>13</td>
</tr>
<tr>
<td>102. Crane &amp; Shovel Sales Corporation</td>
<td>2</td>
</tr>
<tr>
<td>103. CUES, Inc</td>
<td>2</td>
</tr>
<tr>
<td>170. The Doggett Corporation</td>
<td>19</td>
</tr>
<tr>
<td>162. Dosko Industries, Inc.</td>
<td>17</td>
</tr>
<tr>
<td>184. DUECO, Inc</td>
<td>23</td>
</tr>
<tr>
<td>163. Excel Industries Inc</td>
<td>17</td>
</tr>
<tr>
<td>148. Fanno Saw Works</td>
<td>14</td>
</tr>
<tr>
<td>140. FCI/Racine</td>
<td>12</td>
</tr>
<tr>
<td>190. Fecon, Inc</td>
<td>24</td>
</tr>
<tr>
<td>181. Forestry Equipment of Shelby, Inc</td>
<td>22</td>
</tr>
<tr>
<td>115. Forestry Suppliers, Inc</td>
<td>5</td>
</tr>
<tr>
<td>142. Future Forestry Products, Inc</td>
<td>12</td>
</tr>
<tr>
<td>149. Growtech, Inc</td>
<td>14</td>
</tr>
<tr>
<td>171. Growth Products, Ltd</td>
<td>19</td>
</tr>
<tr>
<td>141. The Hartford</td>
<td>12</td>
</tr>
<tr>
<td>131. IML- Instrument Mechanic Labor, Inc</td>
<td>9</td>
</tr>
<tr>
<td>177. Independent Protection Company</td>
<td>21</td>
</tr>
<tr>
<td>133. International Society of Arboriculture</td>
<td>10</td>
</tr>
<tr>
<td>150. Jameson Corporation</td>
<td>14</td>
</tr>
<tr>
<td>125. Karl Kuemmelring, Inc</td>
<td>8</td>
</tr>
<tr>
<td>164. Leonardi Teeth/Simonds Industries Inc</td>
<td>18</td>
</tr>
<tr>
<td>116. Lowe’s Company, Inc</td>
<td>6</td>
</tr>
<tr>
<td>151. Fred Marvin Associates</td>
<td>14</td>
</tr>
<tr>
<td>104. MAT-3, Inc</td>
<td>3</td>
</tr>
<tr>
<td>172. The J.J. Mauget Company</td>
<td>20</td>
</tr>
<tr>
<td>192. The J.J. Mauget Company</td>
<td>48</td>
</tr>
<tr>
<td>186. Mayo Global Transportation, Inc</td>
<td>23</td>
</tr>
<tr>
<td>117. Midwest Arborist Supplies</td>
<td>6</td>
</tr>
<tr>
<td>165. Miller Machine Works</td>
<td>18</td>
</tr>
<tr>
<td>173. Monterey Lawn &amp; Garden Products, Inc</td>
<td>20</td>
</tr>
<tr>
<td>126. Morbark, Inc</td>
<td>8</td>
</tr>
<tr>
<td>118. National Arborist Association</td>
<td>6</td>
</tr>
<tr>
<td>127. National Arborist Association</td>
<td>8</td>
</tr>
<tr>
<td>134. National Arborist Association</td>
<td>10</td>
</tr>
<tr>
<td>135. National Arborist Association</td>
<td>10</td>
</tr>
<tr>
<td>156. New England Ropes, Inc</td>
<td>16</td>
</tr>
<tr>
<td>143. The Loader Division of NMC-Wollard, Inc</td>
<td>12</td>
</tr>
<tr>
<td>137. North Coast Engines, Inc</td>
<td>11</td>
</tr>
<tr>
<td>119. Northeastern Associates</td>
<td>6</td>
</tr>
<tr>
<td>174. NU-ARBOR Tree &amp; Shrub Care Products</td>
<td>20</td>
</tr>
<tr>
<td>139. OBL Financial Services Inc</td>
<td>11</td>
</tr>
<tr>
<td>152. Orchard’s Edge</td>
<td>15</td>
</tr>
<tr>
<td>129. Petzl America</td>
<td>9</td>
</tr>
<tr>
<td>105. Polecat Industries, Inc</td>
<td>3</td>
</tr>
<tr>
<td>178. Preformed Line Products</td>
<td>21</td>
</tr>
<tr>
<td>122. Rapco Industries Inc</td>
<td>7</td>
</tr>
<tr>
<td>166. Rayco Manufacturing, Inc</td>
<td>18</td>
</tr>
<tr>
<td>157. Samson Rope Technologies</td>
<td>16</td>
</tr>
<tr>
<td>175. Schneider Tree Service/Terra-Care</td>
<td>20</td>
</tr>
<tr>
<td>182. Schodorf Truck Body &amp; Equip. Company</td>
<td>22</td>
</tr>
<tr>
<td>144. SelfHEAL, Inc</td>
<td>13</td>
</tr>
<tr>
<td>120. Sherrill, Inc</td>
<td>7</td>
</tr>
<tr>
<td>183. Southco Industries, Inc</td>
<td>22</td>
</tr>
<tr>
<td>123. STIHL, Inc</td>
<td>7</td>
</tr>
<tr>
<td>185. Tamarack Clearing</td>
<td>23</td>
</tr>
<tr>
<td>106. Terex Telelect, Inc</td>
<td>3</td>
</tr>
<tr>
<td>191. Timberwolf Manufacturing Corp</td>
<td>24</td>
</tr>
<tr>
<td>176. Tree Tech Microinjection Systems</td>
<td>21</td>
</tr>
<tr>
<td>107. Versalift, Time Manufacturing Company</td>
<td>3</td>
</tr>
<tr>
<td>145. West Coast Shoe Company</td>
<td>13</td>
</tr>
<tr>
<td>121. Western Tree Equipment &amp; Repairs</td>
<td>7</td>
</tr>
<tr>
<td>158. Yale Cordage</td>
<td>16</td>
</tr>
<tr>
<td>128. Zenith Cutter Company</td>
<td>9</td>
</tr>
</tbody>
</table>

*Please circle this number on the Reader Service Card for more information.*
Distributors

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

Aerial Lift Parts & Equipment
Aerial Equipment, LLC
CUES, Inc.
DICA Marketing Co.
MAT-3 East, Inc.
NESSCO, Inc.
Southeastern Equipment Company
Trueco, Inc.

Aerial Lifts
Aerial Equipment, LLC
CUES, Inc.
G & A Equipment, Inc.
MAT-3 East, Inc.
MIRK, Inc./Toombs Truck & Equip. Co.
NESSCO, Inc.
Odyke, Inc.
Thayer Chevrolet Toyota
Trueco, Inc.

Augers – Earth & Bits
Aerial Equipment, LLC
American Arborist Supplies Inc.
Bailey's
Ben Meadows Company
Blue Ridge Arborist Supply
CUES, Inc.
Deer Creek Equipment
J. P. Fuller Inc.
Karl Kuehmmelung, Inc.
Midwest Arborist Supplies
Niemyer Corporation
Pacific Arborist Supplies, Ltd.
Professional Tree Surgeon Supplies, Inc.
Stuart Brown Chainsaw Specialists
Tilton Equipment Co.,
c/o Jonsered/EFCO
Tree Tools

Bioinsecticides
Bio-Plex Organics
Forrest Lylie & Sons, Inc.
Midwest Arborist Supplies
Professional Tree Surgeon Supplies, Inc.

Biopesticides
Bio-Plex Organics
ESSCO Distributors Inc.
Forrest Lylie & Sons, Inc.
Professional Tree Surgeon Supplies, Inc.

Blowers, Debris
Aerial Equipment, LLC
American Arborist Supplies Inc.
Ben Meadows Company
Cleaves Company, Inc.
Deer Creek Equipment
ESSCO Distributors Inc.
Forestry Suppliers, Inc.
J. P. Fuller Inc.
Karl Kuehmmelung, Inc.
Lanphear Supply
Northeastern Associates
Outdoor Equipment Distributors Inc.
Pacific Arborist Supplies, Ltd.
Stuart Brown Chainsaw Specialists
Tree Tools
Western Tree Equipment & Repairs

Cabling & Bracing
Aerial Equipment, LLC
Alexander Equipment Co. Inc.
American Arborist Supplies Inc.
American Chainsaws & 2 Cycle, Inc.
Arbor Direct, LLC
Bailey's
Bishop Company
Blue Ridge Arborist Supply
Cleaves Company, Inc.
Commercial Cutters Direct
Cutter's Choice
Deer Creek Equipment
ESSCO Distributors Inc.
J. P. Fuller Inc.
Karl Kuehmmelung, Inc.
Lanphear Supply
NESSCO, Inc.
Niemyer Corporation
Northeastern Associates
Odyke, Inc.
Pacific Arborist Supplies, Ltd.
Professional Tree Surgeon Supplies, Inc.
Sherrill Inc.
Southeastern Equipment Company
Stuart Brown Chainsaw Specialists
Tree Tools
Trueco, Inc.
Western Tree Equipment & Repairs

Cabling & Bracing (cont.)
Lanphear Supply
Midwest Arborist Supplies
Niemyer Corporation
Northeastern Associates
Pacific Arborist Supplies, Ltd.
Professional Tree Surgeon Supplies, Inc.
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.
Stuart Brown Chainsaw Specialists
Tree Tools
Western Tree Equipment & Repairs

Chemical Absorbants
ESSCO Distributors Inc.
Forrest Lylie & Sons, Inc.
Professional Tree Surgeon Supplies, Inc.

Chippers
Aerial Equipment, LLC
Alexander Equipment Co. Inc.
Arborist Supply Co., Inc.
Arborlink
Blade Equipment Inc.
The Cat Rental Store
Cleaves Company, Inc.
Deer Creek Equipment
Droge Equipment Inc.
ESSCO Distributors Inc.
Freehold Tree & Turf Equipment
G & A Equipment, Inc.
Karl Kuehmmelung, Inc.
Lanphear Supply
NESSCO, Inc.
Niemyer Corporation
Northeastern Associates
Odyke, Inc.
Pacific Arborist Supplies, Ltd.
Professional Tree Surgeon Supplies, Inc.
Sherrill Inc.
Southeastern Equipment Company
Stuart Brown Chainsaw Specialists
Tree Tools
Trueco, Inc.
Western Tree Equipment & Repairs

Chipper/Shredder/Vac
Deer Creek Equipment
G & A Equipment, Inc.
Stuart Brown Chainsaw Specialists
Tree Tools
Western Tree Equipment & Repairs

Climbing Gear
Aerial Equipment, LLC
Alexander Equipment Co. Inc.
American Arborist Supplies Inc.
American Chainsaws & 2 Cycle, Inc.
Arbor Direct, LLC
Arborist Supply Co., Inc.
Arborlink

G & A Equipment, Inc.
American Arborist Supplies Inc.
American Chainsaws & 2 Cycle, Inc.
Arbor Direct, LLC
Arborist Supply Co., Inc.
Arbo
Climbing Gear (cont.)
Bailey's
Bartlett Manufacturing Company
Bashlin Industries, Inc.
Ben Meadows Company
Bishop Company
Blue Ridge Arborist Supply
Buckingham Manufacturing Co., Inc.
Cleaves Company, Inc.
Climb Axe, Ltd.
Cutter's Choice
Deer Creek Equipment
Droge Equipment Inc.
ESSCO Distributors Inc.
Forestry Suppliers, Inc.
Forrest Lyle & Sons, Inc.
J. P. Fuller Inc.
Hollie Wood Enterprises
Karl Kuehmerling, Inc.
Kramer Equipment Co., Inc.
Labonville Inc.
Lanphear Supply
Midwest Arborist Supplies
Northeastern Associates
Pacific Arborist Supplies, Ltd.
Petzl America
Professional Tree & Turf Equipment
Professional Tree Surgeon Supplies, Inc.
Reliable Equipment & Service Co Inc.
Shelter Tree, Inc./Tree Care Products
Sherrill Inc.
Stuart Brown Chainsaw Specialists
Sunbelt Outdoor Products
Tree Tools
Western Tree Equipment & Repairs

Clothing
American Chainsaws & 2 Cycle, Inc.
Bailey's
Bartlett Manufacturing Company
Ben Meadows Company
Cleaves Company, Inc.
Commercial Cutters Direct
Deer Creek Equipment
Forrest Lyle & Sons, Inc.
Karl Kuehmerling, Inc.
Labonville Inc.
Midwest Arborist Supplies
Pacific Arborist Supplies, Ltd.
Professional Tree Surgeon Supplies, Inc.
Sherrill Inc.
Stuart Brown Chainsaw Specialists
Tree Tools
Western Tree Equipment & Repairs

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

Composters – Backyard
Crate & Shovel Sales Corp.

Composting Equipment
Cleaves Company, Inc.
Crate & Shovel Sales Corp.
Southeastern Equipment Company

Computer Hardware/Software
Arbistock Supply Co., Inc.
Creative Automation Solutions
Tree Management Systems, Inc.

Crane
Crate & Shovel Sales Corp.
CUES, Inc.
NESSCO, Inc.
Southeastern Equipment Company

Diagnostic Tools
Alatec Scientific Inc.
American Arborist Supplies Inc.
Bishop Company
Forestry Suppliers, Inc.
IML - Instrument Mechanic Labor, Inc.
Karl Kuehmerling, Inc.
SiBtec Microprobes
Tree Tools

Education/Workshop/Reference
Lanphear Supply
Rainbow Treecare
Scientific Advancements

Engines & Engine Parts
Aerial Equipment, LLC
American Arborist Supplies Inc.
Auto Manufacturing, Inc.
Chesapeake Engine Distributors
Cleaves Company, Inc.
Commercial Cutters Direct
Crane & Shovel Sales Corp.
Cummins Michigan, Inc.
Deer Creek Equipment
Engine Center
ESSCO Distributors Inc.
Karl Kuehmerling, Inc.
McDonald Equipment Company (MECO)
Niemeier Corporation
Pacific Arborist Supplies, Ltd.
Perkins Power Corporation
Power Great Lakes, Inc.
Professional Tree & Turf Equipment
Sherrill Inc.
Southeastern Equipment Company
Sunbelt Outdoor Products
Superior Diesel Inc.
Tree Tools

Excavators
Cleaves Company, Inc.
Deer Creek Equipment

Fertilization/Aeration Equipment
American Arborist Supplies Inc.
Ben Meadows Company
Cleaves Company, Inc.
Deer Creek Equipment
ESSCO Distributors Inc.
Forrest Lyle & Sons, Inc.

Fertilization Supplies
American Arborist Supplies Inc.
Ben Meadows Company
Bio-Plex Organics
Cleaves Company, Inc.
Deer Creek Equipment
ESSCO Distributors Inc.
Forrest Lyle & Sons, Inc.
Lanphear Supply
Midwest Arborist Supplies
Northeastern Shade Tree
Professional Tree Surgeon Supplies, Inc.
Sherrill Inc.
Tree Root Systems, Inc.

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

Fungicides
ESSCO Distributors Inc.
Forrest Lyle & Sons, Inc.
Professional Tree Surgeon Supplies, Inc.
Rainbow Treecare
Scientific Advancements

Generators
Ben Meadows Company
Cleaves Company, Inc.
CUES, Inc.
Deer Creek Equipment
J. P. Fuller Inc.
McDonald Equipment Company (MECO)
Northeastern Associates
Pacific Arborist Supplies, Ltd.
Perkins Power Corporation
Tree Tools

Grapples/Loaders
Crate & Shovel Sales Corp.
Deer Creek Equipment
Hollie Wood Enterprises
Payeuer Distribitions Inc.
Southeastern Equipment Company

Growth Retardants/Regulators
Forrest Lyle & Sons, Inc.

Herbicides
Ben Meadows Company
ESSCO Distributors Inc.
Forestry Suppliers, Inc.
Forrest Lyle & Sons, Inc.

Hydraulic Tools & Equipment
Aerial Equipment, LLC
Bishop Company
CUES, Inc.
Deer Creek Equipment
Karl Kuehmerling, Inc.
Midwest Arborist Supplies
NESSCO, Inc.
Professional Tree Surgeon Supplies, Inc.
Reliable Equipment & Service Co Inc.

Insecticides
Bayer Corporation, Ag. Division
ESSCO Distributors Inc.
Forrest Lyle & Sons, Inc.
Midwest Arborist Supplies
Professional Tree Surgeon Supplies, Inc.
<table>
<thead>
<tr>
<th>Integrated Pest Management</th>
<th>Personal Protective Equipment (cont.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Tree Surgeon Supplies, Inc.</td>
<td>Karl Kuekmerling, Inc.</td>
</tr>
<tr>
<td>RainbowTree Care</td>
<td>Kramer Equipment Co., Inc.</td>
</tr>
<tr>
<td>Scientific Advancements</td>
<td>Laborville Inc.</td>
</tr>
<tr>
<td>Lightening Protection Systems</td>
<td>Midwest Arborist Supplies</td>
</tr>
<tr>
<td>American Arborist Supplies Inc.</td>
<td>Northeastern Associates</td>
</tr>
<tr>
<td>CUES, Inc.</td>
<td>Pacific Arborist Supplies, Ltd.</td>
</tr>
<tr>
<td>Northeastern Associates</td>
<td>Stuart Brown Chainsaw Specialists</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Tilton Equipment Co. / Jonsered / EFCCO</td>
</tr>
<tr>
<td>Lubricants</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>American Arborist Supplies Inc.</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
<tr>
<td>Arbor Direct, LLC</td>
<td>Pneumatic Tools</td>
</tr>
<tr>
<td>Bishop Company</td>
<td>Aerial Equipment, LLC</td>
</tr>
<tr>
<td>Deer Creek Equipment</td>
<td>Bailey's</td>
</tr>
<tr>
<td>Shelter Tree, Inc. / Tree Care Products</td>
<td>Ben Meadows Company</td>
</tr>
<tr>
<td>Sherrill Inc.</td>
<td>Cleaves Company, Inc.</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>ESSCO Distributors Inc.</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Forestry Suppliers, Inc.</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Midwest Arborist Supplies</td>
</tr>
<tr>
<td>Pumps</td>
<td>Northeastern Associates</td>
</tr>
<tr>
<td>CUES, Inc.</td>
<td>Professional Tree Surgeon Supplies, Inc.</td>
</tr>
<tr>
<td>Deputy Equipment Inc.</td>
<td>Reliable Equipment &amp; Service Co. Inc.</td>
</tr>
<tr>
<td>ESSCO Distributors Inc.</td>
<td>Scientific Advancements</td>
</tr>
<tr>
<td>Midwest Arborist Supplies</td>
<td>Tree Care Products</td>
</tr>
<tr>
<td>Northeastern Associates</td>
<td>Sherrill Inc.</td>
</tr>
<tr>
<td>Professional Tree Surgeon Supplies, Inc.</td>
<td>Stuart Brown Chainsaw Specialists</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>Western Tree Equipment &amp; Repairs</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
</tbody>
</table>

### Knives, Chipper Repair

<table>
<thead>
<tr>
<th>Aerial Equipment, LLC</th>
<th>Arbor Direct, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander Equipment Co. Inc.</td>
<td>Bailey's</td>
</tr>
<tr>
<td>American Arborist Supplies Inc</td>
<td>Ben Meadows Company</td>
</tr>
<tr>
<td>Arbor Direct, LLC</td>
<td>Cleaves Company, Inc.</td>
</tr>
<tr>
<td>Arborlink</td>
<td>ESSCO Distributors Inc.</td>
</tr>
<tr>
<td>Cleaves Company, Inc.</td>
<td>Forrest Lytle &amp; Sons, Inc.</td>
</tr>
<tr>
<td>Crane &amp; Shovel Sales Corp.</td>
<td>Lanphear Supply</td>
</tr>
<tr>
<td>MidWest Arborist Supplies</td>
<td>Minnesota Wanner Company</td>
</tr>
<tr>
<td>Northeastern Associates</td>
<td>Perkins Power Corporation</td>
</tr>
<tr>
<td>Pacific Arborist Supplies, Ltd.</td>
<td>Reliable Equipment &amp; Service Co. Inc.</td>
</tr>
<tr>
<td>Professional Tree Surgeon Supplies, Inc.</td>
<td>Scientific Advancements</td>
</tr>
<tr>
<td>Shelter Tree, Inc. / Tree Care Products</td>
<td>Tree Care Products</td>
</tr>
<tr>
<td>SouthEastern Equipment Company</td>
<td>Sherrill Inc.</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Stuart Brown Chainsaw Specialists</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>Western Tree Equipment &amp; Repairs</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
</tbody>
</table>

### Knives, Chipper Repair (cont.)

<table>
<thead>
<tr>
<th>Aerial Equipment, LLC</th>
<th>Arbor Direct, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander Equipment Co. Inc.</td>
<td>Bailey's</td>
</tr>
<tr>
<td>American Arborist Supplies Inc</td>
<td>Ben Meadows Company</td>
</tr>
<tr>
<td>Arbor Direct, LLC</td>
<td>Cleaves Company, Inc.</td>
</tr>
<tr>
<td>Arborlink</td>
<td>ESSCO Distributors Inc.</td>
</tr>
<tr>
<td>Deer Creek Equipment</td>
<td>Forrest Lytle &amp; Sons, Inc.</td>
</tr>
<tr>
<td>ESSCO Distributors Inc.</td>
<td>Lanphear Supply</td>
</tr>
<tr>
<td>Midwest Arborist Supplies</td>
<td>Minnesota Wanner Company</td>
</tr>
<tr>
<td>Northeastern Associates</td>
<td>Perkins Power Corporation</td>
</tr>
<tr>
<td>Professional Tree Surgeon Supplies, Inc.</td>
<td>Reliable Equipment &amp; Service Co. Inc.</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Scientific Advancements</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Tree Care Products</td>
</tr>
<tr>
<td>Western Tree Equipment &amp; Repairs</td>
<td>Sherrill Inc.</td>
</tr>
</tbody>
</table>

### Ladders

<table>
<thead>
<tr>
<th>American Arborist Supplies Inc</th>
<th>Arbor Direct, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bishop Company</td>
<td>Bailey's</td>
</tr>
<tr>
<td>Cleaves Company, Inc.</td>
<td>Ben Meadows Company</td>
</tr>
<tr>
<td>Karl Kuekmerling, Inc.</td>
<td>Cleaves Company, Inc.</td>
</tr>
<tr>
<td>Kramer Equipment Co., Inc.</td>
<td>ESSCO Distributors Inc.</td>
</tr>
<tr>
<td>Niemeyer Corporation</td>
<td>Forrest Lytle &amp; Sons, Inc.</td>
</tr>
<tr>
<td>Pacific Arborist Supplies, Ltd.</td>
<td>Lanphear Supply</td>
</tr>
<tr>
<td>Shelter Tree, Inc. / Tree Care Products</td>
<td>Minnesota Wanner Company</td>
</tr>
<tr>
<td>Sherrill Inc.</td>
<td>Perkins Power Corporation</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Reliable Equipment &amp; Service Co. Inc.</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Scientific Advancements</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Tree Care Products</td>
</tr>
<tr>
<td>Western Tree Equipment &amp; Repairs</td>
<td>Sherrill Inc.</td>
</tr>
</tbody>
</table>

### Lawn Maintenance Equipment

<table>
<thead>
<tr>
<th>American Arborist Supplies Inc</th>
<th>Arbor Direct, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Chainsaws &amp; 2 Cycle, Inc.</td>
<td>Bailey's</td>
</tr>
<tr>
<td>Ben Meadows Company</td>
<td>Ben Meadows Company</td>
</tr>
<tr>
<td>Commercial Cutters Direct</td>
<td>Cleaves Company, Inc.</td>
</tr>
<tr>
<td>Crane &amp; Shovel Sales Corp.</td>
<td>Climbing Axe, Ltd.</td>
</tr>
<tr>
<td>Deer Creek Equipment</td>
<td>Commercial Cutters Direct</td>
</tr>
<tr>
<td>DICA Marketing Co.</td>
<td>Cutter's Choice</td>
</tr>
<tr>
<td></td>
<td>Deer Creek Equipment</td>
</tr>
<tr>
<td></td>
<td>ESSCO Distributors Inc.</td>
</tr>
<tr>
<td></td>
<td>Forrest Lytle &amp; Sons, Inc.</td>
</tr>
</tbody>
</table>

### Lawn Maintenance Equipment (cont.)

<table>
<thead>
<tr>
<th>American Arborist Supplies Inc</th>
<th>Arbor Direct, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Chainsaws &amp; 2 Cycle, Inc.</td>
<td>Bailey's</td>
</tr>
<tr>
<td>Ben Meadows Company</td>
<td>Ben Meadows Company</td>
</tr>
<tr>
<td>Commercial Cutters Direct</td>
<td>Cleaves Company, Inc.</td>
</tr>
<tr>
<td>Crane &amp; Shovel Sales Corp.</td>
<td>Climbing Axe, Ltd.</td>
</tr>
<tr>
<td>Deer Creek Equipment</td>
<td>Commercial Cutters Direct</td>
</tr>
<tr>
<td>DICA Marketing Co.</td>
<td>Cutter's Choice</td>
</tr>
<tr>
<td></td>
<td>Deer Creek Equipment</td>
</tr>
<tr>
<td></td>
<td>ESSCO Distributors Inc.</td>
</tr>
<tr>
<td></td>
<td>Forrest Lytle &amp; Sons, Inc.</td>
</tr>
</tbody>
</table>

### Lightning Protection Systems

<table>
<thead>
<tr>
<th>American Arborist Supplies Inc.</th>
<th>Arbor Direct, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUES, Inc.</td>
<td>Bailey's</td>
</tr>
<tr>
<td>Northeastern Associates</td>
<td>Ben Meadows Company</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Cleaves Company, Inc.</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>ESSCO Distributors Inc.</td>
</tr>
</tbody>
</table>

### Full Infusion Supplies

<table>
<thead>
<tr>
<th>RainTree Care</th>
<th>Scientific Advancements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Advancements</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
</tbody>
</table>

### Miticides

<table>
<thead>
<tr>
<th>ESSCO Distributors Inc.</th>
<th>Scientific Advancements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forrest Lytle &amp; Sons, Inc.</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>Professional Tree Surgeon Supplies, Inc.</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
</tbody>
</table>

### Office Supplies

<table>
<thead>
<tr>
<th>Alatec Scientific Inc.</th>
<th>Scientific Advancements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Advancements</td>
<td>Tree Tools</td>
</tr>
</tbody>
</table>

### Personal Protective Equipment

<table>
<thead>
<tr>
<th>Aerial Equipment, LLC</th>
<th>Scientific Advancements</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Arborist Supplies Inc.</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>Arbor Direct, LLC</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
<tr>
<td>Arborlink</td>
<td>Bailey's</td>
</tr>
<tr>
<td>Bailey's</td>
<td>Ben Meadows Company</td>
</tr>
<tr>
<td>Ben Meadows Company</td>
<td>Cleaves Company, Inc.</td>
</tr>
<tr>
<td>Commercial Cutters Direct</td>
<td>ESSCO Distributors Inc.</td>
</tr>
<tr>
<td>Deer Creek Equipment</td>
<td>Forrest Lytle &amp; Sons, Inc.</td>
</tr>
<tr>
<td>DICA Marketing Co.</td>
<td>Scientific Advancements</td>
</tr>
</tbody>
</table>

### Pruning Supplies

<table>
<thead>
<tr>
<th>Aerial Equipment, LLC</th>
<th>Scientific Advancements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander Equipment Co. Inc.</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>American Arborist Supplies Inc</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
<tr>
<td>American Chainsaws &amp; 2 Cycle, Inc.</td>
<td>Bailey's</td>
</tr>
<tr>
<td>Arbor Direct, LLC</td>
<td>Ben Meadows Company</td>
</tr>
<tr>
<td>Bailey's</td>
<td>Cleaves Company, Inc.</td>
</tr>
<tr>
<td>Bishop Company</td>
<td>ESSCO Distributors Inc.</td>
</tr>
<tr>
<td>Blue Ridge Arborist Supply</td>
<td>Forrest Lytle &amp; Sons, Inc.</td>
</tr>
<tr>
<td>Commercial Cutters Direct</td>
<td>Lanphear Supply</td>
</tr>
<tr>
<td>Cutter's Choice</td>
<td>Minnesota Wanner Company</td>
</tr>
<tr>
<td>Deer Creek Equipment</td>
<td>Perkins Power Corporation</td>
</tr>
<tr>
<td>Droge Equipment Inc.</td>
<td>Reliable Equipment &amp; Service Co. Inc.</td>
</tr>
<tr>
<td>ESSCO Distributors Inc.</td>
<td>Scientific Advancements</td>
</tr>
<tr>
<td>Forestry Suppliers, Inc.</td>
<td>Tree Care Products</td>
</tr>
<tr>
<td>Forrest Lytle &amp; Sons, Inc.</td>
<td>Sherrill Inc.</td>
</tr>
<tr>
<td>Growtech, Inc.</td>
<td>Stuart Brown Chainsaw Specialists</td>
</tr>
<tr>
<td>Hollie Wood Enterprises</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>Karl Kuekmerling, Inc.</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
<tr>
<td>Labonville Inc.</td>
<td>Bailey's</td>
</tr>
<tr>
<td>Lanphear Supply</td>
<td>Ben Meadows Company</td>
</tr>
<tr>
<td>Midwest Arborist Supplies</td>
<td>Cleaves Company, Inc.</td>
</tr>
<tr>
<td>Northeastern Associates</td>
<td>ESSCO Distributors Inc.</td>
</tr>
<tr>
<td>Professional Tree Surgeon Supplies, Inc.</td>
<td>Forrest Lytle &amp; Sons, Inc.</td>
</tr>
<tr>
<td>Reliable Equipment &amp; Service Co. Inc.</td>
<td>Lanphear Supply</td>
</tr>
<tr>
<td>Scientific Advancements</td>
<td>Minnesota Wanner Company</td>
</tr>
<tr>
<td>Tree Care Products</td>
<td>Perkins Power Corporation</td>
</tr>
<tr>
<td>Sherrill Inc.</td>
<td>Reliable Equipment &amp; Service Co. Inc.</td>
</tr>
<tr>
<td>Stuart Brown Chainsaw Specialists</td>
<td>Scientific Advancements</td>
</tr>
<tr>
<td>Tree Tools</td>
<td>Tree Care Products</td>
</tr>
<tr>
<td>Western Tree Equipment &amp; Repairs</td>
<td>Sherrill Inc.</td>
</tr>
</tbody>
</table>

### Recycling/Wood Processors

<table>
<thead>
<tr>
<th>Aerial Equipment, LLC</th>
<th>Scientific Advancements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander Equipment Co. Inc.</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>Cleaves Company, Inc.</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
<tr>
<td>Hollie Wood Enterprises</td>
<td>Bailey's</td>
</tr>
</tbody>
</table>

### Repellents

<table>
<thead>
<tr>
<th>Ben Meadows Company</th>
<th>Scientific Advancements</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESSCO Distributors Inc.</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>Forestry Suppliers, Inc.</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
<tr>
<td>Forrest Lytle &amp; Sons, Inc.</td>
<td>Bailey's</td>
</tr>
</tbody>
</table>

### Right of Way/Land Clearing

<table>
<thead>
<tr>
<th>Cleaves Company, Inc.</th>
<th>Scientific Advancements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deer Creek Equipment</td>
<td>Tree Tools</td>
</tr>
<tr>
<td>Karl Kuekmerling, Inc.</td>
<td>Western Tree Equipment &amp; Repairs</td>
</tr>
<tr>
<td>Payeur Distributions Inc.</td>
<td>Bailey's</td>
</tr>
</tbody>
</table>
### Root Barriers
- American Arborist Supplies Inc.
- Ben Meadows Company
- Bishop Company
- Northeastern Associates
- Pacific Arborist Supplies, Ltd.
- Shelter Tree, Inc./Tree Care Products
- Sherrill Inc.
- Tree Tools
- Western Tree Equipment & Repairs

### Root Cutters
- Crane & Shovel Sales Corp.
- Northeastern Associates
- Pacific Arborist Supplies, Ltd.
- Tree Tools
- Western Tree Equipment & Repairs

### Rope
- Aerial Equipment, LLC
- Alexander Equipment Co. Inc.
- American Arborist Supplies Inc.
- Arbor Direct, LLC
- Arborist Supply Co., Inc.
- Bailey's
- Ben Meadows Company
- Bishop Company
- Blue Ridge Arborist Supply
- Cleaves Company, Inc.
- Climb Axe, Ltd.
- Commercial Cutters Direct
- Cutter's Choice
- Deer Creek Equipment
- Droge Equipment Inc.
- ESSCO Distributors Inc.
- Forestry Suppliers, Inc.
- Forrest Lyle & Sons, Inc.
- J. P. Fuller Inc.
- Hollie Wood Enterprises
- Karl Kuemmerling, Inc.
- Kramer Equipment Co., Inc.
- Labonville Inc.
- Lanphear Supply
- Midwest Arborist Supplies
- Niemeyer Corporation
- Northeastern Associates
- Pacific Arborist Supplies, Ltd.
- Petzl America
- Pigeon Mountain Industries
- Professional Tree & Turf Equipment
- Professional Tree Surgeon Supplies, Inc.
- Shelter Tree, Inc./Tree Care Products
- Sherrill Inc.
- Stuart Brown Chainsaw Specialists
- Sunbelt Outdoor Products
- Tree Tools
- Western Tree Equipment & Repairs

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

### Soil Amendments
- American Arborist Supplies Inc.
- Ben Meadows Company
- ESSCO Distributors Inc.
- Forrest Lyle & Sons, Inc.
- Lanphear Supply
- Midwest Arborist Supplies
- Northeastern Associates
- Professional Tree Surgeon Supplies, Inc.
- Shelter Tree, Inc./Tree Care Products
- Sherrill Inc.
- Tree Tools
- 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 Kuemmerling, Inc.
- Lanphear Supply
- Minnesota Wanner Company
- Northeastern Associates
- Outdoor Equipment Distributors Inc.
- Pacific Arborist Supplies, Ltd.
- Professional Tree & Turf Equipment
- Professional Tree Surgeon Supplies, Inc.
- Shelter Tree, Inc./Tree Care Products
- Southeastern Equipment Company
- Tree Tools

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

### Stump Cutters PTO
- Deer Creek Equipment
- Droge Equipment Inc.
- Professional Tree Surgeon Supplies, Inc.

### Snow Removal Equipment
- American Arborist Supplies Inc.
- Cleaves Company, Inc.
- Commercial Cutters Direct
- Deer Creek Equipment
- J. P. Fuller Inc.
- Niemeyer Corporation
- Pacific Arborist Supplies, Ltd.

### Stump Cutter Teeth
- Aerial Equipment, LLC
- Alexander Equipment Co. Inc.
- American Arborist Supplies Inc.
- Arborist Supply Co., Inc.
- Blue Ridge Arborist Supply
- Cleaves Company, Inc.
- Crane & Shovel Sales Corp.
- Deer Creek Equipment
- Droge Equipment Inc.
- ESSCO Distributors Inc.
- Karl Kuemmerling, Inc.
- Midwest Arborist Supplies
- Northeastern Associates
- Sherrill Inc.
- Tree Tools
- Western Tree Equipment & Repairs

### Sweepers
- Cleaves Company, Inc.
- Deer Creek Equipment
- J. P. Fuller Inc.
- Pacific Arborist Supplies, Ltd.

### Traffic Safety
- Aerial Equipment, LLC
- American Arborist Supplies Inc.
- Arbor Direct, LLC
- Ben Meadows Company
- Bishop Company
- Cleaves Company, Inc.
- Deer Creek Equipment
- ESSCO Distributors Inc.
- Forestry Suppliers, Inc.
- Karl Kuemmerling, Inc.
- Kramer Equipment Co., Inc.
- Lumber Mill Equipment
- Midwest Arborist Supplies
- Professional Tree Surgeon Supplies, Inc.
- Shelter Tree, Inc./Tree Care Products
- Sherrill Inc.
- Tree Tools
- Western Tree Equipment & Repairs

### Tree Protectors
- American Arborist Supplies Inc.
- Ben Meadows Company
- Cleaves Company, Inc.
- Deer Creek Equipment
- Forestry Suppliers, Inc.
- Midwest Arborist Supplies
- Pacific Arborist Supplies, Ltd.
- Sherrill Inc.
- Tree Tools
- Western Tree Equipment & Repairs

### Tree Spades
- Ben Meadows Company
- Deer Creek Equipment
- Pacific Arborist Supplies, Ltd.
- Stuart Brown Chainsaw Specialists

### Trenchers
- Ben Meadows Company
- Deer Creek Equipment
- NESCO, Inc.
- Opdyke, Inc.
- Outdoor Equipment Distributors Inc.
- Pacific Arborist Supplies, Ltd.

### Trucks & Truck Accessories
- Aerial Equipment, LLC
- CUES, Inc.
- DICA Marketing Co.
- G & A Equipment, Inc.
- Hino Diesel Trucks (U.S.A.) Inc.
- Minnesota Wanner Company
- Opdyke, Inc.
- Payeur Distributions Inc.
- Royal Truck & Equipment, Inc.
- Southeastern Equipment Company
- Thayer Chevrolet Toyota

### Tub Grinders
- Aerial Equipment, LLC
- Alexander Equipment Co. Inc.
- Cummins Michigan, Inc.

---

**TCI BUYERS’ GUIDE - JULY 2001 - 29**
Manufacturers

Adjuvants/
Miscellaneous Chemical
Monterey Lawn & Garden Products, Inc.
Nu-Arbor Tree & Shrub Care Products
Plant Health Care, Inc.
Remke Enterprises, Inc.

Blowers, Debris
Excel Industries, Inc.
Redmax-Komatsu-Zenoah America Inc.
Shindaiwa, Inc.
Stihl Incorporated
Tanaka Power Equipment

Cabling & Bracing
Preformed Line Products
Vermeer Manufacturing Company
Wall Industries

Chain Saws & Accessories
Buckingham Manufacturing Co., Inc.
Husqvarna
Jameson Corporation
Oregon Cutting Systems
Plastic Composites Corporation
Rapco Industries, Inc.
Redmax-Komatsu-Zenoah America Inc.
Reliable Equipment & Service Co Inc.
Sabre Saw Chain/John Deere Consumer Products
Shindaiwa, Inc.
Stihl Incorporated
Tanaka Power Equipment

Chemical Absorbants
Remke Enterprises, Inc.

Chippers
Bandit Industries, Inc.
J. P. Carlton Company, Div. DAF Inc.
Doskocil Industries, Inc.
Morbark, Inc.
Vermeer Manufacturing Company
Wood/Chuck Chipper Corporation
Woodman Chippers

Chipper/Shredder/Vac
Stihl Incorporated
Wood/Chuck Chipper Corporation
Woodman Chippers

Climbing Gear
Excalibur DMM
New England Ropes, Inc.
Pigeon Mountain Industries
Vermeer Manufacturing Company
Wall Industries
Weaver Leather, Inc.
Yale Cordage, Inc.

Clothing
Agape Designs
Arborwear, LLC
Stihl Incorporated
Vermeer Manufacturing Company
West Coast Shoe Co.

Communication Systems
Microtronics, Inc.

Composting Equipment
Bandit Industries, Inc.
Fecon, Inc.

Computer Hardware/Software
Service Communication Software

Cranes
Cargotec Inc.

Diagnostic Tools
Concept Engineering Group, Inc.(CEG)

Enginers & Engine Parts
DEUTZ Corporation
Enginaire
Engine Distributors, Inc.
Microtronics, Inc.
Perkins Engines, Inc.
Stump Removal Inc./KAN-DU
Woodsman Chippers

Excavators
Concept Engineering Group, Inc.(CEG)

Fertilization/Aeration Equipment
Metrotronics, Inc.

Fertilization Supplies
B & G Equipment Company
Becker-Underwood, Inc.
Creative Sales, Inc.
Davey Tree Expert Co.
Doggett Corporation
Green-Releaf by Sybron
GreenPro Services
Grow Gun Corporation
Growth Products, Ltd.
Horticultural Alliance, Inc.
J. J. Mauget Company
Monterey Lawn & Garden Products, Inc.
Nu-Arbor Tree & Shrub Care Products
Plant Health Care, Inc.
Remke Enterprises, Inc.
ROOTS Inc.
Tree Tech Microinjection Systems

Footwear
Stihl Incorporated
West Coast Shoe Co.

Fungicides
ArborSystems, LLC
Bayer Corporation, Ag. Division
Cleary Chemical Corp.
Green-Releaf by Sybron
Growth Products, Ltd.
J. J. Mauget Company
Monterey Lawn & Garden Products, Inc.
Tree Tech Microinjection Systems
<table>
<thead>
<tr>
<th>Product Category</th>
<th>Company Name</th>
<th>Product Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Arborist Supplies</td>
<td>Arborwear, LLC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bahco Tools Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bartlett Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bashlin Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buckingham Manufacturing Co., Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corona Clipper</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fanno Saw Works</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Good Tree Care Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jameson Corporation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oregon Cutting Systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peavey Mfg. Co.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stihl Incorporated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vermeer Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village Blacksmith</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Olympia Industrial, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wall Industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weaver Leather, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wood-Mizer Products, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yale Cordage, Inc.</td>
<td></td>
</tr>
<tr>
<td>Grapples/Loaders</td>
<td>Implemax Equipment Co., Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loflin Fabrication LLC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vermeer Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td>Grinders, Horizontal</td>
<td>Bandit Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fecon, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Morbark, Inc.</td>
<td></td>
</tr>
<tr>
<td>Growth Retardants/Regulators</td>
<td>Dow AgroSciences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Growth Products, Ltd.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monterey Lawn &amp; Garden Products, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tree Tech Microinjection Systems</td>
<td></td>
</tr>
<tr>
<td>Herbicides</td>
<td>Bayer Corporation, Ag. Division</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BBA Nonwovens/Reemay Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>/Bio Barrier</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dow AgroSciences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monterey Lawn &amp; Garden Products, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tree Tech Microinjection Systems</td>
<td></td>
</tr>
<tr>
<td>Hydraulic Tools &amp; Equipment</td>
<td>ADI Pruning Tools by TOL Incorporated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FCI-Racine Hydraulic Tools</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reliable Equipment &amp; Service Co Inc.</td>
<td></td>
</tr>
<tr>
<td>Insecticides</td>
<td>ArborSystems, LLC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aventis Environmental Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cleary Chemical Corp.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Creative Sales, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dow AgroSciences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J. J. Mauget Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monterey Lawn &amp; Garden Products, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tree Tech Microinjection Systems</td>
<td></td>
</tr>
<tr>
<td>Integrated Pest Management</td>
<td>Plant Health Care, Inc.</td>
<td></td>
</tr>
<tr>
<td>Knives, Chipper</td>
<td>Simonds Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vermeer Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wood/Chuck Chipper Corporation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Woodsman Chippers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zenith Cutter Co.</td>
<td></td>
</tr>
<tr>
<td>Knives, Chipper Repair</td>
<td>Simonds Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vermeer Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Woodsman Chippers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zenith Cutter Co.</td>
<td></td>
</tr>
<tr>
<td>Lawn Maintenance Equipment</td>
<td>Corona Clipper</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excel Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shindaiwa, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stihl Incorporated</td>
<td></td>
</tr>
<tr>
<td>Lightning Protection Systems</td>
<td>Independent Protection Company</td>
<td></td>
</tr>
<tr>
<td>Lubricants</td>
<td>Stihl Incorporated</td>
<td></td>
</tr>
<tr>
<td>Miticides</td>
<td>Tree Tech Microinjection Systems</td>
<td></td>
</tr>
<tr>
<td>Mulch Coloring Equipment</td>
<td>Becker-Underwood, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fecon, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Morbark, Inc.</td>
<td></td>
</tr>
<tr>
<td>Natural Homeopathic Remedies</td>
<td>Doggett Corporation</td>
<td></td>
</tr>
<tr>
<td>Personal Protective Equipment</td>
<td>Arborwear, LLC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bartlett Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bashlin Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buckingham Manufacturing Co., Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excalibur DMM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stihl Incorporated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vermeer Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wall Industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>West Coast Shoe Co.</td>
<td></td>
</tr>
<tr>
<td>Pneumatic Tools</td>
<td>Concept Engineering Group, Inc. (CEG)</td>
<td></td>
</tr>
<tr>
<td>Power Pruning Equipment</td>
<td>Florian Ratchet-Cut</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Husqvarna</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jameson Corporation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Redmax-Komatsu Zenoah America Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stihl Incorporated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tanaka Power Equipment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village Blacksmith/Olympia Industrial, Inc.</td>
<td></td>
</tr>
<tr>
<td>Pruning Supplies</td>
<td>Bahco Tools Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bartlett Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bashlin Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corona Clipper</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fanno Saw Works</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Florian Ratchet-Cut</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fred Marvin Associates</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Future Forestry Products Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jameson Corporation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oregon Cutting Systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peavey Mfg. Co.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village Blacksmith</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Olympia Industrial, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wall Industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Silky</td>
<td></td>
</tr>
<tr>
<td>Pumps</td>
<td>Rear's Mtg. Co.</td>
<td></td>
</tr>
<tr>
<td>Recycling Equipment/Wood Processors</td>
<td>Bandit Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Becker-Underwood, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Big Foot Industries Incorporated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Central Boiler</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fecon, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Morbark, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mountain Valley Mfg. Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Timberwolf Manufacturing Corporation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wood-Mizer Products, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Woodsman Chippers</td>
<td></td>
</tr>
<tr>
<td>Right of Way/Land Clearing Equipment</td>
<td>Asplundh Tree Expert Co.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brown Manufacturing Corp.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brush Technology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FAE Forestry Mowers/DCL Sales Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fecon, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gro-Trac, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implemax Equipment Co., Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>John Brown &amp; Sons Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rayco Manufacturing, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Southern Farm Equipment Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vermeer Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wood/Chuck Chipper Corporation</td>
<td></td>
</tr>
<tr>
<td>Root Barriers</td>
<td>Deep Root Partners L.P.</td>
<td></td>
</tr>
<tr>
<td>Root Cutters</td>
<td>Corona Clipper</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fecon, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vermeer Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td>Rope</td>
<td>Bartlett Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bashlin Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buccaneer Rope Co.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Columbian Specialty Products</td>
<td></td>
</tr>
<tr>
<td></td>
<td>New England Ropes, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Samson Rope Technologies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vermeer Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wall Industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yale Cordage, Inc.</td>
<td></td>
</tr>
<tr>
<td>Snow Removal Equipment</td>
<td>Excel Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shindaiwa, Inc.</td>
<td></td>
</tr>
<tr>
<td>Soil Amendments</td>
<td>Doggett Corporation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Green-Relief by Sybron</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GreenPro Services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plant Health Care, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Remke Enterprises, Inc.</td>
<td></td>
</tr>
<tr>
<td>Sprayers &amp; Accessories</td>
<td>B &amp; G Equipment Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bartlett Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GreenPro Services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gro-Trac, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>John Bean Sprayers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rear's Mtg. Co.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shindaiwa, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Southern Farm Equipment Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stihl Incorporated</td>
<td></td>
</tr>
<tr>
<td>Stump Cutters</td>
<td>J. P. Carlton Company, Div. DAF Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Doloskoi Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excel Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Husqvarna</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Miller Machine Works</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Praxis Corp.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rayco Manufacturing, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stump Removal Inc./KAN-DU</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vermeer Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td>Stump Cutters PTO</td>
<td>Fecon, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Miller Machine Works</td>
<td></td>
</tr>
<tr>
<td>Stump Cutters Teeth</td>
<td>Border City Tool &amp; Manufacturing Co.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J. P. Carlton Company, Div. DAF Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CEI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leonardi Teeth/Simonds Industries Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rayco Manufacturing, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stump Removal Inc./KAN-DU</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vermeer Manufacturing Company</td>
<td></td>
</tr>
<tr>
<td>Sweepers</td>
<td>Excel Industries, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Redmax-Komatsu Zenoah America Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shindaiwa, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stihl Incorporated</td>
<td></td>
</tr>
<tr>
<td>Traffic Safety</td>
<td>Bartlett Manufacturing Company</td>
<td></td>
</tr>
</tbody>
</table>
Tree Injection/Implants
ArborSystems, LLC
Creative Sales, Inc.
Doggett Corporation
GreenPro Services
Grow Gun Corporation
J. J. Mauget Company
Remke Enterprises, Inc.
Tree Tech Microinjection Systems

Tree Protectors
Deep Root Partners L.P.

Tree Spades
Vermeer Manufacturing Company

Tree Transplanting Equipment
Vermeer Manufacturing Company

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

Trucks & Truck Accessories
Alturnatns, Inc.
American Truck & Trailer Body Co.
Plastic Composites Corporation
Schodorf Truck Body & Equipment Company
Southco Industries, Inc.

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

Vermeer Manufacturing Company
Wood/Chuck Chipper Corporation

Wood Furnaces, Outdoor
Central Boiler

E-Commerce for Businesses
Forestindustry.com

Education/Workshops/Training/Reference
ACRT, Inc.
Arborist Skills, Inc.
ArborMaster Training Canada, Inc.
ArborMaster Training, Inc.
Forest Applications Training, Inc.
IML - Instrument Mechanic Labor, Inc.
Integrity Tree Care/Training with Inte
J. J. Mauget Company
Royal Horticultural Society
Safetrees.com
Tree Climbers International
Tree Tools

Fertilization Supplies Application
Pinnacle Concepts Inc.

Financing
Altec Industries, Inc.
American Express Business Finance
C. A. G. Corporation
Greystone Financial Group, Inc.
Liberty Financial Group, Inc.
OBL Financial Services, Inc.
Pete Mainka Enterprises, Inc.
Progress Leasing Company
Tree Tools

GPS Mapping
ACRT, Inc.
Vermeer Manufacturing Company

Insurance
Action Insurance Service Inc.
Camberford Law PLC
CNA Commercial Insurance
Hal Rose Agency Inc.
The Hartford
National Insurance Programs
NRC Insurance Agency
Ogilvy Hill Insurance
Robert Squillare Insurance Agency
Sol J. Oberman Insurance
T. I. S. Insurance Services Inc.
TreePro Direct (TM)

Lease/Rental
Aerial Lift Equipment, LLC
American Equipment, LLC
American Arborist Supplies Inc.,
Cleaves Company, Inc.
ESSCO Distributors Inc.
Karl Kuemmerling, Inc.
Microtronics, Inc.
Northeastern Associates
Pacific Arborist Supplies, Ltd.
Professional Tree & Turf Equipment
Royal Truck & Equipment, Inc.
Shelter Tree, Inc./
Tree Care Products

Soil Amendment
Pinnacle Concepts Inc.

Transportation Services
Mayo Global Transportation Inc.

Regulatory Affairs
ACRT, Inc.

Repair/Rebuilding
Aerial Equipment, LLC
American Arborist Supplies Inc.
Cleaves Company, Inc.
ESSCO Distributors Inc.
Karl Kuemmerling, Inc.
Microtronics, Inc.
Northeastern Associates
Pacific Arborist Supplies, Ltd.
Professional Tree & Turf Equipment
Royal Truck & Equipment, Inc.
Shelter Tree, Inc./
Tree Care Products

Services

Aerial Lift Parts & Equipment – Repair
Middle Tennessee Auction Co. Inc.
Sunbelt Rentals

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

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

Consulting – Business
Arbor Computer Systems
Arborist Skills, Inc.
The F. A. Bartlett Tree Expert Company
Creative Automation Solutions
Davey Tree Expert Co.
Environmental Consultants, Inc., Howard L. Eckel & Associates
Liberty Financial Group, Inc.

Consulting – Urban Forestry
ACRT, Inc.
Safetrees.com

E-Commerce for Businesses
Forestindustry.com

GPS Mapping
ACRT, Inc.
Vermeer Manufacturing Company

Insurance
Action Insurance Service Inc.
Camberford Law PLC
CNA Commercial Insurance
Hal Rose Agency Inc.
The Hartford
National Insurance Programs
NRC Insurance Agency
Ogilvy Hill Insurance
Robert Squillare Insurance Agency
Sol J. Oberman Insurance
T. I. S. Insurance Services Inc.
TreePro Direct (TM)

Lease/Rental
Aerial Lift Equipment, LLC
American Equipment, LLC
American Arborist Supplies Inc.,
Cleaves Company, Inc.
ESSCO Distributors Inc.
Karl Kuemmerling, Inc.
Microtronics, Inc.
Northeastern Associates
Pacific Arborist Supplies, Ltd.
Professional Tree & Turf Equipment
Royal Truck & Equipment, Inc.
Shelter Tree, Inc./
Tree Care Products

Soil Amendment
Pinnacle Concepts Inc.

Transportation Services
Mayo Global Transportation Inc.

Regulatory Affairs
ACRT, Inc.

Repair/Rebuilding
Aerial Equipment, LLC
American Arborist Supplies Inc.
Cleaves Company, Inc.
ESSCO Distributors Inc.
Karl Kuemmerling, Inc.
Microtronics, Inc.
Northeastern Associates
Pacific Arborist Supplies, Ltd.
Professional Tree & Turf Equipment
Royal Truck & Equipment, Inc.
Shelter Tree, Inc./
Tree Care Products

Soil Amendment
Pinnacle Concepts Inc.

Transportation Services
Mayo Global Transportation Inc.
**LISTING**

(S) **ACRT, Inc.**  
PO Box 401  
Cuyahoga Falls, OH 44221-0401  
Toll-Free: 800-622-2562  
Phone: 330-945-7500  
Fax: 330-945-7200  
E-mail: reabboft@acrtinc.com  
Web: www.acrtinc.com  
Contact: Richard E. Abbott

(S) **Action Insurance Service Inc.**  
45445 Mound Rd  
Utica, MI 48317  
Toll-Free: 800-462-9270  
Phone: 810-739-9080  
Fax: 810-739-3530  
Contact: Larry Etkie

(M) **ADI Pruning Tools by TOL Incorporated**  
PO Box 1498  
Tulare, CA 93275  
Toll-Free: 800-732-2142  
Phone: 559-686-2844  
Fax: 559-685-1006  
E-mail: scott@tol-inc.com  
Web: www.tol-inc.com  
Contact: Scott Hermann

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

(M) **Aerial Lift, Inc.**  
571 Plains Road  
Milford, CT 06460-0066  
Toll-Free: USA 800-446-5438  
Toll-Free: CT 800-245-5438  
Phone: 203-878-0694  
Fax: 203-879-2549  
E-mail: Aerialinfo@aol.com  
Web: www.aerialift.com  
Contact: Ernie DePiero, Rich Mitchell  
Manufacturer of aerial lifts, hydraulic dump chip boxes and accessories. See Our Ad in 4-Color Buyers' Guide

(M) **Agriculture, Inc.**  
P.O. Box 240  
White Plains, KS 66760  
Toll-Free: 800-258-2976  
Phone: 325-655-3390  
Fax: 325-655-3895  
E-mail: sales@agricultureinc.com  
Web: www.agricultureinc.com  
Contact: Bob Marks

(M) **Ainsworth, Inc.**  
3000 Willow Park Rd  
Richland, WA 99352  
Phone: 509-756-5100  
Fax: 509-756-5105  
E-mail: wbecs@ainsworth.com  
Web: www.ainsworth.com  
Contact: Ed Spaulding

(M) **Altec Industries, Inc.**  
31 Inverness Center Parkway, Ste 130  
Birmingham, AL 35242  
Toll-Free: 800-958-2555  
Phone: 205-977-7333  
Fax: 205-977-7747  
E-mail: headquarters@altec.com  
Web: www.altec.com  
Contact: David W. Hill  
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.**  
RR 5 Box 567, Keely Road  
Franklin, PA 16323  
Toll-Free: 888-544-6287  
Phone: 814-827-8884  
Fax: 814-827-2903  
E-mail: alturamats@usachoice.com  
E-mail: geharny@mail.usachoice.net  
Web: www.alturamats.com  
Contact: Gerald Harry  
Protect your client's property and your company's bottom line with Alturnamats' new matting system and outrigger pads. See Our Ad in 4-Color Buyers' Guide

(S) **Alta Logic Inc.** *(Treesage.com)*  
4848 S Highland Dr #516  
Salt Lake City, UT 84117-6007  
Phone: 801-272-5172  
Fax: 801-273-9312  
E-mail: kpompei@altalogic.com  
Web: treesage.com  
Contact: Kevin Pompei

(M) **Altec Industries, Inc.**  
31 Inverness Center Parkway, Ste 130  
Birmingham, AL 35242  
Toll-Free: 800-958-2555  
Phone: 205-977-7333  
Fax: 205-977-7747  
E-mail: headquarters@altec.com  
Web: www.altec.com  
Contact: David W. Hill  
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) **Altech Industries, Inc.**  
31 Inverness Center Parkway, Ste 130  
Birmingham, AL 35242  
Toll-Free: 800-958-2555  
Phone: 205-977-7333  
Fax: 205-991-7733  
E-mail: headquarters@altec.com  
Web: www.altec.com  
Contact: David W. Hill  
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) **Altec Industries, Inc.**  
31 Inverness Center Parkway, Ste 130  
Birmingham, AL 35242  
Toll-Free: 800-958-2555  
Phone: 205-977-7333  
Fax: 205-991-7733  
E-mail: headquarters@altec.com  
Web: www.altec.com  
Contact: David W. Hill  
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
Bailey’s –
Affiliated Location
Jackson, TN 38301
Toll-Free: 800-322-4539
Phone: 731-422-1300
Fax: 731-422-6118
E-mail: baileys®baileys-online.com
Web: www.baileys-online.com

D/M Bandit Industries, Inc.
6750 Millbrook Rd
Remus, MI 49340
Toll-Free: 800-952-0178
Phone: 989-561-2270
Fax: 989-561-2273
E-mail: brushbandit@eclipsetel.com
Web: www.banditchippers.com
Contact: Regional Salesperson
See Our Ad in 4-Color Buyers’ Guide

(M) Bashlin Industries, Inc.
PO Box 867
Grove City, PA 16127
Phone: 724-458-8340
Fax: 724-458-8342
E-mail: sales@bashlin.com
Web: www.bashlin.com
Contact: Roderick A. Paul

(M) Bayer Corporation, Ag. Division
6700 Corporate Drive, Ste 230
Kansas City, MO 64120
Toll-Free: 800-842-8020
Phone: 816-242-4749
Fax: 816-241-4735
Web: www.protect-your-turf.com
Contact: Neil Cleveland

(M) BBA Nonwovens/
Reemay Inc./Bio Barrier
PO Box 511
70 Old Hickory, TN 37138-3651
Toll-Free: 800-382-8467
Phone: 615-847-7137
Fax: 615-847-7068
Web: www.reemay.com
Contact: Betty Eddins

(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

(M) John Bean Sprayers
PO Box 1404
LaGrange, GA 30241-1404
Toll-Free: 800-241-2308
Phone: 706-682-8161
Fax: 706-682-0052
Contact: Ray Perry

(D) Ben Meadows Company
Subsidiary of Lab Safety Supply, Inc.
401 S. Wright Rd
Janesville, WI 53546
Toll-Free: 800-241-6401
Phone: 608-757-4846
Fax: 608-757-4645
Web: www.benmeadows.com
Contact: Greg Lee

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

(M) Big Foot Industries Inc.
PO Box 1123
Carson City, NV 89702
Phone: 775-883-2321
Contact: Ian J. VanGelder
See Our Ad in 4-Color Buyers’ Guide

(D) Bio-Plex Organics
2213 Huber Dr
Manheim, PA 17545
Toll-Free: 800-441-3573
Phone: 800-441-3573
Fax: 717-653-0816
Contact: Larry J. Hershberger

(D) Bishop Company
PO Box 870
12519 East Putnam Street
Whittier, CA 90602
Toll-Free: 800-421-4833 (Se habla Espanol)
Fax: 562-698-2238
E-mail: sales@bishco.com
Web: www.bishco.com
Bishop Company is a stocking distributor of quality tools and equipment for the professional arborist and landscaper; representing products from over 400 manufacturers. Call today for your free catalog.
See Our Ad in 4-Color Buyers’ Guide

(D) Blade Equipment Inc.
612 Parkridge Dr
Clayton, NC 27520
Toll-Free: 800-736-5060
Phone: 919-359-3374
Fax: 919-359-3397
E-mail: dandzx@aol.com
Web: bladeequipment.com
Contact: Dan Deriscavage

(D) Blue Ridge Arborist Supply
PO Box 1626
17277 Poor Farm Rd
Culpeper, VA 22701
Toll-Free: 800-577-TREE (8733)
Phone: 540-829-6889
Fax: 540-825-6451
Web: www.blueridge.baweb.com
Contact: Stephanie Partlow
Blue Ridge Arborist Supply is committed to providing quality tree care equipment you know and trust. We are a family-owned and operated business with almost 20 years of experience in the tree service industry. Call for a catalog or stop by.
See Our Ad in 4-Color Buyers’ Guide

(D/M) Border City Tool & Manufacturing Co.
23325 Blackstone Ave
Warren, MI 48089-2675
Toll-Free: 800-421-5985
Phone: 810-758-5574
Fax: 810-758-7829
Contact: Quinn Martin
Border City Tool & Manufacturing Co.
Subsidiary of Lab Safety Supply, Inc.
401 S. Wright Rd
Janesville, WI 53546
Toll-Free: 800-241-6401
Phone: 608-757-4846
Fax: 608-757-4645
Web: www.benmeadows.com
Contact: Greg Lee

See Our Ad in 4-Color Buyers’ Guide
**D/M** John Brown & Sons Inc.
14 & B & 8 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.buckinghammfg.com
Contact: Harvey Donaldson

**See Our Ad in 4-Color Buyers’ Guide**

**M** Brown Manufacturing Corp.
Rt. 3, Box 339
Ozark, AL 36360-0339
Toll-Free: 800-633-8909
Phone: 256-587-9223
Fax: 256-587-6232
E-mail: sales@buckinghammfg.com
Web: www.brownmfgcorp.com
Contact: Jeff Thagard

**See Our Ad in 4-Color Buyers’ Guide**

**D** Brownwood Sales
1500 George Street
Sandusky, OH 44870
Phone: 419-624-9832
Fax: 020 83155000
E-mail: brushtec@netwurx.net
Web: www.brushtec.com
Fax: 262-670-0282
Phone: 262-670-6044

**D** Capital Technology
97 Cypress St
Reynoldsburg, OH 43068
Phone: 740-964-0089
Fax: 740-964-0186
Contact: Thomas Cowher

**M** Buccaneer Rope Co.
22319 Alabama Hwy 79
Scottsboro, AL 35768
Toll-Free: 800-358-ROPE (7673)
Phone: 256-587-6232
Fax: 256-587-9223
E-mail: bucrope@Hiwaay.net
Contact: Dan Pockman

**See Our Ad in 4-Color Buyers’ Guide**

**M** Buckingham Manufacturing Co., Inc.
PO Box 1690
1-11 Travis Avenue
Binghamton, NY 13902
Toll-Free: 800-937-2825
Phone: 607-773-2400
Fax: 607-773-2425
E-mail: sales@buckinghammfg.com
Web: www.buckinghammfg.com
Contact: James Pennefeather, Chris dela Vera
A leading manufacturer of climbing equipment since 1896. Specializing in saddles, climbers, lanyards, harnesses, shock absorbers and accessories for the bucket truck.

**See Our Ad in 4-Color Buyers’ Guide**

**S** C. A. G. Corporation
Birmingham Courts Suite 104
Chadds Ford Professional Campus
Chadds Ford, PA 19317
Toll-Free: 800-932-2274
Phone: 610-558-3800
Fax: 610-558-1949
E-mail: cb@cagcorp.com
Web: www.cagcorp.com
Contact: Christopher Grivas
We provide fast, easy financing for specialized trucks and equipment.

**See Our Ad in 4-Color Buyers’ Guide**

**M** CEI
PO Box 406
Osseo, MN 55369
Toll-Free: 800-333-5234
Phone: 763-425-1167
Fax: 763-424-9528
Web: www.cei-clem.com
Contact: Ryan Murray
Original manufacturer of the heavy duty “800 Series” stump cutter teeth and the “Gladiator” double edge reversible cutter tooth.

**M** Central Boiler
20502 160th St.
Greenbush, MN 56726
Toll-Free: 800-248-4681
Phone: 218-782-2575
Fax: 218-782-2580
Web: centralboiler.com
Contact: Dennis Brazier

**D** Chesapeake Engine Distributors, Div. RBI Corp.
10241 Sycamore Dr
Ashland, VA 23005
Toll-Free: 800-666-5928
Phone: 804-550-2231
Fax: 800-685-8607
Web: www.chesapeakeengine.com
Contact: William T. Miller

**S** Christmas Decor & Nite Time Decor
PO Box 5946
Lubbock, TX 79408
Toll-Free: 800-687-9551
Phone: 806-687-9551
Fax: 806-722-9627
E-mail: Blake@ChristmasDecor.net
Contact: Blake Smith

**M** Cleary Chemical Corp.
178 Ridge Rd, Ste A
Dayton, NJ 08810-1501
Toll-Free: 800-524-1662
Phone: 732-329-8399
Fax: 732-274-0894
E-mail: Bob.Alvarez@clearychemical.com
Web: www.clearychemical.com
Contact: Bob Alvarez
Suppliers of fungicides, insecticides and nutrients for arborists and landscape management companies. Featuring 3336 systemic fungicides, Protect T/O contact fungicide, Spotrete animal repellent and KnoxOut GH slow-release insecticide.

**See Our Ad in 4-Color Buyers’ Guide**

**D** Clevaes Company, Inc.
300 Reservoir Street
Needham, MA 02194
Phone: 781-449-0833
Fax: 781-444-5611
Contact: Lenny Cleeves

See Our Ad in 4-Color Buyers’ Guide
A unique consulting service offering experience and skills usually available only to firms with large overhead staffs. Now individuals owning and managing their own operations can access management skills for developing training programs, organizational structures, management systems and tools for profitable growth. An ongoing coaching program adding experienced management advice is also available to assist in making sound decisions for the future.

See Our Ad in 4-Color Buyers' Guide
(D) Fehr Bros. Industries, Inc.
895 Kings Hwy
Saugerties, NY 12477-4356
Toll-Free: 800-431-3095
Phone: 914-246-9525
Fax: 914-246-3330
E-mail: mac@fehr.com
Web: www.fehr.com
Contact: Mac MacCulloch
Toll-Free: 800-275-3618
Saugerties, NY 12477-4356
895 Kings Hwy
(D) Freehold Tree & Turf Equipment
4413 Rt 9
Freehold, NJ 07728
Phone: 732-330-2547
Fax: 732-308-9858
Contact: William Lewis
(D/S) J. P. Fuller Inc.
PO Box 381
Glen Burnie, MD 21061
Toll-Free: 800-932-5095
Phone: 410-766-5120
Fax: 410-761-5119
Contact: Marc A. Lombardi
(M) Future Forestry Products Inc.
PO Box 1083
Willamina, OR 97396
Toll-Free: 888-258-1445
Phone: 503-876-1445
Fax: 503-876-4488
E-mail: gandaequip@nxs.net
Web: www.Futureforestry.com
Contact: Mark Havel
(M) FMC Corporation-APG Specialty Prod.
1735 Market St
Philadelphia, PA 19102
Toll-Free: 800-321-1 FMC (1362)
Web: www.forestindustry.com
Contact: Tim Ard
Chain saw operations training for the tree care industry. Safety, maintenance and productivity.
Forestindustries
2480 Kenworth Rd Ste 11
Nanaimo, BC V9T 3Y3
CANADA
Phone: 877-755-2762
Fax: 866-755-8665
Web: www.forestindustries.com
Mr. Joe Perraton
(C) Grow Tech, Inc.
7825 Middlebury Rd
Bloomington, IN 47401
Toll-Free: 800-204-GROW (4769)
Phone: 800-345-9421
Fax: 812-882-3500
E-mail: pruningtools@aol.com
Web: www.green-releaf.com
Contact: John Seoivy
See Our Ad in 4-Color Buyers' Guide
(S) Green Releaf
111 Kesler Mill Rd
SALEM, VA 24153
Toll-Free: 800-788-9886
Phone: 540-389-9361
Fax: 540-389-2688
E-mail: jsseoivy@sybronchemical.com
Web: www.green-releaf.com
Contact: John Seoivy
See Our Ad in 4-Color Buyers' Guide
(D) Grow Tech, Inc.
7825 Middlebury Rd
Bloomington, IN 47401
Toll-Free: 800-204-GROW (4769)
Phone: 800-345-9421
Fax: 812-882-3500
E-mail: pruningtools@aol.com
Web: www.green-releaf.com
Contact: John Seoivy
See Our Ad in 4-Color Buyers' Guide
(S) Greystone Financial Group, Inc.
PO Box 1447
West Chester, PA 19380
Toll-Free: 888-718-1500
Phone: 610-738-7100
Fax: 610-738-0871
E-mail: Gstonefin@aol.com
Contact: Bruce E. Krah
(M) Grow Gun Corporation
5322 Howell St
Arvada, CO 80002
Toll-Free: 800-275-9112
Phone: 303-279-5101
Fax: 303-279-5101
E-mail: growgun@denver.info.net
Web: www.denverinfo.net/groupun
See Our Ad in 4-Color Buyers' Guide
(D) Growtech, Inc.
2480 Kenworth Rd Ste 11
Nanaimo, BC V9T 3Y3
CANADA
Phone: 877-755-2762
Fax: 866-755-8665
Web: www.forestindustries.com
Mr. Joe Perraton
(D) Growtech, Inc.
34 Congresss Circle West
Roselle, IL 60172-3911
Toll-Free: 800-204-GROW (4769)
Phone: 630-980-9972
Fax: 630-980-4877
E-mail: pruningtools@aol.com
Web: www.growtech.com
Contact: Val Box
Featuring: ARS brand and other fine professional pruning tools.
Ergonomically designed, lightweight, easy-to-use. Arborists’ folding and straight saws, pole saws, long-reach pruners, hand pruners, hedge shears, loppers, horticultural and flower knives, scissors and accessories.
See Our Ad in 4-Color Buyers' Guide
(D/M/S) Growth Products, Ltd.
PO Box 1252
White Plains, NY 10602-1252
Toll-Free: 800-648-7626
Phone: 914-428-1316
Fax: 914-428-2780
E-mail: info@growthproducts.com
Web: www.growthproducts.com
Contacts: Nancy Pasqualini, Nicole Campbell
Growth Products provides the arborist with a professional product line, including a biological fungicide plus natural organics, liquid fertilizers, and micronutrients for every season. Each product contains our exclusive methylene urea – a slow release nitrogen source. Please call for more information.
See Our Ad in 4-Color Buyers' Guide
(M) Gyro-Trac, Inc.
6408 Savannah Hwy
Ravenel, SC 29470
Toll-Free: 888-490-TRAC (8722)
Phone: 843-889-1923
Fax: 843-889-1732
Web: www.gyrotrac.com
Contact: Daniel Gaudreau
Three new items: Tomahawk Teeth, Ultimate Pocket Teeth, and bolts with newly designed head and threads. All built to give you the highest performance on the market.

See Our Ad in 4-Color Buyers' Guide
(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

(D) Sibtec Microprobes
2A Merrow Business Centre,
Merrow Lane
Guildford, Surrey, GU4 7WA
UNITED KINGDOM
Phone: 01483 440726
Fax: 01483 440727
Mr. Michael White

(D/S) Sierra Moreno Mercantile
PO Box 292
Big Pool, MD 21711
Toll-Free: 800-262-0800
Phone: 301-842-2544
Fax: 301-882-3639
E-mail: quescusman@aol.com
Web: www.simonds.cc
Contact: Ray Eluskie

(M) Simonds Industries, Inc.
120 Pere Marquette Street
Big Rapids, MI 49307
Toll-Free: 800-343-1616
Phone: 231-796-4771
Fax: 231-796-4771
E-mail: reluskie@simonds.cc
Web: www.simonds.cc
Contact: Ray Eluskie

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

(S) Spectrum Analytic, Inc.
PO Box 639
Washington Court House,
OH 43160
Phone: 740-335-1104
Fax: 740-335-1102
Web: www.spectrumanalytic.com
Contact: Mike Hall

(S) Robert Squillare
Insurance Agency
86 Broad St
Eatontown, NJ 07724
Phone: 732-542-2400
Fax: 732-542-0390
Contact: Robert Squillare
Licensed: NJ, NY, PA

(D) Stuart Brown
Chainsaw Specialists
Blackmoor Farm, New Rd
Maulden, Bedfordshire, MK45 2BG
UNITED KINGDOM
Phone: 01525 841842
Mr. Stuart Brown

(M) STIHL Incorporated
536 Viking Drive
Virginia Beach, VA 23450-2015
Toll-Free: 800-467-8445 (Go Stihl)
Phone: 757-486-9394
Fax: 757-486-9158
E-mail: www.stihlusa.com
Web: www.stihlusa.com
Contact: Jim Hampton
STIHL quality engineering and innovative technology are built into each of our top-of-the-line power equipment tools, beginning with our world-renown chainsaws and including trimmers/brushcutters, edgers, blowers, cut-off machines, and earth augers. STIHL is dedicated to designing, developing and manufacturing the best power equipment on the market.

See Our Ad in 4-Color Buyer’s Guide
(D/M) Superior Diesel Inc.  
PO Box 1187  
Rhinelander, WI 54501  
Phone: 715-369-5900  
Fax: 715-369-5918  
Contact: Jim Kreger

(S) T. I. S. Insurance Services Inc.  
PO Box 10328  
Knoxville, TN 37919  
Toll-Free: 800-328-0293  
Phone: 865-470-3705  
Fax: 865-694-4847  
Web: www.tisins.com  
Contact: R.L. “Bunny” Oakes, Ill

(D/M) Tamarack Clearing, Inc.  
PO Box 370  
80 Lincoln St.  
Canton, NY 13617  
Phone: 315-386-8273  
Fax: 315-386-8331  
Contact: John Sleeper  
E-mail: Tamarack-John@northnet.org  
Web: www.tamarackclearing.com

(M) Timberwolf Manufacturing Corporation/Valley Processors  
118 Spruce St  
Rutland, VT 05701  
Toll-Free: 800-340-4386  
Phone: 802-775-4227  
Fax: 802-773-1275  
E-mail: twolf@sover.net  
Web: www.timberwolfcorp.com  
Contact: Butch Rogers

See Our Ad in 4-Color Buyers’ Guide

(T) Tree Care Supplies, Ltd.  
Chalston St Peter  
Pewsey, Wiltshire, SN9 6EU  
UNITED KINGDOM  
Phone: 01980 635380  
Fax: 01980 635382  
Web: www.treeclimbing.com  
Contact: Steve Hall

See Our Ad in 4-Color Buyers’ Guide

(D) Tree Climbers International  
628 West College Ave  
Decatur, GA 30030  
Phone: 404-377-9663  
Fax: 404-377-9120  
Web: www.treeclimbing.com  
Contact: Jon Jenkins

See Our Ad in 4-Color Buyers’ Guide

(D) Tree Management Systems, Inc.  
4257 W Delap Rd  
Ellistsville, IN 47429  
Toll-Free: 800-933-1955  
Phone: 812-876-7664  
Fax: 812-876-3565  
E-mail: sales@turftree.com  
Web: www.turftree.com  
Contact: Jon Garner

Arborgold software version 9.5—business management software designed specifically for tree care companies.  
See Our Ad in 4-Color Buyers’ Guide

(D) Tree Root Systems, Inc.  
22719 Briarcliff Blvd  
Spring, TX 77373  
Phone: 281-350-9858  
Fax: 281-355-5451  
Contact: Wayne A. Lee

See Our Ad in 4-Color Buyers’ Guide

(D) Tree Tech Microinjection Systems  
950 S.E. 215th Avenue  
Morriston, FL 32668  
Toll-Free: 800-622-2831  
Phone: 352-528-5335  
Fax: 352-528-0777  
E-mail: rtweb@treetech.com  
Web: www.treeeech.net  
Contact: Dr. Roger Webb

Microinjection products to aid in the control of bacterial and fungal pathogens, mites, and insect pests of ornamental and certain crop-bearing trees. Leakproof microinjection units are our standard. Nationwide system of distributors offer technical support and rapid shipping.  
See Our Ad in 4-Color Buyers’ Guide

(D) Tree Tools  
17425 SW Pilkington Lake Oswego, OR 97035-5357  
Toll-Free: 888-365-6733  
Phone: 503-635-0063  
Fax: 503-635-0064  
E-mail: info@treestools.com  
Web: www.treestools.com  
Contact: Larry Campbell

See Our Ad in 4-Color Buyers’ Guide

(S) TreePro Direct  
PO Box 39  
Woodbridge, NJ 07095  
Toll-Free: 800-272-6771  
Phone: 732-272-6771 x266  
Fax: 732-634-5379  
Contact: Bonnie Bernstein

Treevolution  
Swyddfa'r Stabi, Nantgwynant  
Beddgelert, Gwynedd, Wales, LL55 4NQ  
UNITED KINGDOM  
Phone: 01766 890495  
Fax: 01766 890530  
Mr Liam McKeown

(D) Trueco, Inc.  
115 Longbranch Rd  
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: Robert L. (Butch) Trice

See Our Ad in 4-Color Buyers’ Guide

(D) V & H Inc.  
PO Box 289  
Prentice, WI 54556  
Toll-Free: 888-384-8418  
Phone: 888-384-8418  
Fax: 715-428-2207  
E-mail: timber@dwave.net  
Web: www.vhtrucks.com  
Contact: Larry A Brost
(M) Vermeer Manufacturing Company
PO Box 200
Pella, IA 50219
Toll-Free: 888-837-6337
Phone: 641-628-3141
Fax: 641-621-7734
E-mail: krotert@vermeermfg.com
Web: www.vermeer.com

(M) VERSALIFT, TIME Manufacturing Co.
PO Box 20368
7601 Imperial Drive
Waco, TX 76702-0368
Phone: 254-399-2100
Fax: 254-399-2651
E-mail: stephenr@versalift.com
Web: www.versalift.com

The complete line of VERSALIFT aerial devices from 29' to 65' includes articulated overcenter and articulated non-overcenter aerial devices, telescopic and telescopic/articulated aerial devices as well as digger derricks for the Power, Telephone, Cable, and Tree Care Industries.

See Our Ad in 4-Color Buyers' Guide

(M) Village Blacksmith/Olympia Industrial, Inc.
505 S Seventh Ave
City of Industry, CA 91746
Toll-Free: 800-888-8782
Phone: 626-336-4999 ext. 123
Fax: 626-336-4899
Contact: Bert Kenyon

(M) Wall Industries
PO Box 25
Spencer, NC 28159
Toll-Free: 800-316-5944
Phone: 704-637-7414
Fax: 704-637-2434
Web: www.wallrope.com
Contact: Wayne Allen

(M) Weaver Leather, Inc.
7540 County Rd 201
PO Box 68
Mount Hope, OH 44660
Toll-Free: 800-932-8371 (WEAVER-1)
Phone: 330-674-7548
Fax: 330-674-0330
E-mail: info@weaverleather.com
Web: www.weaverleather.com/arborist
Contact: Richard F. Kiefer

(M) West Coast Shoe Co.
PO Box 607
52828 NW Shoe Factory Lane
Scappoose, OR 97056-0607
Toll-Free: 800-326-2711 (US & Canada)
Phone: 503-543-7114
Fax: 503-543-7110
E-mail: boots@westcoastshoe.com
Web: www.westcoastshoe.com
Contact: Curt Yaeger

West Coast Shoe Company is an 83-year-old, family-owned business that takes great pride in building the toughest, meanest, hardest working boots in America. Built for rugged protection and comfort on the job and for serious outdoor recreation. See the full line in our new catalog. Access our Web site, call, or send us an E-mail.

See Our Ad in 4-Color Buyers' Guide

(D) Western Tree Equipment & Repairs
11530B Elks Circle
Rancho Cordova, CA 95742-7357
Toll-Free: 800-94-Arbor (942-7267)
Phone: 916-852-8900
Fax: 916-852-5800
E-mail: west8733@aol.com
Contact: Lew Fleming
Dependable and fast service of all quality arborist supplies. Our goal is to get your order out.

See Our Ad in 4-Color Buyers' Guide

(M) Wood-Mizer Products, Inc.
8180 W 10th St
Indianapolis, IN 46214-2400
Toll-Free: 800-553-0182
Phone: 317-271-1542 x1164
Fax: 317-273-1011
E-mail: woodmizer@woodmizer.com
Web: www.woodmizer.com
Contact: Kevin Corder

(M) Woodsman Chippers
614 West Fifth St
Claire, MI 48617
Toll-Free: 800-953-5532
Phone: 517-366-9454
Fax: 517-366-9487
Web: www.woodsmanchip.com
Contact: Bob Engler

(M) Yale Cordage, Inc.
26 Morin Street
Biddeford, ME 04005
Phone: 207-282-3396
Fax: 800-255-9253
E-mail: christine@yalecordage.com
Web: www.yalecordage.com
Contact: Richard W. Hildebrand
Manufacturers of XTC, XTC-Plus, XTC-12 and Double Esteerton—ropes for expert tree care. Yale Cordage is also a major supplier of spliced rope tools, slings and tree climbing lines and wirecore fliplines.

See Our Ad in 4-Color Buyers' Guide

(M) Zenith Cutter Co.
5200 Zenith Parkway
Loves Park, IL 61111
Toll-Free: 800-223-5202
Phone: 815-282-5200
Fax: 815-282-5232 or 5213
Web: www.zenithcutter.com
Contact: Guy Jang
Manufacturer of a full line of industrial-quality knives for brush chippers. Zenith knives are guaranteed to be your best value and are available for shipment within 24 hours of your order.

See Our Ad in 4-Color Buyers' Guide

(M) Wood/Chuck Chipper Corporation
PO Drawer 279
Shelby, NC 28151
Toll-Free: 800-269-5188
Phone: 704-482-4357
Fax: 704-480-1466
E-mail: woodchuck@shelby.net
Web: www.woodchuckchipper.com
Contact: Dennis A. Beam, Ill
WHEN IT'S TIME FOR TREE HEALTH CARE
THINK DIFFERENTLY!

PROVIDING THE LARGEST SELECTION OF MICRO-INJECTION PRODUCTS AVAILABLE!

INSECTICIDES:
- IMICIDE
- ABACIDE
- INJECT-A-CIDE
- INJECT-A-CIDE B

FUNGICIDES:
- FUNGISOL
- TEBUJECT

ANTIBIOTICS:
- MYCOJECT

FERTILIZERS:
- STEMIX
- STEMIX HI-VOL
- STEMIX ZINC
- STEMIX IRON/ZINC
- INJECT-A-MIN IRON/ZINC
- INJECT-A-MIN MANGANESE

COMBINATION PRODUCTS:
- IMISOL (FUNGISOL + IMICIDE)
- ABASOL (FUNGISOL + ABACIDE)

INJECT-A-MIN IRON/ZINC

www.mauget.com

Available in convenient 25 unit 1/4 flats

Mauget
800-TREES Rx
877-TREE HLP
(800-873-3779)
(877-873-3457)
(New Toll Free Technical Support Line)

Please circle 192 on Reader Service Card