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In today’s arboricultural world, there seems to be so much going on. Often, too much. We lack the time to assess what’s important, what can wait and what will eventually end up in the mental dumpster.

Along those lines, have you ever thought about where you get the energy to do the things you do every day? I pose the question after seeing the benefits of such an assessment. This is also a hot topic with tree care companies that depend upon people with high energy levels—for market research, designing, testing, manufacturing, promoting, selling and servicing equipment, supplies and services. Let me explain further.

People exhibit different levels of internal energy. Some are fairly constant in their upbeat level; others have peaks and valleys, which makes for more challenging encounters; and still others seem to never get their “engine” started.

People have different daily rhythms. Some perform best in the morning, others enjoy the evening and still others soar in the middle of the night. Which rhythm fits your employees? And where do you fit in? Consider that your chances of achieving positive results are enhanced tremendously by knowing the best time to deliver an important message.

People have different sources of energy. Some people get their energy from food and drink. Some from the people around them. Some from physical exercise. And we all know someone whose energy level is so high we can’t figure out where they get it from. Wherever the source, providing an atmosphere conducive to encouraging the energy sources of your employees can make your life easier.

People have different ways of releasing energy. Have you been fortunate enough to witness the energy released when a person trained in the martial arts divides wood or cement blocks with a bare hand? It is powerful testimony illustrating how the human mind decides what can be done.

Take a moment to learn yourself better. Five minutes a day may be all that is needed to determine when you perform best and what makes your energy level go up or down. In discovering your own energy strengths and weaknesses, you will discover a more meaningful way of dealing with the variations of daily life, and in the process, learn more about how your employees interact with you. In the end, you will be better equipped to handle their drive, their thirst and their quest for more knowledge in our industry. Ultimately, your peace of mind will benefit.

Chris Brown
Marketing Communications Manager
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OSHA looks for in-depth guidance on rewriting rules.

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By Elmer Pyke
Tree care has changed over time, and so has the equipment.

Mulch It & They Will Pay
Marketing tips and strategies from one company owner who has climbed the mulch mountain.

Biorational Pesticides Gaining
With regulation of pesticides advancing, more and more researchers are looking to biorational pesticides—assisted by host/pest phenology—in managing insects.

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.
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Chaplain Ronald Wunsch offers a prayer for the men and women interred at Arlington National Cemetery.

NAA's National Day of Service ...

A day for work and a day for families.

Volunteers, including NAA Board Member Tom Golon (center), greet visitors to cemetery and explain that professional tree care helps maintain a healthy environment.
What possesses people to look outside themselves? What motivates a person, or hundreds of people, to travel to Washington on a sunny Saturday in October for completely selfless reasons?

There may have been as many purposes as there were volunteers at Arlington National Cemetery on October 17, as almost 600 dedicated tree care professionals made a lasting statement about their devotion to their profession and their commitment to environmental stewardship.

They arrived by car, aerial lift and bucket truck, some driving through the night, to take part in the National Arborist Association's most ambitious National Day of Service ever.

None of the early arrivals will ever forget the awe-inspiring sight of row upon row of tree care equipment belonging to 82 NAA member companies from 20 states peeling through the early morning... at Arlington National Cemetery

By Mark Garvin

(l-r) NAA President-elect John R. Wright, NAA President Paul Wolfe II, Mid-Atlantic ISA President Cindy Zimar, Chaplain Ronald Wunsch, Major General Robert Ivany and Arlington Superintendent John C. Metzler, Jr., kick off the opening ceremonies.
Volunteers receive safety instructions and a work plan from their zone coordinator. A fog to gather at the prearranged staging area.

In keeping with the spirit of the site, volunteer coordinators directed and organized the assembled convoy with military precision.

Zone coordinators, making their fourth visit to the cemetery, laid out detailed instructions on the number of trees in each of the 23 work zones in need of pruning, fertilizing, cabling and bracing. At the top of each list was an emphasis on safe work practices carried out according to A300 and Z133 standards.

More than 10,000 tourists came to the cemetery that day to view the Tomb of the Unknowns, pause in silent reflection at the grave site of President Kennedy and marvel at the sacrifice of so many lives. They were fortunate to be on hand to witness professional tree care practiced on the highest level. Above the walkways that lead to the cemetery's most visited memorials, arborists climbed among the massive oaks.

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A A break for lunch provided an opportunity for the 600 volunteers from 20 states and 92 NAA member companies to review their progress for the day.
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11. Chipper Air Exhaust Vents

**B. Overall Body Dimensions:**
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**D. Tool Boxes: (14-ga. Galvannealed)**
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   (two) 48” long x 20” high x 20” deep

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Below, safety coordinators managed the flow of bystanders as grounds crews fed mounting brush piles through chippers. Elsewhere, on a knoll just below the Tomb of the Unknowns, fertilizer crews tended to historic trees weakened by drought.

Curious pedestrians were greeted by volunteers who stood ready to explain the goals of the day, the importance of urban trees and the need for professional tree care. The NAA is committed to educating the public about the environmental, economic and social benefits of trees through public service events such as a National Day of Service. These types of events help reinforce to the public that the preservation of existing trees in urban America is critical to our future.

At the end of the day—with more than 800 trees cared for and 23,000 gallons of fertilizer distributed—crews converged back at the assembly area to describe their day and prepare for the wrap-up barbecue.

As the sun set, scattered groups of two or three could be seen staring back up the hill toward the cemetery. Lost in thought and silent as the interred soldiers, they were perhaps giving a private voice to their reasons for being here.

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The National Arborist Association and Arlington National Cemetery gratefully acknowledge the companies and individuals who provided support to make this event possible.

Please extend my most heartfelt thanks to the entire membership of the National Arborist Association for their wonderful gift to the American people. NAA’s National Day of Service on Oct. 17 in Arlington National Cemetery was an event my staff and I—as well as thousands of visitors in Arlington that day—will always remember.

I trust every sponsor, every company owner or manager, and every worker on the ground or in a tree that day understands the value of the gift they gave. The attention they gave our trees ensures Arlington will remain a fitting national shrine to those who served our nation. To the thousands of next-of-kin, and to our millions of annual visitors, NAA’s work was an act of selfless, patriotic devotion.

John C. Metzler, Jr., Superintendent
Arlington National Cemetery

After a hard day’s work, it was time for a barbecue and a chance to relive the highlights of a truly remarkable event.
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continued on page 16
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TREE CARE INDUSTRY - DECEMBER 1998
The leap in processing and marketing between turning chips and logs into mulch is a large step involving expensive equipment.

I've Got a Load of Wood Chips to Dump, But I'd Rather Sell if You're Willing to Buy

By Gary Mullane

In 1993, I was told by volunteers with my town's recycling association that the laws regarding the disposal of yard waste (wood chips, logs etc.) were changing in South Carolina. Before long, they warned, yard waste would no longer be accepted in landfills. The state had determined that yard waste represents about 18 percent of the volume in landfills, and, given the difficulty in finding sites for new ones, the state wanted reduce the volume at existing landfills. Since then, many other states have passed restrictive laws about the disposal of yard waste.

I saw this new legislation as an opportunity to turn an expense for my tree care business (handling wood chips, logs etc.) into a revenue-producing venture. I already had adequate land, correctly zoned, which I was using to store the yard waste and debris generated by my business. I decided to investigate the possibility of processing that waste into a marketable mulch. After all, how many times does an opportunity come knocking when you are standing at the door ready to answer? I started a company called the Organic Recycling Center (ORC) and went to work.

One way to get your name out is by displaying it on all sides of delivery trailers. This one, called the "Little Red Wagon," turns heads as it rumbles past.
Every tree company has problems getting rid of yard waste. Most are pleased to dump chips virtually anywhere, just to get rid of them. Some companies are fortunate to have regular dumping locations—like nurseries, garden centers—or the owner may know someone trying to get rid of them. Some companies are fortunate to have regular dumping locations—like nurseries, garden centers—or the owner may know someone trying to fill in a hole in the ground. Occasionally clients want the chips, until they see that the load has long, fibrous pieces of wood mangled by dull chipper blades.

At some point, the chips begin to accumulate into a pile that seems to multiply, even on weekends. Eventually, your wood chip pile reaches a critical stage: you can’t store any more and you can’t get rid of them without paying exorbitant tipping fees. What are you going to do?

You may have read in magazines such as this one about how tree care companies are making some money by turning wood waste into mulch. Beware. This can be a very dangerous step for the unsuspecting arborist. I assure you, chips and mulch are not the same. The leap in processing and marketing between turning chips and logs into mulch is an expensive step. Whether you should even consider making that move into the mulch business should be explored with the pros and cons of the mulch business and the expensive equipment required.

If you are reluctant, or queasy, about buying a bucket truck for $70,000 or a chipper for $25,000, I would caution you here not to venture into the mulch processing business. In my small operation alone, I have a $120,000 articulating, enclosed Case loader; $180,000 recycling machine; $100,000 trommel screen; forklift, bagging machine and assorted trucks and trailers to deliver the mulch. That’s not counting the seven acres of prime commercial real estate on Hilton Head Island that houses the operation or the salaries, taxes, insurance and benefits for the people who operate the machinery. (After typing this paragraph, I had to look a second and third time at what I’m doing.)

Now that you have received adequate warning, allow me to share some of my experiences in starting and growing a successful company. Keep in mind the subject of this article is marketing mulch, not wood chips. The two are totally different. They look, smell, spread and feel different. If you plan to sell mulch, then you have to process your wood chips into a saleable mulch product. I will leave the details on the equipment and capital expenditures needed for processing chips into mulch for another article. Today’s topic is marketing the mulch your machines have created.

If you decide you want to enter the mulch business, one of the key elements will be to establish a solid marketing plan. This should not be a daunting task, since you undoubtedly have a marketing plan in place for your tree care business—even if it isn’t written down. What does a marketing plan consist of?

You probably advertise in the Yellow Pages; splash the name of your company on trucks, T-shirts and hats; print brochures; distribute newsletters; and advertise in local newspapers or even on radio. In addition, you have established a solid reputation in your community, so clients say nice things about your company and tell others about the good work you do. For both my tree care and mulch businesses, I have taken my marketing plan one step further. I have found success by identifying “target markets.” With target marketing, the goal is to identify a specific part of the tree care business and target advertising dollars toward the market for that service.

One advantage of this method is you will be able to track the success of the advertising program. If it doesn’t work, change it or target a different market segment. For instance, I once ran a radio ad specifically targeting liquid fertilization. We spent $6,000 on the advertising program, and our liquid fertilizing sales increased by more than $50,000 in one season, not a bad return for the dollars spent.

Marketing mulch requires the same type of marketing strategy. First, you must change your attitude toward the wood waste you generate. It’s not something to dump, a bulky byproduct you want to get rid of as fast and as cheaply as possible. You want to sell the mulch and make money. It’s not waste. It’s organic gold!

Another radical change in outlook is necessary. With mulch, you are selling a product instead of a service. This proved to be an education for me. As I reduced the packaging of mulch from trailers to trucks to bags, I encountered more sophisticated competition—many of whom have very deep pockets and...
marketing divisions. Further, I suddenly encountered uniform quality control, as each load or bag had to be the same or equal to the last.

**Methods of marketing**

When we first opened in 1993, I figured that we would not have any problem getting “rid” of the mulch. I offered it all over the island for free, including delivery. I was having trouble finding takers, so I enlisted a marketing strategist and began to sell the mulch instead. The same people who wouldn’t take mulch for free were soon buying it. One of the local papers featured my company below a front page headline that read, “Company couldn’t give mulch away, so they sold it instead!!”.

Our marketing strategy recognized that people didn’t know our mulch was an option. Instead, most homeowners in our area spread pine straw on their properties. For those of you outside the South who may not be familiar with pine straw, let me explain. Pine straw is simply pine needles spread on the ground as ground cover. Talk about clever marketing; whoever thought of this was a genius! Pine needles are collected in forests, often bailed, and sold to homeowners as ground cover. Since pine straw was the most widely used ground cover in the area, we targeted it as our competition.

Since I had had success with radio advertising in the past, we decided to begin there. I wrote a script for a one minute spot and the radio staff convinced me to do the voice over myself. In the ad I described why mulch is better than pine straw. I guaranteed listeners would like our mulch or they wouldn’t have to pay for it. I also made this offer: if the mulch were washed away, we would replace it for free. I thought at the time that this was probably the dumbest thing I ever did. I thought no one would call us, but I followed with the opinions of the advertising pros. Was I ever wrong! Mulch sales increased twenty fold once the radio spot went on the air.

A component of any marketing plan should be consumer education. Since mulch was something of a new product in this area, we send instructions on how to spread it (pitchfork instead of shovel), the benefits of mulch, how it is made, what it is made from and even how to spruce it up by scratching the surface with a long-tined rake. We explain why it smells the way it does, too, and even why it is steaming. In brochures we use clever wording like, “Mulch provides a condominium of micro-organisms and soil bacteria essential for plant growth and is an excellent soil structure ingredient”.

We also printed inserts for the local newspaper. The newspaper allowed us to target the areas of circulation that we desired. We made sure the flyers were only sent to upscale residential developments, rather than complexes housing tourists primarily. All of the inserts were developed in-house using Microsoft Publisher, and all copying was done in-house to save money. I designed these inserts using a play on words from the NCAA Basketball Tournament, known as March madness. I titled the inserts “Mulch Madness”. Again, an easy marketing tool was used that generated a ten to one ratio on the cost of the inserts.

Another way we got our name out to the public was by displaying it, with our phone number, on all sides of our delivery trailers. We call our dumping trailer the “Little Red Wagon” (its painted on the trailer just like that), since it looks like a kid’s wagon. Heads turn as it rumbles past.

Flexibility is important in selling your mulch too. One-size-fits-all loads won’t help sales. For example, we often deliver mulch in ten yard trailers. This has proved very effective for selling to golf courses, because we are able to drive onto the course and dump the mulch where spread it, saving them handling costs.

Providing mulch to schools, churches, civic organizations and day care centers free of charge is always an excellent, low-cost method of marketing products. Our mulch is spread in high visibility areas, by volunteers, under the umbrella of a community service donation. We receive positive public relations points through our civic-minded efforts. Any time a teacher needs some mulch for a project, be sure to accommodate. Students will talk about what they did in school to their parents who are consumers of your products.

**Extreme marketing: the next step**

I only know of one other arborist who is marketing mulch in bags. Selling mulch in bags is probably something most arborist don’t want to get into, however, I learned that the highest revenues
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<td>• Easy to Maintain</td>
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are produced by packaging it in the smallest containers. I warn you, though, that it is also the most costly method of selling mulch. Bagging mulch puts you in competition with some of the leading organic supply corporations in the country. You will have to learn about all sorts of new rules and regulations. For instance, I am now something of an expert on UPC (Uniform Package Code) labels, or bar codes, needed so that computer scanners can read our bags. This is not an area for the faint of heart.

I entered this arena by designing a user-friendly, easily handled, 25-pound bag that would sell itself while standing in a row of pallets along with other mulch products. The bags are stacked in such a way that the word “Mulch” is always facing in the direction of the shopper. I created a six-color bag with all good things about mulch printed on it. I even created a “History of Mulch,” which is printed on our bag.

To successfully stay in the bagged-mulch business, you must have one or more large accounts that will order large quantities. This is the best way to fully capitalize the costs of the equipment.

Conclusion

When you see that load of wood chips in the back of your truck, you can view it many ways. Consider that you’ve already been paid once by your client to generate those wood chips. Now you have to decide if that load will be an expense or an income producer. Many arborists just want to get rid of the load and have an empty truck by the next morning—and most are correct in that thinking. I ask you, however, to look beyond the box, so to speak, in which most of us operate our day-to-day lives.

In the coming years, as recycling organics becomes more cost effective and mainstream, new methods and more efficient equipment will make it commonplace for tree care companies to recycle all of our organic waste.

Keep in mind that ten years ago few tree care companies had faxes, e-mail was unknown, anything.com was a punctuation error and Gateway was an arch in St. Louis.

Gary Mullane is past president of the NAA and the owner of Low Country Tree Care and Organic Recycling Center in Hilton Head, S.C.
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Please circle 40 on Reader Service Card
West Coast Shoe Company (WESCO) has released an updated product catalog describing the company's complete line of custom crafted and stock boots. Also included is information regarding accessories, the warranty on all new boots, and the factory boot rebuilding service. A custom fitting form is included: when the custom-fit boots wear out, the factory will repair and rebuild them like new for about half the cost of a new pair. For a copy of the new catalog, contact WESCO at 52828 N.W. Shoe Factory Lane, PO Box 607, Scappoose, OR 97056. Phone: 800-326-2711.

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VERSALIFT/TIME Manufacturing has designed the VO-255 specifically for the tree industry. Featured are: an overcenter horizontal reach of 41 feet, two inches (12.50m); a maximum platform capacity of 400 pounds (181kg); a stowed travel height of 11 feet, five inches; a lower boom lift eye capacity of 1,500 pounds (680 kg), and two sets of hydraulic tool ports. All tree units have no exposed hose bundles and no exposed cylinder rods in the stowed position. This simplifies maintenance, prevents damage and wear and contributes to the over-all safety of the operation of the unit. For more information, contact: VERSALIFT/TIME Manufacturing Company, PO Box 20368, Waco, TX 76702-0368; Phone: 254-399-2100.

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The new Model DH230 double-sided hedge trimmer is configured for professional use with the same engine power and performance as the HT230 model. The 22.5cc 1.1 hp engine meets all EPA Phase I and California Air Resources Board (CARB) Tier 1 emission standards. DH230 comes in a 24-inch and 30-inch length with front and rear handles fitted with anti-vibration systems to reduce operator fatigue. Major features include high-performance, air-cooled, two-cycle engine with chromed cylinder, two-ring piston, and three piece crankshaft; Walbro WYJ diaphragm carburetor; one-piece, transistor controlled electronic ignition; forced air cooling; semi-wet, silenced air cleaner; two-shoe bonded clutch with powered metal body; and spur gear cutter drive. For more information, call 503-692-3070; for other Shindaiwa products, go to web site: http://www.Shindaiwa.com.

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TruckCraft's TC-130 D-ICER tailgate replacement spreader is corrosion resistant and rugged. Some of its key features include aluminum and stainless-steel construction; adaptability to any pickup dump insert or one-ton dump with kit; ability to spread 5,000 pounds or 2-1/2 cubic yards of material per hour; sealed electric motors with stainless-steel shafts and oversized bearings. It can be used to spread economical bulk salt for fast return on investment. Install in two hours, then off and on in 10 minutes. Other features include in-cab, lighted controls for operator convenience, and a hinged auger housing lid that opens and closes in 30 seconds to clear material jams.

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Toro digs into contractor markets with the Dingo mini-utility loader. Replace your physical laborers who dig, auger (30 inches), trench, lift, load, carry, grade, till, mix concrete, bore, etc. with a cheaper alternative that results in quicker, higher quality jobs. For more information or a demo, call: Sitework Systems, Inc. at 800-476-9673, or check out Toro's website at www.toro.com , and Lund Tech at 889-891-1511.

Please circle 114 on Reader Service Card
Dickey Tree Service has developed a system in which one person can lock off and raise a limb alone. The system, known as the “3 post E-Z Wrap” is the only friction brake lowering device on the market guaranteed for 15 years. E-Z Wrap can be used with any rope (up to two inches) and has a solid-steel, one-inch, machine-shaped St. Louis arch. Field tested for over five years in six states, E-Z Wrap provides the freedom to choose one, two or three posts, with three double-wall, three-inch steel posts and will fit any standard 2-inch receiver hitch. For more information, contact: Dickey Tree Service, Route 1, Box 746, Hayti, MO 63851. Phone: 1-800-521-8034.

Vermeer Manufacturing Company recently introduced a unique knife screen assembly designed to grind difficult organic waste. The screen reduces the risk of plugging due to its ability to hold material in the grinding chamber and away from the stationary walls of the hammermill. Once material is engaged in the grinding chamber, hammers drive it through shear bars, releasing it directly to the discharge system all in one motion. When using the screen, the cutting tip typically contacts the material just once. Use of the screen also reduces operating cost per ton due to decreased wear on parts. For more information, call 1-800-VERMEER (837-6337) or visit Vermeer’s web site at http://www.vermeer.com

Compact Technologies, an OmniQuip International Company, recently introduced the newest and largest Scat Trak skid steer loader, the 2300D, designed to provide maximum performance without sacrificing operator safety and comfort. With a tipping load of up to 4,900 pounds and an operating capacity of up to 2,450 pounds, the 2300D can safely maneuver a one-ton pallet of block, brick or sod. The Perkins 86 hp, 258 cu. in. diesel engine provides a highly efficient fuel source, while the 22 gpm hydraulic pump supplies plenty of power for fast cycle times and optional attachments. For more information, contact Mike Bernardy at Compact Technologies, 901 Sunset Road, Port Washington, WI 53074, Phone: 414-268-3250, Fax: 414-284-1153.

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Arboriculture Loses a Giant

On November 5, 1998, the world of arboriculture lost a giant when Francis David Van Every Dickson—better known simply as Dave, chairman of Swingle Tree Company of Denver, Co., and former president of the National Arborist Association (NAA)—passed away at his home after a six-month battle with cancer. He was a very young 58.

He spent much of his life making the world a better and more beautiful place. Born Dec. 7, 1939, in New York City, Dave began his arboriculture career in 1965 at the F.A. Bartlett Tree Expert Company in Connecticut. Moving to Denver two years later, he joined Swingle as a tree pruner. Working his way up through the ranks, he became president of the company in 1989 and guided the firm’s expansion and relocation to new and considerably larger quarters in southeast Denver. He did much to “raise the bar” on what a local arboricultural firm can do to improve the community in which it is located.

Once he reached the top of the corporate ladder, he made a point of donating the firm’s services for the civic good. Some of the Denver organizations that benefited from his generosity and Swingle’s work include the Denver Zoo, Denver Botanic Gardens, Four-Mile House, and Chatfield Arboretum. He also donated trees to area schools for fund-raising projects and, he frequently volunteered his time to inspect the American elms lining Denver’s parkways for Dutch elm disease, write reports for the city, and offered the services of his company to girdle the trees found to be diseased.

In addition, Swingle crews donated their time and effort pruning trees at the Arlington National Cemetery in Washington, D.C., a project sponsored by the NAA. He also established a Swingle scholarship program for students majoring in botany and related fields, and opened the company for arboriculture interns from other countries.

Dave was well known on a national level. In 1991, he was elected to a one-year term as president of the NAA. While in this position, he instituted many policies to increase membership, ensure the financial stability of the organization, and generally improve the image of the arboriculture industry.

Dave worked tirelessly on local issues concerning the landscape-care industry. For example, he was instrumental in achieving legislation in Colorado that lowered workers’ compensation insurance costs. He also worked with the Colorado Association of Landscape Contractors to form a coalition of companies to help improve industry safety records.

Under Dave’s direction, Swingle won numerous local and national awards, including seven awards from the NAA for outstanding corporate communications, 1996 South Denver Metro Chamber of Commerce “Small Business of the Year Award,” and the 1998 “Business Ethics Award” from Colorado Business Journal.

His was a hands-on style of management and, even when the firm grew to over 100 employees, he was often in the field, observing the crews at work and talking with customers. Every written or phoned-in complaint came across his desk and received his personal attention. As a result of his personal involvement and insistence on communication with customers, Swingle enjoys an annual customer retention rate of over 86 percent—one of the highest rates in an industry noted for high turnover.

His management style also resulted in a high retention rate of employees. At a time when it is hard to find and keep good workers, Swingle has a strong core of employees who have been with the firm for over ten years. Their loyalty has been rewarded with one of the best employee benefit plans in the industry—again, the result of Dave’s caring about people.

He became chairman of the company in early 1998, and turned over day-to-day operations to the new president, Tom Tolkacz. Today, Swingle is one of Colorado’s largest and most successful privately owned tree and landscape-care companies, with a reputation for honest business ethics second to none.

Dave’s personal generosity was reflected in the number of organizations that have benefitted from his philanthropic nature. The recipients of his monetary gifts included the Colorado History Museum, Denver Botanic Gardens, Denver Zoo, Hudson Demonstration Gardens, Third Way Center, Professional Lawn Care Association of America, and a number of other organizations.

In many ways, Dave was a renaissance man, with a wide variety of interests, including traveling, hunting, fishing, biking, gardening, golf, trees, reading, and archaeology. A history enthusiast, he volunteered as an amateur archaeologist at the Crow Canyon Archaeological Center near Cortez, in southwest Colorado.

He is survived by his wife Thera; sons Mark and Erik; sister Ann Dickson Gargiulo, New York City; brother Clifford C. Fuller, Littleton, Co.; and mother and stepfather, Joseph and Eleanor Byram, Naples, Florida.

Because giants are larger than life, the world is a diminished place when one of them is lost. Dave Dickson will be greatly missed by his family, friends, customers, and colleagues.

Contributions may be made in his memory to the Hospice of Metro Denver and the American Cancer Society.
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Use of Biorational Pesticides and Host/Pest Phenology in Insect Pest Management

By Dr. Daniel A. Herms

The tree care industry will be facing a dramatically different environment in the urban forest as we enter the next century. The federal government has a goal of dramatically reducing human exposure to pesticides. The Food Quality Protection Act of 1996, while designed to focus on food protection, will have dramatic effects on the availability of pesticides for use in the urban environment. Currently, pesticide labels for crops are based on human exposure through food residues. The new act dictates that henceforth pesticide exposure will calculate exposure from all routes. Food residue limits will have to be adjusted to account for exposure from food and other elements of the environment, including turf, ornamental pesticide applications, structural pest control, etc. The EPA calls this the "risk cup," and in the future exposure limits for pesticides will be determined in groups, rather than by specific compounds. For example, the risk cup will be filled by organo-phosphates as a group of pesticides, rather than for a specific compound.

Pesticide companies will have to determine what these total exposures are, and how they will estimate them in the urban environment. They will also have to adjust their labels, so that exposure limits are not exceeded. What this means is that many pesticides, whose risk limits are reached in the much larger crop markets, might not then be available for ornamental use.

Furthermore, the EPA has established incentives for creating biorational pesticides. The goal is to register 50 new uses for biorational pesticides every year by the year 2002, and the EPA has created fast-track registration for these compounds. In summary, changes are afoot, and commercial tree care firms involved...
in pest management in the urban environment will have to change along with them. This will require that arborists become familiar with the use of biorational pesticides.

The public seems to be in agreement with the EPA's goal of reducing pesticide use. In surveys concerning pesticides, consumers have rated safety above effectiveness. That suggests that consumers might be educated to tolerate the presence of insects in their landscape, as long as those insects aren't causing substantial damage. These attitudes can be used to create markets for the use of biorational pesticides, as well as realistic expectations regarding their effectiveness.

Below is a general overview of biorational pesticides, their properties, advantages and disadvantages, which insects are controlled and which are not. In addition, I will focus on strategies for accurate timing of pesticide applications and other pest management decisions. Biorational insecticides, because of their short residual activity in the environment, need to be timed quite precisely to be most effective.

Products such as horticultural oils, insecticidal soaps, pesticides derived from microbes and plants, insect growth regulators and certain biological control organisms such as entomopathogenic nematodes are considered biorational pesticides. They have been termed biorational because they:

1. are generally safer for humans;
2. have fewer detrimental environmental effects, such as negative effects on natural enemies;
3. tend to be short-lived in the environment.

Biorational pesticides have certain advantages in the urban landscape. They are low in toxicity to humans, and generally also to natural enemies. They break down quickly in the environment, so they have little or no lasting impact following their effective use. Finally, they have minimal impact on non-target organisms.

These products also have certain disadvantages, which have resulted in a certain reluctance to embrace them readily. What are those disadvantages?

The flip side of their environmental safety is that there is little or no residual activity. While this trait makes them safer for the environment, it does pose the following problems:

• they are effective against the insect that is present at that time, but there is gen-
Japanese beetle: Insecticidal soap is effective, but plants can quickly be reinfested because of a lack of residual activity.

- They have a limited spectrum of activity;
- Our industry has little collective experience in their use, with certain exceptions, such as horticultural oils.

**Horticultural oils**

These are probably the biorational products most familiar to arborists. Horticultural oils are a complex mixture of petroleum-based products that work on insects in different ways. They work by physically coating the insect, thereby suffocating it, and/or by penetrating the cuticle with toxic effects.

Horticultural oils on the market today offer differing qualities, but all must possess certain characteristics to be termed Superior Oils. Two traits in particular are critical:

The unsulfenated residue (UR) rating, which is a measure of the purity of the oil. A Superior Oil will have a UR rating of 92 or higher. This rating means that no more than 8 percent of the oil is impurities.

The distillation temperature, which is an indication of how rapidly the oil will evaporate. The lower the number, the faster the oil will evaporate and the lower the potential for phytotoxicity. Superior Oils will have a distillation temperature in the ballpark of 414°F, indicating that the oil will evaporate quickly, reducing potential for phytotoxicity. Oils that can be used safely in the dormant season may have distillation temperatures as high as 450 to 460°F, but these would create potential for damage during the growing season.

Certain pests can be controlled quite well with oils. Many species of scales have long been managed effectively with oils during the dormant season, and scale crawlers are very susceptible to oil sprays. Mites, particularly the spruce spider mite, have been controlled quite well in test trials. Some aphids can be controlled with oils, especially in combination with soaps. Personally, I have found that oils applied in the dormant season, before bud break on spruce, were very effective in control-
Beneficial Bacteria and Plant Health Care

According to scientists, for every single destructive species of bacterium found on Earth, there are more than 30,000 species that are beneficial or neutral to plant and animal life. Through biotechnology, scientists identify, isolate and commercially produce the most beneficial bacteria species to improve our environment and quality of life. Bacteria have been formulated into "plant health care" products that promote plant growth, control damaging foliar and soil pests, and cleanse ponds and lakes.

Rhizobacteria

Soil bacteria decompose organic matter, including cellulose and lignin in wood, a process essential to all life on Earth. Primarily they are found in the upper 12 inches of soil where their carbon food source is most prevalent and where aeration, mineral elements, pH and temperature are more ideal. A half thimble of productive soil may contain up to 3 billion bacteria from thousands of species that carry out different activities in soils.

Some species, called rhizobacteria, are found on all plants (and turfgrasses). Rhizobacteria have adapted themselves to plant's absorbing roots where they get nutrients from sloughed root cells, exudates and organic matter. In return, they provide plants with specific benefits and are largely responsible for soil health.

For its products, PHC, Inc. selects soil bacteria and rhizobacteria that produce specific responses:

- **Plant-Growth Promoting Rhizobacteria** produce a variety of chemicals that stimulate plant growth.
- **Free-Living or Non-Symbiotic Nitrogen-Fixing Bacteria** increase plant growth by fixing atmospheric nitrogen for plant use.
- **Phosphate-Solubilizing Bacteria** solubilize phosphorus for plants from insoluble mineral sources.
- **Bacteria Antagonistic to Root Pathogens** produce antibiotics or are hyperparasitic to inhibit root pathogenic organisms, such as *Pythium*, *Phytophthora* and *Rhizoctonia*.
- **Mycorrhizosphere Bacteria** improve mycorrhizal development and their function.

**PHC® BioPak**: Dry, water soluble biofertilizer and biostimulant with multiple strains of growth-promoting, Nitrogen fixing and Phosphorus solubilizing bacteria. Promotes fast feeder root development, stimulates plant growth and improves nutrient availability and uptake.

**Flexx® Turf Premix**: Dry water-soluble biofertilizer with fully chelated micronutrients, growth-promoting, Nitrogen fixing and Phosphorus solubilizing bacteria; and the wetting agent yucca extract. Promotes greener, denser, more consistent-play sports turf that stands up to heavy traffic by stimulating root growth and improving stress- and disease-resistance.

**PHC® Compete**: Dry, dispersible rhizosphere inoculant that contains 20 strains of microencapsulated beneficial bacteria and actinomycetes. Formulated with dry soluble yucca extract and organic biocatalysts to ensure rapid colonization of the plants' rhizosphere to minimize turf diseases and improve nutrient availability.

**Insect-Toxic Bacteria**

Some beneficial bacteria contain toxins that are fatal to insects but harmless to plants, animals and humans. The best known, *Bacillus thuringiensis* (Bt), have produced some of our most reliable and potent biological control measures. Bt is a common soil bacteria that produces crystal proteins and spores with insecticidal properties. Formulated into Bt bioinsecticides and then foliar-applied, these proteins/spores control a broad spectrum of caterpillar pests. The targeted pest consumes the proteins/spores, becomes sick and unable to eat, and soon dies.

**Crymax® WDG bioinsecticide**: The only Bt insecticide available in the landscape market for control of diamondback moth, including those resistant to pesticides. Contains three different insecticidal proteins to provide broader spectrum control of caterpillar pests in fruit and nut trees, vines and small berries.

**Lepinox® WDG bioinsecticide**: The only biological control material registered for control of fall armyworm on turf. Contains multiple insecticidal proteins to control Lepidoptera worm pests that damage turf grasses.

**Nematode-Delivered Insect-Toxic Bacteria**

A different form of insecticidal bacterial control is the *Heterorhabditis bacteriophora* (HB) nematode. This organism carries a bacteria that is highly toxic to a wide variety of soil-borne pests, including certain grubs, beetles, chafers, webworms and weevils.

The HB nematode is a biological delivery system for the insecticidal bacteria. Highly infective juvenile stage HB nematodes, applied as a soil drench, aggressively seek out target pests. The nematode penetrates the pest, releases the bacteria which kills the pest, and then reproduces inside the pest carcass to release a second generation of nematodes. The nematode/bacteria combination is so effective, it has been called the only viable biological alternative to chemicals for white grub control.

**Cruiser® bioinsecticide**: Contains live HB nematodes for control of Japanese beetles, masked chafers, rose chafers, flea larvae and pupae, sod webworms, chinch bugs and various weevils on turf, ornamentals and citrus trees.

**Water-Cleansing Bacteria**

Cloudy water, pond odor, scum and algae blooms—the most common pond maintenance complaints are caused by excessive levels of organic matter, such as nitrogen, potash and potassium, from the leaching and inflow of fertilizers. These elements are food nutrients that promote the growth of algae and anaerobic bacteria. Water-cleansing bacteria, contained in high concentrations in PHC, Inc. products, preemptively consume the organic matter that clouds the water column. These specialized bacteria digest ammonia, nitrates and phosphorous and degrade hydrocarbons and plant material. Without food, algae and anaerobic bacteria are kept in check and water quality improves.

**PondSaver**: Contains more than 5 billion colony-forming units of 17 different proprietary strains of dry, live bacteria per gram. Reduces cloudy, scum and unpleasant pond and lake odors.
ling spruce gall adelgids. One note of caution: oils will dissolve waxes. Avoid spraying blue plants with oils. For instance, oil will remove the wax coat that gives a Colorado blue spruce its blue color, thereby turning the plant green. Although, it doesn’t seem to have an effect on the plant in terms of its health, it is conceivable that it would reduce its drought-stress tolerance.

Scales that overwinter in immature stages are easily controlled by oils during the dormant season. These include the “soft” scales such as cottony maple scale, Fletcher scale, and European fruit lecanium scale, as well as armored scales such as euonymus scale. However, armored scales that overwinter as eggs, such as the pine needle scale and oyster shell scale, are not controlled effectively by oils during the dormant season. Their shell provides very good protection against pesticide applications. The reasons can be explained by the mode of action. Oil operates by smothering the insect and by penetrating the insect cuticle. These eggs are well protected by the scale’s armor, making it very hard to get oil to the egg. Furthermore, the eggs are respiring at a very low rate in the winter, so trying to get an oil over that scale to disrupt respiration is a difficult task.

The best opportunity for control of these scales, therefore, is when they are in the crawler stage. However, timing is critical. Scales remain susceptible for only 10 days or so following egg hatch before they form their protective armor. The red color of pine needle scale crawlers makes them relatively easy to detect on the green needles of their host plants. Also, their egg hatch corresponds closely with lilac bloom, which can be a useful tool for timing pesticide applications to target the scale before it has started to produce its shell.

Horticultural oils have certain traits that may increase their value as we become more experienced with them. In particular, horticultural oils may synergize conventional pesticides. This will be a focus of research in the future.

Avoiding Phytotoxicity

Studies have shown that there is an extremely low potential for phytotoxicity during the growing season when superior oils are used, even on species once thought to be sensitive. Environmental factors that affect the rate of evaporation of the oil have a major effect on the potential for phytotoxicity. The slower the rate of evaporation, the higher the potential for phytotoxicity. When the humidity is high, after rain, and on overcast days, the oil will evaporate more slowly. Studies in Texas have shown that oils can be applied safely even at high temperatures if the humidity is low. Vapor pressure deficit becomes a key environmental parameter for determining safety.

It still makes sense to avoid taking a chance. The application of oils early in the morning or late in the evening, avoiding the heat of the day, is probably a wise precaution. Again, avoid application when humidity is high. Drought-stressed plants and succulent new growth are susceptible to injury from oils and should also not be sprayed.

There are reports of phytotoxicity when trees are sprayed in the fall before they have gone fully dormant. Determining when a deciduous tree has gone dormant is not always easy. A loss of leaves does not necessarily indicate full dormancy. Oils should be used with caution in the fall.

Another note of caution: be sure not to mix oils with pesticides that contain sulfur. Oils mixed with sulfur-containing insecticides will result in phytotoxicity.

Insecticidal soaps

Along with horticultural oils, insecticidal soaps are familiar to most arborists. These are soluble salts of fatty acids which penetrate the insect cuticle, disrupting cellular activity and membranes. Like horticultural oils, they have low phytotoxicity, though some plants are sensitive. They can be synergistic with horticultural oils, which has been documented in the control of some aphids.

A number of soft-bodied insects have been reported to be controlled effectively with insecticidal soaps. Scale crawlers are highly susceptible. Some adelgids can be controlled, but a review of tests show that control is spotty. Some investigators report success while others do not. More research is required to determine why.

Japanese beetle adults are controlled quite effectively with soaps, as are elm leaf beetles and some aphids. This brings up a point that you should consider—when you are reading the label on a pesticide and it lists aphids, that doesn’t necessarily mean it will control all aphids. Trials at OARDC have found that soap controls chrysanthemum aphids quite well, but birch aphid was not controlled at all. Soaps control some mites well, too, such as spruce spider mite, but two-spotted spider mite was not affected.

Insecticidal soaps work very effectively against Japanese beetles—offering close to 100 percent mortality. The problem is that there is no residual activity. You can eliminate the Japanese beetles that are on the plant, but the next day others will be back. If re-infestation is likely to be a problem, and we all know that Japanese beetles can quickly re-infest a plant, then lack of residual activity poses a limitation.

Biorationals derived from microbes

This group of biorational pesticides has the potential of becoming the most effective and widely used in the future. Some biorationals derived from microbes, including bacteria, viruses and fungi, are commercially available today. We will be seeing more of them.

Currently, products derived from the naturally occurring soil bacterium Bacillus thuringiensis are the most widely used pesticides derived from microbes. There are a number of different strains of B.t., and they produce toxins (proteins) that are active against various groups of insects. Their activity seems to be very specific. Some B.t.s are active against caterpillars, some against beetles, some against flies, and some against other organisms related to the target pest. For example, butterfly larvae can be killed by B.t. applications directed at gypsy moth. However, it should also be noted that other species of caterpillars would starve when...
gypsy moth defoliates their host plant, and that severe gypsy moth defoliation can have many other negative effects on forest ecosystems.

Biorational insecticides, in general, are almost always more effective against early stages than more mature stages. This could be due to several factors:

1. It is known that younger stages of insects are usually more susceptible to toxins.

2. The dose-response curves are tilted in favor of control with small insects. In other words, they don't have to get as much to get the same dose. The canopy isn't always more effective against early stages, since adult insect already completed their development.

For example, one product on the market interferes with cuticle development, which is the exoskeleton surrounding an insect. The cuticle has to expand for insects to grow. This product interferes with a substance that provides structural rigidity to the cuticle. As the insect grows, the cuticle cannot develop. Pressure on the cuticle expands, and eventually the insect explodes itself.

Neem pesticides also have growth-regulating properties. Neem insecticides are derived from a naturally occurring compound extracted from the seeds of the neem tree. They are all based on a compound, azadirachtin, which disrupts normal insect activity. It also can deter insect feeding, and has a broader spectrum of activity than many biorational pesticides. It has been shown to work well against leaf beetles, soft flies and caterpillars. With sucking insects, results have been inconsistent.

Other insecticides derived from plants, including pyrethrum, rotenone, and nicotine, are sold mostly in the organic farming market. Though these compounds are naturally occurring insect hormones, or hormone mimics, act by disrupting the natural development processes of insects. As you might imagine, they are very specific. A hormone will affect only those insects that have that specific system. And they will only be effective against immature stages, since adult insects have already completed their development.

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Phenological Sequence for Wooster, Ohio in 1997

Insect names are indicated in bold type

<table>
<thead>
<tr>
<th>Insect Name</th>
<th>Event Type</th>
<th>Date</th>
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<tbody>
<tr>
<td>Silver Maple</td>
<td>First Bloom</td>
<td>7 March</td>
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<tr>
<td>Comeliancherry Dogwood</td>
<td>First Bloom</td>
<td>15 March</td>
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<tr>
<td>Red Maple</td>
<td>First Bloom</td>
<td>25 March</td>
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<tr>
<td>Silver Maple</td>
<td>Full Bloom</td>
<td>25 March</td>
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<tr>
<td>Border Forsythia</td>
<td>First Bloom</td>
<td>30 March</td>
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<td>Manchu Cherry</td>
<td>First Bloom</td>
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<tr>
<td>Korean Rhododendron</td>
<td>First Bloom</td>
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<tr>
<td>Eastern Tent Caterpillar</td>
<td>Egg Hatch</td>
<td>4 April</td>
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<tr>
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<tr>
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<tr>
<td>Border Forsythia</td>
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<td>4 April</td>
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<tr>
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<tr>
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<tr>
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<tr>
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<td>Rosebay Rhododendron</td>
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<tr>
<td>Magnolia Scale</td>
<td>First Instar App.</td>
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</table>
Nematodes are being used more frequently to control soil-borne insects. These nematodes will search out and infect the insect. Nematodes are very susceptible to temperature and moisture conditions, as well as to soil structure. They seem to be most effective in sandy soil. They have been most effective in container-grown plants where it is easier to maintain favorable conditions.

Nematodes have been used effectively to control elm leaf beetle in the pupal stage. They pupate on the soil surface at the base of the tree, and nematodes applied to them provided excellent control. Nematodes also show some promise for control of some clearwing borers. Normally we want to control borers before they get into the tree, but once the larvae are in the tree, our options become limited and nematodes applied to the trunk have been effective in some studies.

### Plant phenology as a tool for timing pesticide applications

As I have stressed, biorational pesticides must be timed precisely to be effective. Degree-days can be used to time applications more accurately than calendar days. Degree-days are a measure of the heat that has accumulated over a specific base temperature during a 24-hour period. Degree-days can be calculated by taking the day's high and low temperatures, figuring the average, then subtracting that from the base temperature.

Plants and insects are temperature sensitive, and below certain temperatures plants and insects do not develop. Unfortunately, for most pests of ornamental plants, we don't know what this lower threshold temperature is, so we arbitrarily use 50°F in most cases.

This method is somewhat crude, and introduces inaccuracies when the average temperature dips below the base temperature. Extension agents use a more complicated formula, and you can check with them on numbers.

Another source of inaccuracy is that insects development rates in response to temperature are non-linear. There is a plateau at the low and high temperatures and a non-linear response in between, but degree-day models assume a straight line. The errors tend to cancel each other out, but a better indicator for insects may be the blooming time of ornamental plants. Plant development is also temperature dependent, so plants may more accurately measure accumulation of degree-days.

It has been observed, for instance, that pine needle scale hatches when lilacs bloom. The implication is that these events occur in a predictable order from one year to the next. If you have a large number of insects to be controlled, you need to devise a schedule. If you know they appear in the same order every year, you can track this order by following the sequence of plant bloom. If you have observed in previous years that gypsy moth egg hatch occurs before birch leafminer emergence, which occurs before pine needle scale egg hatch, which occurs before oyster shell egg hatch, you can schedule and track accordingly.

For example, red maple blooms in late March or early April in Michigan. At the same time, eastern tent caterpillar larvae hatch and begin forming their webs. As another example, I found that black locust blooms at the same time bronze birch borer adults emerge. Each tree and pest follows a schedule—a sequence you can monitor and record in your area. If you time applications properly, one spray can achieve excellent control.

A major question is how effective are phenological sequences developed in one region when used in other regions? When I evaluated a Michigan sequence to see how effective it would be in Wooster, Ohio, I found that the five-year plant sequence was very accurate. The insects were not as predictable. Some were right on the money, and others were not. I'm not sure at this point which insects can be generalized across regions, but that should be a focus of research.

This method is more accurate than calendar days, but you should follow these investigatory methods yourself. If you see an insect that is active in the landscape, make a note of what is blooming. Pretty soon you will have your own, localized records to assist in time-management decisions.

### Conclusion

Because they are safe and environmentally friendly, biorational pesticides are the wave of the future. These advantages also bring certain limitations. They are easy on non-targets but tend to have a high degree of pest specificity. They are short lived in the environment, but have little or no residual activity. Their effective use will require accurate pest identification, knowledge of insect life, and sound monitoring programs. The flowering sequence of ornamental plants provides a useful tool for for predicting pest activity and accurately scheduling pest management programs.

Dr. Dan Herms is with the Ohio Agricultural Research and Development Center at The Ohio State University.
Communicating With Customers

By Phil Nilsson

One of the most common mistakes in business is in communications—the lack of it, that is. The contract is signed, work is completed, then you are off to another job. The focus is on operations, getting the work done. Customers get lost in the shuffle. They are important at the start but then fade away in an attempt to replace them with yet another customer. Sometimes the only indication to the customer that a company “still exists” is the invoice in the mail.

But on the theory that the average tree care company gets about 80 percent of its business by referral, it’s important to find ways to stay in touch. If not, you will find yourself forever replacing and rotating your customer list.

Do you spend your time dwelling on past customers, or is it more important to replace that business with new? My best advice is to do both at the same time is my best advice. Most companies do this via constant advertising, which can serve as a link between the past, present and future. Fast food is a good example of this. You wouldn’t expect to receive a personal, hand-written letter of thanks from Burger King, but you would expect contact from a continuous flow of advertising.

Have you ever written a personal letter of thanks after completing a $2,000 removal and pruning job? To see this clearly, and to know where to place special emphasis, analyze your customer list. Which customers were the most responsible for your success? Break down total sales by dollar amounts, ranking customers from top to bottom. In this way you’ll gain perspective for customers that made the greatest impact on the bottom line. Now the question is, what to do about it? Communicate somehow.

One way is by following the advice of the nation’s leading marketing experts. They claim that allocating time and money by percentage works. According to their recommendations, 60 percent of your time should be spent on existing customers, 30 percent is spent on high-volume potential customers, and the remaining 10 percent on everybody else. This allocation recognizes that time is money.

Why the 60 percent allocation to existing customers? Repeat business. It’s tough to grow a business without it.

Advertising communications

Finding new customers is expensive. But if you don’t advertise at all, or promote consistently, you may be looking at a very slow rate of growth. In deciding how much you should spend on advertising, think in terms of minimums, not maximums. Using the 60-30-10 method, assign dollar amounts ahead of time, and use not-to-exceed figures based on what you can afford. Advertise using the above allocation so that customers are reminded that you’re still in business and you’re ready to serve their needs again.

Staying in touch is vitally important. It can be done using a combination of time and money. Remember, allocate both based on customer ranking. Here are some ideas:

- Newsletters are an inexpensive but efficient and effective way to stay in touch. Buy them ready-made because they’re very time consuming to prepare yourself.
- Quality control calls work because they let your customer know of your concern. Do it at monthly intervals throughout your season.
- Billing inserts help to “soften” an otherwise unwanted invoice. Use tree care reminder sheets to provide free helpful information. You could also include a hand-signed card tied to a holiday occasion.
- A personal visit and walk-through is not only a good idea, but often required of your larger accounts. What about lunch appointments, golf or one of those advertising specialty hand-out gifts? Everybody likes something that’s free.
- Work-in-progress reviews let you interface with clients at the job site. It’s a golden opportunity to make a friend, which could lead to more business! If they like you as a person, it always helps. Count on it.
- Solve a problem for your customer. While at the work site, take notice of the surroundings. Is there a problem or potential problem brewing, such as a dead tree, safety hazard, kids’ bikes left in the driveway? Go out of your way to be helpful and you’ll be repaid tenfold for doing so. It’s about people more than tangible things.
- Pay attention to customers as people, not customers! If there’s one thing that’s universal, applies to all, it’s paying attention. Listen and spend the time to talk to people. Focus on them. Speak on a personal level because there isn’t a person on earth that doesn’t need and want somebody, anybody, to take an interest.

Communicating with customers is really about reaching out to people. What can you do to be friendly, helpful, courteous? Try everything you learned in Boy Scouts. It has enormous power. To make a friend of your customer, you need to be a friend first. While that may sound a little “corny,” it’s the truth. Have faith that when you put out energy in a positive, helpful way, what goes around, comes around. Do this with your customers and you’ll convert them into being your friends. Friends communicate with friends best. That’s all you need to do.

Phil Nilsson is a green industry consultant and author of 39 books about the landscape industry.
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Each day the spread of the Internet grows wider, and more people are surfing the net for information. It is estimated that there are more than 320 million web pages and 122 million users worldwide. The number of users in 1996 doubled, then tripled the following year.

In order to fully utilize the exciting Internet environment, the National Arborist Association (NAA) introduced a new web site (http://www.natlarb.com) five months ago. The site has simple features with a lot of information for homeowners and more in-depth information for industry professionals. Through this web site the NAA has created a platform for the industry to gear-up for the challenges the arborist industry will have when it steps into the world of Internet.

The NAA's site has three major categories. The first relates to consumers and provides information on topics such as tree care, most frequently asked questions, what is an arborist, how to hire an arborist and current press releases. The public can also request a list of colleges which offer courses in arboriculture, and a brochure entitled "Careers in Arboriculture." A search engine is available for homeowners to hire the best help in the industry by locating NAA member companies in their area via a zip code search.

The second category is for professionals. Here arborists can find information about membership, products and services, standards of the industry, government regulations, Tree Care Industry magazine, membership in NAA and a list of the associate members of the association who are manufacturers, distributors and suppliers. Current information about the industry is also available at this location. The most popular feature of the web site is the technical question-and-answer portion, where staff arborist Bob Rouse provides detailed answers to tree care questions.

Since its launch, the web site has attracted increasing attention from consumers and professionals alike. The site received more than 45,000 hits in October, compared to fewer than 9,500 five months ago. More than 200 technical tree care related questions are posed each month. More than 500 homeowners use the search engine each month to locate NAA member companies. Member companies also get a free hyperlink from the NAA web site to their web site on request.

The web site was recently rated "Web Site of the Week" by the Post-Standard newspaper in Syracuse, N.Y. The association is looking into future projects to help spread the word about the need for professional tree care provided by NAA member companies. On the list for 1999 are listing additional member company offices in the search engine, providing web pages to member companies at minimal cost, selling training programs and allowing TCI EXPO registrations from the web site.

This web site should certainly be on the top of your list of favorite web sites.
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Basic Safety

By: Jeffrey Lee, Branch Management, Riverside, CA (909) 319-7001

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The Widow Carter craned her skinny little neck, watching in admiration as fearless Max Bunyan (an ISA Certified Tree Worker, and Big Al Fontaine's #1 man) moved like a hummingbird through the gargantuan oak tree in her backyard, swinging from branch to branch making collar cuts of nearly surgical precision with his shiny stainless steel handsaw.

The Widow could not imagine how this nimble young stud could work so confidently and artistically without the fear of falling and meeting a terrible demise. The fact is, that thought should never by the Widow's concern and, thanks to the American National Standards Institute (ANSI), the thought is left for us to ponder. The ANSI standard, specifically ANSI Z133.1, is very clear on its scope, purpose and application. Namely:

"The purpose of this standard is to provide safety criteria for workers and their public."

What does this mean to us, Max Bunyan, and the everyday tree care worker? It means that somewhere along the line, people like us were either hurt or killed on the job because they didn't know any better. ANSI realized the inherent danger of tree work and dedicated itself to providing us with methods which, if properly applied, will enable us to work safely, day in and day out.

Let's look at this in a little different light. If we didn't have to work, we probably wouldn't. But we all have goals, bills to pay, cars to drive, houses to buy and, if we're lucky, kids to feed. These standards help us achieve these goals by allowing us to make it home in one piece, with our fingers and toes (and lives) intact. In seems these ANSI folks really care about our welfare. So, that means these standards were designed for OUR safety.

When Big Al goes out to sell his service, he is obviously selling more than a mere tree-trimming job. He is selling the fact that he has taken the time to implement safety standards - buying his field personnel equipment that meets the requirements of the ANSI standards, making sure that not only every piece of equipment is inspected routinely, but that his people know why they are doing things in a certain way.

What does it take to meet ANSI requirements and know your methodology is safe and acceptable? In ensuing articles, we will address some of the specific ANSI standards, what they mean, how they affect the equipment we use, their applications, why and how often we inspect our climbing saddles, ropes and other related issues.

In closing, the safety of our people in the field is something we should think about, so the Widow Carter doesn't have to.

"Big Al Fontaine"

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Mitigating Environmental Impact

By Mark Garvin

A one-quarter mile wood chip trail winds through the 10-acre open space zone at Yachtsman’s Cove subdivision to buffer the wetlands from the homes.

Restoring wetlands

Under state and federal law, when a wetland area is altered because of construction or development it must be replaced. In order to mitigate the adverse effects of development, environmental professionals, including arborists, are often called in to develop a plan to replace or restore the ecological functions of a wetland. Generally, environmental engineers and landscape architects handle mitigation planning, but a conservation sciences team at the Davey Resource Group, a division of The Davey Tree Expert Company, has plunged into the world of wildlife and government regulation in recent years.

The conservation science team is hired by land developers and utility companies to determine the environmental impacts resulting from projects and to develop mitigation or restoration plans to comply with federal and state laws.

The Davey team leads clients through a maze of regulations dealing with environmental changes. Karen Wise, Davey’s wetlands section leader, notes that “the Resource Group has expanded. We now do all types of consulting—biological and ecological. We have a lot of competitors, but none that are attached to a tree or lawn care company.”

The conservation sciences team consists of 11 scientists with a range of disciplines. Rarely are all 11 involved in a single project. “On some of the larger projects,” explains Wise, “the entire group will work on it. But we have a number of smaller projects that might take two or three weeks and two or three people. Two of the group have experience in tree inventory and consulting.”

Generally, a call will come in from a developer who has a parcel of land slated for new homes. Davey will do a study of that parcel, because the government wants a measurement of the impact any change will have on the environment. The assessment includes an inventory all of the plants and wildlife in the area. According to Wise, “the only thing the developer is required to inventory are wetlands, which is a regulation based on the Clean Water Act. We will do a wetlands delineation, where we map out all the wetlands. The developer, along with his architect and engineer, will lay out the development project.”

Arborist Ken Christensen’s part starts with the wetlands delineation. In order to qualify an area as wetlands, Christensen examines soil, vegetation and signs of water during a specific time in the
growing season. "All three of those criteria must be met for an area to qualify as wetlands," he says. For example, green ash favors wetter soil, whereas white ash prefers upland soil. His findings are then turned over to the developer, who tries to avoid those areas.

It is usually more cost effective to avoid wetlands altogether. However, if the parcel has a lot of wetlands, "it is almost unavoidable," says Wise. "There will be some impact. The next step will be to help them plan around the wetlands (if they can) and obtain a fill permit to fill the ones they can’t avoid. When you exceed one-third of an acre of fill, you are required to do some sort of compensatory mitigation. And sometimes that means creating wetlands someplace else to replace the ones you are filling."

A wooded wetland, as opposed to a marshy area without woody vegetation, must be replaced in-kind. "Fill a wooded wetland, build a wooded wetland," summarizes Wise. Much of the more mature stock comes directly from Davey’s own nursery.

Wise ran into just such a situation at a development called Yachtsman’s Cove in Ohio. The developer called on Davey’s conservation science group to prepare and implement a mitigation plan to ensure his subdivision met the legal requirements. During repeated consultations stretching over a year, the group reviewed the plan with regulators and the client. Finally, when all the plans were approved, the Davey team went in and made improvements.

The plan for Yachtsman’s Cove consisted of a discussion of the wetlands being impacted, what they were like and what kinds of plants and animals did they support. The idea of a mitigation plan is to get an idea of what will be replaced.

Next was a description of the wetlands to be created and how that would be achieved, whether by excavating, diking, berming or rerouting a stream. The plan described how the mitigation would be completed. That process included details on construction and a wildlife habitat plan, complete with a map on what trees and aquatic would be planted, where, in what density and what the purpose of plantings would be.

The final two sections explained the anticipated goals and objectives and a description of the monitoring the U.S. Army Corps of Engineers requires. Under the law, monitoring must continue for five years. If mitigation is not successful, the Corps could require additional mitigation.

Among those improvements was a mosquito-control system. "Our client wanted to make the wetlands area a place where people could visit, but he was concerned about mosquitoes," recalls Wise.

Another facet was a four-tiered, pesticide-free control system that was implemented by enlisting the assistance of mosquito predators. Bladderwort, which is a carnivorous plant, and mus minnows were added to eat the mosquito larvae. Birdhouses were installed to entice mosquito hunters, like bluebirds. The final stage included a specially built bat house.

The Davey group will continue to monitor the bird and bat houses and the Yachtsman’s Cove wetlands for the next five years. "When you go in and change nature, you never know what will happen," Wise says. "We will keep an eye on it."

Mark Garvin is editor of TCI magazine.
The world of management

Everyone is a manager in one sense or another: we manage our lives, households, organizations, departments or businesses. Every organization in society, including a family, has a manager.

In the broadest sense, there are two basic types of organizations—public or private. The difference between these two types of organizations is the reason they exist. A public organization (city, county, state and federal government, independent agency, school district) exists to provide some kind of service. There are two subcategories of public organizations—government and public organizations that are referred to as the third sector, which are not-for-profit organizations such as the National Arborist Association, United Way, Girl Scouts of America, churches, etc.

The bottom-line purpose of private organizations is to make a profit. In private industry we also have two categories of organizations—those that provide a product and those that provide a service. In all four of the public and private organizations, or categories of organizations, we find managers. For managers to succeed, it is important for them and for their employees to understand the reason the organization exists. Is it for profit or service?

Management is essentially the coordinating of resources. There are five resources you need as a manager in your organization to get the job done. To help you remember what those five resources are, I use a formula, 4M+T, which is money, manpower, materials and machines plus time. These are the five things that you need in order to get your jobs done, which is to make a profit or provide a service.

The job for managers is to bring these resources together by performing the four basic functions of management: planning, organizing, influencing and controlling. You perform these four basic jobs in order to reach stated and understood goals and objectives.

Basic functions of management

Planning is the most important job a manager has to achieve a profitable outcome. I have found that most managers are very poor planners. Most small businesses do a very poor job of planning, too. Most parents do a poor job of planning. Actually, you could say the average American does a poor job of planning. Why?

We don't understand how extremely important planning is in order to get the job done. And even those who do understand don't always understand the three steps in the planning process, which are:

1. Where am I today?

This question helps manager's find an organization's weak-
nesses and strengths. To find out where you are, you need to ask who your competitors are, what they are doing, how they are marketing, who are their clients, what new techniques are they using?

You should also be asking where you stand today with respect to your 4M+T formula. How many resources are available today? What kind of money, machines, materials, and manpower are available? Take stock. Have you evaluated the strengths and weaknesses of each employee? What about your own strengths and weaknesses as a manager or entrepreneur? What are the strengths and weaknesses of your industry, your location, company name? Total understanding of where you are today is the first step in the planning process.

2. Where do I want to be tomorrow?

This question helps a manager set goals and objectives. Because most people are poor planners, they tend not to be goal oriented. What are your goals for 1999? Make a list. It doesn’t have to be a long list, it might be three or four items. These might be business goals or personal financial goals, or even basic family goals and objectives.

It is important for you and your company to set goals and objectives. They will give us a direction, which creates the challenge that every person needs. Without a challenge, workers go to work, go home, go to bed. No direction at work means no motivation at work. The challenge, the goal, helps motivate the team to overcome a challenge. Finally, an objective will help to measure progress or performance.

People, including your children, need to participate in setting goals because it makes them part of the team. Teach your kids how to be goal oriented. Call a family meeting and ask, “Where are we today and where do we want to be by the end of 1999?” Your family needs to set goals, you need to set goals and your business needs to set goals. In order to be effective, goals and objectives need to be specific, measurable, attainable, realistic, written and time specific. The third step represents the plan.

3. How am I going to get there?

The answer to this question involves a plan that includes the who, what, where, when, why, and how to reach a goal.

Once you have a plan, you need to organize your resources. You need to make sure you have enough resources in the right places at the right time in order to achieve that goal. Yet even with the proper resources marshaled in the proper places, a manager must influence the people who make use of those resources. Influencing is supervising.

Some managers think they no longer have to supervise, a problem which is
especially common in large organizations. That’s totally incorrect. Supervision is a function of management that includes defined skills, such as motivation. If your employees aren’t motivated, it’s your fault not theirs. The key to motivation is to understand what that employee needs or wants (or doesn’t need or want) and provide that stimulus so the employee can motivate himself. You cannot motivate your employees, you can only provide the stimulus for others. The only person you can motivate is you. Another skill of influencing is communicating. Managers must understand communication in their businesses. It is vital in dealing with employees, suppliers and clients. Leadership is another skill necessary for influencing others in an organization. Finally, team building is an important subset of influencing. As a manager, you need to know how to convert a group of people into a team.

As managers, you control resources within your company. The purpose of controlling is to make sure that actual results equal desired results. You have set up controlling devices or tools or techniques to control resources. For example, managers use a budget to control money, inventory to control materials, maintenance to control machines and performance evaluations to control employees.

The purpose of planning, organizing, influencing and controlling resources is to set the direction for your company. Make sure your employees know your company’s direction. They must understand the purpose if you expect them to be part of your team.

The 20 Principles of Management

Once you, as a manager, understand the four basic functions of managing your organization, you must carry out those functions in a way that maximizes the profits of your tree care business. That means you must manage and interact with your employees.

Many business schools teach what we refer to as the 14 principles of management, which were devised about 60 years ago. Some of them are outdated, and new principles should be added to reflect the management environment today. Below are the 20 Principles of Management (according to Robert Ash).

1. I am not your subordinate - Don’t refer to your employees as subordinates. The word for worker in Japan translates to associate. The most important people in your company are your customers; the second most important people are your employees and third are the managers. The word subordinate creates a negative mind set. (Refer to them instead as the team, crew or employees.)

2. Understanding authority and power - This is a powerful concept and

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a lot of managers don’t understand the difference between authority and power. Authority is the right to act, decide or command. Power is the capacity to influence. Authority is delegated by the organization, power is granted by people—the workers. We acquire power by cultivating trust and respect. Power can be negative also. For instance, if a bank robber goes into a bank and influences the teller to give him money by holding a gun to her head, that is powerful. Does she trust and respect the person? No. But what does she trust and respect? The weapon. As a manager, you can engage a negative exercise of power. You can threaten to fire people if they don’t follow what you say, but that is negative reinforcement. Don’t think that if you delegate authority and give that employee the right to do her job and make decisions that you give up power because you don’t. As a matter of fact, you acquire power by doing that because when you hire someone to do a job and give him the right to do it, he will respect you for that.

3. Give the credit but take the blame - If something positive happens, don’t take the credit. Let it bounce off you to your team. Give the credit but take the blame. Only a very weak manager (or person) will try to shift negative responsibility. Instead, say “it is my fault and I accept full responsibility.”

4. Check your ego at the door - Just because you are a manager, supervisor or owner doesn’t make you more important. I find that a lot a managers really fall in love with themselves and what’s on top of their desks. In my opinion a manager is only a part of the team. You are a spoke in the wheel, just like every one else. You are part of the team.

5. Walk the talk - Whatever you expect of your employees, expect the same of yourself. If you expect them to be at work at 8:00 a.m., then you must be there at 7:55 a.m. If the staff needs help, then roll up your sleeves and give them help. Become part of the team.

6. Hire superstars - Don’t be afraid to hire people who are better than you. Only a very weak manager feels threatened by his employees. Many managers fear superstars because they don’t want to be outdone or challenged. Be secure enough to hire the best and never hire anyone unless she is as good or better than you in skills and potential.

7. Avoid burnout - Employee burnout is the responsibility and fault of management. The major task for a manager is to insure that the job is fun, challenging, changing and meaningful. The manager must know how to enlarge, enrich, and rotate jobs.

8. Recognize that you can’t motivate others - A true understanding of motivation shows that managers can only
hope to motivate themselves, lead by example and facilitate in the self-motivation of the worker by recognizing employee needs and assisting the employee in satisfying those needs.

9. Have guts and courage - Management and supervision are not easy jobs. If you can’t take the heat, then move over and let someone else have a chance. If you have to tell an employee that he is not doing a good job, then tell him.

10. Get educated, get your employees educated - Education is a life-long process. We must refresh to renew. We must keep abreast of change or fall behind. We must constantly update our own knowledge and skills.

11. Get out of the office - Management takes place mostly “out there” rather than just sitting in the office. Practice MBWA (management by walking or wondering around). Manage out in the field, not in your office.

12. Don’t be afraid to say it - “I’m sorry... Thank you... I made a mistake.” This shows leadership strength, not weakness.

13. Stated and understood objectives - Constantly remember the objective of the organization—the bottom line. Communicate those objectives to all employees so they understand the importance of their jobs.

14. Update your management skills - Problem solving, decision making and negotiating are three skills that most managers need to update and practice.

15. Be a good communicator - Acquire a competency in all six communication skills, which are speaking, acting, writing, listening, observing and reading.

16. Change - Be aware of the environment, seek feedback, and be willing to change. Recognize that failure is not negative as long as you learn and grow from the experience. If you are not able to change, you will die.

17. Practice situational leadership - Be willing to change leadership styles when the situation necessitates a change. This is a unique skill that must be recognized, studied and acquired in today’s managers.

18. The manager as a facilitator - It is no longer necessary to have multi-layered management organizations. It is too costly, not needed and burdensome. Multi-layered management dead-ends good intentions and innovative proposals with delays.

19. Initiate participatory management - Out is management by control; in is management through commitment. Getting the workers involved in the organizational decision-making process may ensure motivation and a “buy-in” to the organization’s goals and objectives. However, managers must always maintain the final decision-making prerogative as part of their responsibility.

20. Learn and play the game of politics - Playing the game of politics requires an understanding of the rules. Politics is the process of acquiring, transferring and exercising power.

Conclusion

They say the shortest distance between two points is a straight line. There aren’t any straight lines in life. You may have a plan, but there will be setbacks and course corrections needed. You won’t know if you are offline, however, until you have a plan, a course and a direction.

As the manager, you set that direction. But you need to involve others in your work—and not just your employees. I believe in that concept of what goes around comes around. I always tell entrepreneurs to give back to their employees and their communities. If you only take, people will take from you.

Robert Ash has been a teacher for more than 25 years. He is currently a professor of management, labor relations, contract negotiations and personal finance at Santiago Canyon College in California. This article was excerpted and adapted from a seminar presented at the NAA’s 1998 Winter Management Conference in New Orleans. For more information on the NAA’s 1999 Winter Management Conference in Cancun next month (Jan. 26-31, 1999), call 800-733-2622. TCI
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Candid comments from our readers...

Anti-Pesticide Article Insulting

I wish to comment on the letter from Kirk Whittington of Whittington & Associates published in the October 1998 issue of Tree Care Industry. He rails against the use of pesticides while displaying an appalling lack of knowledge of how these chemicals are developed, tested, regulated, and used. I will address the issues raised in his letter point by point:

"The inability by practicing arborists to effectively analyze the true cause of tree pest problems."

Mr. Whittington insults the intelligence of professional arborists by inferring that the majority are incapable of problem diagnosis. Skilled arborists read, study, take course work, and delve into journals such as Tree Care Industry in order to keep abreast of developments in the industry. In my experience, most practicing arborists are adept at diagnosis, whether the problem is caused by insects, diseases, abiotic factors, or a combination thereof.

"Identifying and eliminating the stress factors is the only long-term solution for solving tree pest problems."

In fact, perfectly healthy (unstressed) trees are often more susceptible to many insect and disease problems than their "stressed" counterparts.

"Objectivity is frequently compromised when money is part of the equation."

Again, Mr. Whittington rides roughshod over the integrity of professional arborists by blatantly inferring the almighty dollar is more important than satisfied clients. Successful businessmen, including arborists, know that pleased customers are worth much more (in terms of repeat business) than short-term monetary gain made from spurious diagnosis and treatment.

"Governmental agencies have very little true power to control the pesticide industry."

This statement is absurd. Of all U.S. industries, the development, production, and use of agricultural chemicals is perhaps the most heavily regulated. The Environmental Protection Agency (EPA) exercises enormous regulatory power by providing guidance on industry compliance with two powerful laws: the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA). These laws are administered by the EPA and the United States Food and Drug Administration (FDA), respectively. While onerous, these regulations ensure that pesticide use will not cause unreasonable adverse effects to the environment, non-target organisms, nor those who use and apply pesticides. Penalties for non-compliance are swift and severe.

According to the American Crop Protection Association, the cost of testing to develop a new pesticide from discovery through commercialization ranges from $35 to $50 million dollars. Recently, the EPA endorsed a series of proposed new tests, which will cost the pesticide industry many more millions of dollars, to ensure that registered pesticides do not have endocrine disruptive effects.

"Academia and their representatives, Cooperative Extension Services, accept without question claims and statements made by the pesticide industry regarding the use and effectiveness of their products."

This statement should elicit outrage among the dedicated University and Cooperative Extension Personnel who every year conduct, supervise, and publish the results of thousands of pesticide efficacy trials independently of pesticide manufacturers. Again, such statements insult the integrity and intelligence of all dedicated plant health care professionals.

No one advocates the indiscriminate use of chemicals to solve all tree problems. Professional arborists and other agriculture professional wisely add these sophisticated and highly regulated plant health medicines to the broad arsenal of tools available to ensure optimum health of our trees and plants.

Thanks!

I am not a member of NAA, but support the work that it does. I just had to send a line along to express my feelings to my industry on a subject. I am an arborist and have always been proud of my job. I am, however, never so proud of the industry I work in as when I read of events like the one that occurred in Arlington National Cemetery in October 1998 (and the past events). I want to express my deep thanks to those of my colleagues that gave of their time, energy, and resources to do something positive that benefits not only their industry, but our country as well. What you do at events like that makes us all richer as a country.

It is my hope that one day I can strap on a saddle and join you at such an event. I think it would be an extremely rewarding experience. Thanks again.

Dennis Brown
Urban Forestry Resources
Austin, TX

Thomas L. Woods, Ph.D.
Regulatory Product Manager
Zeneca Ag Products

continued on page 54
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95-3359 1989 GMC 7000 diesel chassis, FS-5005A trans., air brakes, with an Altec AN755 (0888-U018), 60 ft. working height, two man, end mount platform, over rear axle mount, service line step body. In Process.

95-1836 1994 Ford F700 diesel chassis, manual 5/2 trans., air brakes, with Hi-Ranger 5FI-52PB1 (11757871), 57 ft. working height, one man, end mount platform, over rear axle mount, service line body. $33,000.00

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12 (12) 1994 Altec AN755P's. Each of these units have: 60 ft. working height, single handle control, lower boom isolator, single, two (2) man platform and liner, full steel, line body, all are mounted on either Ford or GMC diesel chassis 33,000 GVW, 215 hp Caterpillar 3116 or 210 hp Ford FD 1060, All have automatic transmissions (either MD3060 or MT653). No-spin rear ends, Air Brakes.

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The Future Isn't Now

I read Dick Abbott's article in the November issue with interest. I've known Dick for 20 years and have great respect for his knowledge and experience. I did, however, have concern when I read his comments regarding overhead and underground distribution wires. He indicated that "by the year 2025 there would be NO overhead electric distribution wires" and that "due to technology changes, material improvements and equipment advances, installing new underground electric lines is no more costly than overhead construction." Duke Power disagrees with each of these statements.

Duke Power is currently installing almost as many new underground lines as we are overhead. It is certainly possible that by the year 2025, we could be placing most of our new lines underground. Technological advances and cost-management advances could make this a reality. It would cost approximately $13 billion to convert our existing 47,000 miles of overhead distribution lines to underground. We believe that this extraordinary amount would be more of a financial burden than our customers would allow. We also believe that you will find other electric utilities, with the possible exception of those located in California, have no systematic plans for such a conversion process.

Referencing the second statement concerning the underground costs, this is completely contrary to our experience. A typical 3-phase, rural line costs approximately $18,675 per mile to install overhead, while it would cost $67,950 per mile to direct bury that same line. To install the same line underground in a protective duct bank, the costs escalate to $216,500 per mile! Furthermore, it is somewhat astounding to compare certain specific underground costs to the comparable overhead equivalent. For instance, where a tap line pulls off of a main 3-phase overhead feeder line, we install three $25 fused cutouts. In order to perform this same operational function for an underground system, it requires a piece of switch gear that costs in the neighborhood of $10,000!

Most think that since the majority of right-of-way maintenance costs are eliminated on underground systems, then the underground system would be less expensive to maintain than overhead. Our experience shows that it costs $602/mile/year to maintain an overhead installation and $1,138/mile/year to maintain an underground installation. Also, from a reliability standpoint, it stands to reason that an underground system would be much more reliable than an overhead system since you eliminate all those trees that might cause an outage on the overhead line, right? In a typical year, underground installations have 93 outages per 100 line miles, while overhead installations have 68 outages per 100 line miles! True, you will not have the same number of outages on an underground system when a hurricane or ice storm comes through as you would with an overhead system. But, even with this consideration, an overhead system is more reliable (at this time) on a long-term basis than underground systems.

Some may feel that utilities are reluctant to change when it comes to underground construction and conversion from overhead to underground. However, when one examines the above referenced costs as well as reliability records of both systems, you can see that utilities are continuing to make decisions based on customer satisfaction and available technology. While we are not certain what dramatic engineering improvements might occur over the next 26 years, we will continue to make our decisions based on the most cost-effective and reliable systems available. I appreciate this opportunity to comment on Mr. Abbott's article and will continue to enjoy the fine service you are providing to our industry.

Brian Morris
Right-of-Way Process Specialist
Distribution Wires Department
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continued on page 60
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Working
With OSHA

NAA takes initiative to redefine industry-specific standards

How did the tree care industry get to the point where it is confused with logging, even construction, in OSHA’s eyes?

The largest problem is that we lack a clear identity. The logging industry is a major focus of OSHA. It remains on their “Most hazardous” list. To some extent, OSHA recognizes the utility line clearance industry, and there is 1910.269 regulation for line clearance people. The only OSHA standard specifically addressing residential/commercial operations is 1910.333 and in essence all it contains is a 10-foot rule for separation from power lines.

OSHA is aware of, but dissatisfied with, ANSI Z133. They asked NAA specifically for a discussion on:

- safe work practices;
- specific requirements for machinery, such as tractors, skidders, log stackers, etc.;
- providing employees in the arborist industry with special safety health training in different languages;
- safe work practices where a tree may fall into adjacent areas where arborists are working;
- safe work practices for working with chain saws and chippers;
- appropriate personal protective equipment for arborists;
- falls and struck-by hazards;
- job planning for arborists;
- other industry-specific safe work practices.

As a group, they have little or no idea what tree care is about. That’s why they equated arborists with loggers for the purpose of tree felling activities to begin with. In fiscal 1997, there were 13 Logging Standard citations issued and upheld against the tree care industry.

The position of the NAA is that issues such as Logging Standards and Construction Industry standards don’t belong with us. OSHA is looking for outreach. They are looking for guidelines for the tree care industry. They don’t know that some companies have programs in place for chippers and chain saws. Instead, OSHA is preoccupied with statistics.

OSHA is asking for the help of the NAA to develop guidelines for the tree care industry. They don’t like ANSI Z133 as written, because—in the minds of OSHA officials—there are some voids in that standard. This is a tremendous opportunity for the industry, because OSHA will examine and rewrite standards covering the tree care industry with the assistance and cooperation of some knowledgeable, interested parties.

The disagreements aren’t over Z 133 in general, but concern specific parts. One clear example: loggers must stay twice the tree length away from a tree being felled. When OSHA looks to ANSI for an equivalent, they find that it doesn’t say anything specific about distance. They don’t understand that something like “two tree lengths” isn’t always achievable for a tree crew, or that our work techniques (using ropes, sectioning trees, etc.) are dramatically different. This is where educating them is important to achieving a desired result in this process.

The NAA invited OSHA officials to our National Day of Service at Arlington National Cemetery. They were invited to, and indeed attended, TCI EXPO, as well as a subsequent Rigging for Removal Workshop in Baltimore.

We are accumulating information on logging industry-recognized safe work practices from a number of sources to be better able to illustrate the differences between the two professions.
Our Standard Industry Code (SIC) for “tree service” is 0783, yet we are aware that there are a lot more people lumped under this classification than strictly arborists. We’ve asked them for more specificity with regard to the statistics used in our discussions.

We are compiling a side-by-side comparison of 1910.269, 1910.331, 1910.266 and ANSI Z133 to better illustrate the gaps, overlap and conflicts with regulatory coverage as they pertain to tree care. OSHA is going through the same exercise, so that in the end we should also be able to reconcile differences in our perceptions and interpretations and theirs.

What’s evolved in our thinking is if we get ANSI right, OSHA will readily accept them as the guidelines for this industry.

They don’t know much about what we do, so we intend to describe for them in great detail what we do in tree felling, emphasizing that because of our work techniques, the tools we use, the skills of arborists and so forth, we deserve to be evaluated by our own unique criteria.

A major area of concern and focus is the land clearing operation. It is more difficult, at least on the surface, to show there are clear differences between how an arborist would clear trees and how a logger would clear trees.

In light of OSHA’s recent reversals regarding the logging standard, should we continue our threat of a lawsuit? We think we ought to work with OSHA, but cautiously. We need to restrict our activities to the specific niche of OSHA’s concerns and not overwhelm them with things they are not looking for. We have to move fast because the next joint meeting is scheduled for December 8, and being able to show clear progress is the best way to keep the dialog going.

The NAA has assembled a task force. The Governmental Affairs Committee will work closely with the Safety Committee and other committees. The initiative has already carried over to the broader sphere of the ANSI Z133 committee. A lot of its members agreed to work with us to come up with ideas that we can use to deal with OSHA.

It is certainly our hope to reach a negotiated, rather than litigated, solution. We will continue to press, however. The NAA’s labor law counsel, Steven Semler, will be the lead contact for the NAA, but he won’t literally be in their company without representatives from our association. Representative Cass Ballenger already wrote a strong letter on our behalf, and we will work to keep him as an ally.

The NAA board of directors, as well as people on ANSI and Safety Committees, see this as a real opportunity to be proactive to make something good happen.

Peter Gerstenberger is director of safety & education for the National Arborist Association.
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ing Oscar Stone’s article about taking down a large elm
tree during the 1940s brought
back memories, especially about the
Disston chain saw. I consider that saw
the best of the large two-man chain saws.
He’s right about the chains, though, they
were a big job to sharpen.
Another saw of that period, the two-man
mall, was a single-cylinder model that
sometimes started and sometimes didn’t.
Whereas the Disston’s two-cylinder design
made it an easy starting saw, if the mall
wouldn’t start we would take it to the re-
pair shop. The mechanic would pull on the
rope, and sometimes it would start for him.
If it did, we would give him an embar-
rassed look and head back to the job.
If it didn’t start, he would get it running
for us. We would head back to the site
where, once again, it might start and it
might not! We kept our crosscut saws
available for the times when we got tired
of pulling on that dumb rope. You haven’t
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ameter maple—and then made the finish
cut four inches above grade—with a two-
man crosscut saw. I once told Bob Lewis
(Lewis Tree Expert Co.) that the chain saw
didn’t make the tree man’s job any easier,
it just made it possible for him to do a lot
more work.
Oscar’s story also brought back memo-
ries of one of our tree removals in the
1940s. My foreman, George Ely, and I
were working for Davey Tree Expert Com-
pany at the time. I was topping a large sugar
maple. I had my rope crotched in the same
leader we were using for a gin pole. This
was a long time before bucket trucks; in
fact, we were still using speed saws. George
told me to rope the next piece up. So using
top line and butt line, I roped a large sec-
tion up, and cut it off. As it settled into the
top line, the whole top of the tree broke off,
including my crotch. Because of the way
my rope ran up the tree, as the top went
over, my rope pulled me up the tree. It
threatened to pull me through a large crotch
above my head.
Going through that
crotch, and then falling to
the ground, would have
been the end of Elmer
Pyke.

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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, P.O. Box 1690, Binghamton, NY 13902. Phone: 800-937-2825 or 607-773-2400; Fax: 607-733-2425.

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CLEAVES COMPANY, INC.

Arborist and landscape equipment sales, service and supplies. Bandit’s XP chippers deliver! Models 90, 90W, 150, 200+, 250 and 1250 chippers. XTRA POWER: improved design increases chipping horsepower by as much as 40%. XTRA PERFORMANCE: new feed system and thicker, longer-lasting knives provide an improved feeding action with lower knife maintenance costs. Bottom feed wheel hanging is virtually eliminated. XTRA PROFIT: less fuel is consumed, for savings of up to $100 per month. Cleave's Company, Inc., 300 Reservoir Street, Needham, MA 02194. Phone: 617-449-0833; Fax: 617-444-5611.

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FORESTRY SUPPLIERS, INC.

Forestry Suppliers, Inc. has served a wide variety of resource management professions for more than 49 years. Our new 1998 full-color catalog features thousands of products used by professionals in Arboriculture, Agriculture, Engineering, Environmental Science and Education, as well as Forestry. To see why professionals worldwide depend on us for their arboriculture product needs, contact our Catalog Department for your free 1998 catalog! Forestry Suppliers, Inc., 205 W. Rankin Street, Jackson, MS 39201. Phone: 800-360-7788; Fax: 880-543-4203; E-Mail: fsi@forestry-suppliers.com; http://www.forestry-suppliers.com

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KRAMER EQUIPMENT COMPANY, INC.


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LINKS, LUMBER & LANDSCAPE, LLC

Experience is the key to your safety in today's workplace. Tell us what's not correct with the climbing situation within the photo above and earn a discount of 5% off your next order of safety products. Climber Chris Sandrum from Cayuga Tree Service is not following some of the industry practices or standards. Can you tell us what those might be? The answers can all be spliced together. Call 888-458-5553 with your correct answers to receive 5% off your next order. Links, Lumber & Landscape, LLC, 6255 East Taft Road, North Syracuse, NY 13212.

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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, 19 “H” Commerce Road, Fairfield, NJ 7004. Phone: 800-261-SPRAY (261-7772) or 973-227-0359; Fax: 973-227-0865.

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SAFETY TEST & EQUIPMENT COMPANY

Since 1947, Safety Test & Equipment Company has been manufacturing and wholesale distributing a full line of tools, supplies and safety equipment for the tree care and utility industries. FREE CATALOG. Safety Test & Equipment Company, Highway 150 East, P.O. Drawer 400, Shelby, NC 28150. Phone: 800-438-0671; Fax: 704-482-7349.

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TCI PRODUCT DIRECTORY - 7
SHERRILL, INC.

Sherrill Arborist Supply is a small company focused on prompt and courteous customer service with an eye on order accuracy. Our large inventory affords quick delivery and low prices second to none! Member and active supporter of National Arborist Association (NAA), ISA & ArborMaster Training. Sherrill Arborist Supply, 3101 Cedar Park Road, Greensboro, NC 27405-9657. Phone: 800-525-8873 or 336-378-0444; Fax: 336-378-1096; E-Mail: sherrillarbor@worldnet.att.net; http://www.wtsherrill.com

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TREE LINE SUPPLY COMPANY


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WESSPUR, INC.

Sometimes it becomes painfully obvious you need to update the old climbing gear and learn some new tricks. Call WesSpur Tree Equipment at 800-845-1213 for a complete catalog of all the equipment. Nationally recognized as a leader in supplying professional climbing gear and tree-related tools since 1983. E-Mail: wesspur@wesspur.com; http://nas/wesspur.com

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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 & Landscape Supply, 11530 “B” Elks Circle, Rancho Cordova, CA 95742-7357. Phone: 800-94ARBOR (942-7267); Fax: 916-852-5800.

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TCI PRODUCT DIRECTORY - 8
**GREENLEE FAIRMONT**

Fairmont’s H6200B hydraulic chain saw is designed for arborists and utility workers who desire a safe, lightweight, powerful tool. With a 15” cutting capacity, this 10-1/4 lb. saw doesn’t skimp on features, equipped with automatic chain oiling and a rugged gear motor providing quiet operation and easy maneuvering for limb cutting and trimming. Call 1-800-435-0786 for your nearest Greenlee Fairmont distributor.

**HUSQVARNA FOREST & GARDEN CO.**

Husqvarna’s 335XPT top-handled saw is specifically designed for the arborist. The ArborGrip™ handle features a textured rear handle, thumb grip and trigger finger support for increased control in the tree. Other highlights: large loop in the rear handle, 2.2 horsepower, 35cc engine, 14,000 rpm and only 7.5 pounds. To check out one at a dealer near you, call 1-800-HUSKY62 or visit our web site at www.husqvarna.com. Husqvarna Forest & Garden Company, 9006 Perimeter Woods Drive, Charlotte, NC 28216. Phone: 800-GET-SAWS (438-7297); Fax: 704-599-4302; http:llwww.husqvarna.com

**OREGON CUTTING SYSTEMS DIV. BLOUNT INC.**


**POULAN PRO**

Poulan PRO offers a full line of arborist-oriented chain saws designed to make tree handling as easy as possible. Model 445 has proven itself to be a popular choice because it combines power and versatility into an easy-to-handle 14.8-pound powerhead. This pro-style saw features a 4.3 cubic-inch engine (71cc) and accepts guide bars from 16 to 36 inches. Frigidaire Home Products e/o Poulan PRO, P.O. Box 91329, Shreveport, LA 71149-1329. Phone: 800-452-2827.
**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. All sales for Rapco's carbide chain and related products are addressed to: Rapco Marketing, Inc., P.O. Box 5219, Vancouver, WA, 98668. 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; E-Mail: rapco_carbide@prodigy.com; http://www.arborist.com/rapco.htm

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**SAWJAMMER COMPANY**

Chain saw foot protection. SawJammer® Pro is the only permanently-attached chain saw foot protection that is certified by UL (Underwriters Laboratory). It can stop a chain saw, brush cutter or trimmer. You can reduce the chance of injury and also Workers’ Compensation costs for injured employees. SawJammer Company, P.O. Box 11395, Baltimore, MD 21239-0395. Phone: 800-969-9276 or 410-325-6860; Fax: 888-473-8008; E-Mail: trimmer@sawjammer.com; http://www.sawjammer.com

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**SAWJAMMER COMPANY**

SawJammer® Slip-On is the only removable chain saw foot protection certified by UL (Underwriters Laboratory). It's available in sizes 5-15 with three types of traction soles. They are worn over work shoes or casual shoes to give you cut protection from chain saws, brush cutters, trimmers, and lawn mowers. SawJammer Company, P.O. Box 11395, Baltimore, MD 21239-0395. Phone: 800-969-9276 or 410-325-6860; 888-473-8008; E-Mail: trimmer@sawjammer.com; http://www.sawjammer.com

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**SHINDAIWA, INC.**

Shindaiwa's full line of lightweight two-cycle chain saws provide high chain speeds and extra lugging power for easier cutting. Shindaiwa's line of chain saws includes the 357, which was specifically designed by and for arborists. Light, balanced and powerful. See it at your local Shindaiwa dealer. **Phone:** 800-521-7733 or visit their web site at [http://www.shindaiwa.com](http://www.shindaiwa.com)

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STIHL INCORPORATED

The STIHL 020T chain saw is designed for high power, low weight and optimum balance and features an attachment ring, side access chain tensioner, STIHL Quickstop™ inertia chain brake. The 020T also features the exclusive STIHL Ematic™ guide bar, which can reduce bar oil consumption by up to 50%. For more information, call toll-free: 1-800-GO-STIHL (467-8445) or visit their web site at http://www.stihlusa.com

BANDIT INDUSTRIES, INC.

Bandit’s Chipper/Chip Box Combo eliminates the need for a separate chip truck and related cost like insurance, licensing, etc. Is available with Bandit’s Model 65 (6” diameter capacity) or Model 90XP (9” 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 at 1-800-952-0178.

DOSKOCIL INDUSTRIES, INC.

The Model 911 is the first in a line of chippers to be introduced by Doskocil Industries, Inc. Many of the patent-pending features on the Model 911 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.

GRAVELY INTERNATIONAL

The PRO Chip 1200 series handles the biggest jobs. Perfect for municipalities and arborists, the 1200 series accepts branches and limbs up to 14 inches in diameter. Powered with either a 108 hp or 81 hp Perkins diesel engine and equipped with an electronic auto feed system that automatically maintains the engine speed for maximum performance. Gravely International, 655 West Ryan Street, Brillion, WI 54110-0157. Phone: 800-472-8359; Fax: 920-756-2407; E-mail: info@gravely.com; http://www.gravely.com
### KARL KUEMMERLING, INC.

Manufacturer of the Mitts & Merrill brush chippers. Takes brush up to 8-inch diameter as fast as two or three men can feed it. 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: 800-464-8227, 888-222-6166, or 330-477-3457; Fax: 330-477-8528.

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### MORBARK E-Z BEEVER COMPANY

Morbark's Model 2400 E-Z Beever chipper offers land clearers and large volume tree services the ability to increase production rates and capabilities compared to traditional chippers. Power options available from 100 to 200 hp from John Deere, Caterpillar or Cummins. For more information or to arrange a demonstration, contact your local E-Z Beever dealer or Morbark E-Z Beever Company, P.O. Box 1000, Winn, MI 48896. Phone: 800-362-9010; Fax: 517-866-2280; E-Mail: morbark@worldnet.att.net; http://www.morbark.com

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### SIMONDS INDUSTRIES, INC.

Eliminate your knife concerns and maximize your chipping time with Simonds Limb-inator knives. All Limb-inator knives are made with high-quality chipper knife steel and heat-treated to exacting tolerances. Simonds has been manufacturing chipper knives for over 115 years and pioneered the tough center brush chipper knife design. We have years of experience over our competition - perfect practice makes a perfect product! Simonds Industries, Inc., P.O. Box 500, Intervale Road, Fitchburg, MA 01420. Phone: 800-343-1616; E-mail: reluskie@netone.com.net; http://www.simondsind.com

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### WOOD/CHUCK CHIPPER CORPORATION

Superior chippers since 1969. Wood/Chuck combines years of manufacturing experience with the latest technology to provide quality equipment for the tree care industry. Included in the product line are the classic drum, versatile disc, the unique self-propelled, and the dual-stage cutter/mulcher chipper for economically and environmentally conscious consumers. Wood/Chuck Chipper Corporation, P.O. Drawer 400, Shelby, NC 28151. Phone: 800-269-5188 or 704-482-4357; Fax: 704-482-7349; E-Mail: woodchuck@shelby.net; http://www.woodchuckchipper.com

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WOODSMAN CHIPPERS

Woodsman, your innovative leader, is home to the tree industry's most complete line of large diameter, slow speed, drum-style chippers. With five models to choose from, we have a chipper to fit your operation. Call us today to arrange a demonstration. Woodsman Chippers, P.O. Box 159, Ithaca, MI 48847. Web Site: http://www.woodsmanchip.com; Phone: 517-875-8585; Fax: 517-875-8622.

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ZENITH CUTTER COMPANY

Industrial quality chipper knives to precise OEM specifications. Zenith industrial-quality chipper knives are manufactured from the same high quality materials as the cutters Zenith provides to the corrugated, plastic and tire recycling industries. So, Zenith chipper knives give you more chipping performance because they hold their edge and stand up to repeated sharpenings! Price-guaranteed to be your best value, these quality industrial knives are always available for shipment within 24 hours of your order. Zenith Cutter, 5200 Zenith Parkway, P.O. Box 2252, Rockford, IL 61131-0252. Phone: 800-223-5202 or 815-282-5200; in Canada, 800-228-5206; Fax: 815-282-5232; http://www.zenithcutter.com

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OMEGA PACIFIC, INC.

When it's your life, nothing is more important than dependability. Omega Pacific is one of the largest life support carabiner manufacturers in the world, offering superior durability and design, with unsurpassed quality. Omega Pacific brings peace of mind so you can focus on your job, not your equipment! Omega Pacific, Inc., P.O. Box 1780, 11919 West Sprague Avenue, Bldg. H-1, Airway Heights, WA 99001. Phone: 800-360-3990; Fax: 509-244-0954; http://www.omegapac.com

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AGAPE DESIGNS

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I ML- 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. I ML - Instrument Mechanic Labor, Inc., 3015 Canton Road, Suite 14, Marietta, GA 30066. Phone: 888-514-8851 or 770-514-8851; Fax: 770-514-8851; E-Mail: sales@imlusa.com; http://www.imlusa.com

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ARBORMASTER™ TRAINING, INC.

ArborMaster™ conducts educational programs throughout North America and abroad, offering a variety of safety and productivity programs for the tree care profession: from participatory, hands-on training for small groups to customized seminars and trade show demonstrations for larger groups. ArborMaster™ is also involved in developing educational videos, study guides, articles, etc. ArborMaster™ Training, Inc., 596 Boston Post Road, Weston, MA 02193. Phone: 508-651-3173; Fax: 508-653-5145; E-Mail: ArborMastr@aol.com; http://www.ArborMaster.com

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INTERNATIONAL SOCIETY OF ARBORICULTURE

The International Society of Arboriculture keeps its members informed on the latest practical and scientific information through the Journal of Arboriculture and Arborist News. Members receive each publication six times per year. In addition, members are entitled to discounts on over 50 different publications, videos, and other membership items. To become a member, call ISA; annual membership is $85. International Society of Arboriculture, P.O. 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; http://www.ag.uiuc.edu/isa

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J.J. MAUGET COMPANY

Mauget’s new [updated for 1998] Micro-Injection Field Manual has the answers about tree problems. This graphically-illustrated field reference provides two pages (each) of critical information on more than 60 tree insects, diseases and nutritional problems. The left page describes the pest, life cycle, host trees, geographic range, tree symptoms, treatment, and timing. The right page displays, in color, all life stages of the pest, with tree damage symptoms, including fertility problems. Use in conjunction with other control methods for complete tree care. J.J. Mauget Co., 5435 Peck Road, Arcadia, CA 91006-5847. Phone: 800-TREES-RX (873-3779); Web Site http://www.mauget.com

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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 most beneficial commercial tree care trade association. National Arborist Association, P.O. Box 1094, Amherst, NH 03031-1094. Phone toll-free: 1-800-733-2622 or 603-673-3311; Fax: 603-672-2613; E-Mail: naa@natlarb.com; http://www.natlarb.com

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ENGINES & ENGINE PARTS

CUMMINS MICHIGAN, INC.

Specifically for the tree care industry, B & C series Cummins engines provide a wide range of engine power - 76 to 260 horsepower. Engines that are designed to meet the new and future Off-Highway Emissions Regulations. Call Cummins for details. Cummins Michigan, Inc., 41216 Vincenti Court, Novi, MI 48375. Phone: 248-478-9700; Fax: 248-478-4663.

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NATIONAL ARBORIST ASSOCIATION

The National Arborist Association (NAA) introduces the new Rigging for Removal video series. This program consists of a 56-minute, two-video program and a comprehensive, fully illustrated workbook for the arborist who wants to learn how to make tree removal operations safer, more efficient and more profitable. The video features the technical expertise of Don Blair, Ken Johnson and Robert Philips, the best in the industry. National Arborist Association, P.O. Box 1094, Amherst, NH 03031-1094. Phone toll-free: 1-800-733-2622 or 603-673-3311; Fax: 603-672-2613; E-Mail: naa@natlarb.com; http://www.natlarb.com

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Easy. Simple. It's your choice of dealer or distributor -- all with pre-approved leasing. Call today and apply for your ArborCard™, the industry-leading equipment financing card, available for up to $75,000 without financial statements. Grow your business with the equipment you need. Call 800-443-8301 today. First Sierra Financial, Inc., 3901 Roswell Road, Suite 200, Marietta, GA 30062. Fax: 800-343-0392.

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TCI PRODUCT DIRECTORY - 15
OMNI LEASING, INC.

Lease financing up to $75,000 on new or used arborist equipment. Easy one-page application, with no tax returns. We offer financing up to 60-month terms on new and used equipment (call for more details). You get the best equipment to do the job more efficiently and less costly than your competition. Get the arborist equipment you need for the lowest investment today! Call for your new Omni Gold card. We accept competitors' credit cards. Omni Leasing, Inc. Phone: 800-945-OMNI (945-6664); E-Mail: tree@omnilease.com; http://www.omnilease.com

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IMPLEMAX EQUIPMENT CO., INC.

ImpleMax grapples for skid steers and other loaders now feature optional built-in 9,000 lb. winches. The ultimate, easy tool for safely feeding chippers, moving logs & debris and loading trucks. A variety of units available for large and small tractors or skid steers. Assign labor to more difficult tasks and utilize your existing equipment more. When you’re done, switch to other attachments. Increase crew productivity and make land clearing more economical. Phone: 800-587-6656 or 406-587-2662; Fax: 406-587-2808.

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PETESEN INDUSTRIES INC.

The one-man operated TL-3 is perfect for routine tree care cleanup and a great tool for emergency wind and ice storm cleanup! Petersen Industries, Inc., 446 US 27 North, Lake Wales, FL 33853. Phone: 800-930-LOAD (930-5623); Fax: 941-676-6844.

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Property and casualty insurance specifically for the tree care industry. Coverages include Workers' Compensation, property, liability and auto. Optional coverages such as business interruption, commercial umbrella, underground storage tank, commercial crime, inland marine, and pesticide and herbicide applicator coverage. CNA also offers you personalized, expert service through our CNA agents. You will also receive prompt, efficient claims handling and professional loss control assistance. CNA Commercial Insurance, CNA Plaza - 38 South, Chicago, IL 60685. Phone: 800-CNA-6241 (262-6241).

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THE HARTFORD

Comprehensive Insurance Protection. That’s what The Hartford offers arborists every day. Cost-effective and designed specifically for arborists. Workers’ Compensation, General Liability, Automobile, Property and Equipment coverage available through your local agent. Please call: Mike Rook, Jenny Mortell, Joe Brophy or Billy Boguski. The Hartford, Hartford Plaza, T-18 Programs Unit, Hartford, CT 06115. Phone: 800-533-7824 or 860-547-4277; Fax: 860-547-6649.

TREEPRO™/NATIONAL INSURANCE PROGRAMS (NIP)

Offering a complete, low-cost insurance package for the Arborist and Landscaping Industries back by a leading insurance company. Loss control program designed exclusively for the Arborist and Landscape Industries. Dedicated claim department with Arborist/Landscape claim professionals. Flexible payment plans available. Please have your insurance agency contact us for more details, or call directly. TreePro™/National Insurance Programs (NIP), P.O. Box 39, Woodbridge, NJ 07095. Phone: 800-446-7647; Fax: 732-634-2904.

THE GREEN OIL COMPANY, INC.

We participated in the NAA National Day of Service at Arlington National Cemetery in 1993 and will return this year. "Benign by Design" oils use vegetable instead of mineral bases. They are safe, environmentally responsible and cost effective. The Forest Engineering Institute of Canada found this resulted in 50% less fling-off and increased life by 50% due to less friction between the bar and chain. Green Oil Co., Inc., Phone: 888-542-8584; Fax: 215-646-0151; E-Mail: ira.pierce@cenet.org; http://www.cerf.org/greenoil

WEST COAST SHOE COMPANY/WESCO

WESCO for over 80 years has supplied the arborist and related industries with the finest high-quality performance and complete satisfaction in our footwear. With so many features and options available, you can create what is best for you. Contact WESCO at P.O. Box 607, Scappoose, OR 97056-0607; Phone: 800-326-2711; Fax: 503-543-7110; E-Mail: trimmers@westcoastshoe.com; http://westcoastshoe.com
SELFHEAL, INC./ORAL IVY™

Here's a product that both prevents and treats 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. Also try StingStop™ Soothing Gel for insect bites and stings, and Sports Gel™ for bruises, strains and sprains. Distributed by SelfHEAL, Inc., 104 Guy's Lane, Bloomsburg, PA 17815. Toll Free Order Line: 800-553-6778; Fax: 717-389-0126.

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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, P.O. Box 1498, Tulare, CA 93275. Phone: 209-686-2844; Fax: 209-685-1006.

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BARTLETT MANUFACTURING COMPANY

Since 1912, Bartlett has manufactured highest quality pruning tools for the professional arborist. We also distribute a complete line of the finest arborist supplies available. Your warehouse is only a phone call away. Bartlett Manufacturing Company, 3003 East Grand Boulevard, Detroit, MI 48202. Phone: 800-331-7101 or 313-873-7300, Fax: 313-873-5454.

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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 Sixth Street, Corona, CA 91719. Phone toll-free 800-234-2547; Fax: 909-737-8657; E-Mail: jreisbek@coronaclipper.com; http://www.coronaclipper.com

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TCI PRODUCT DIRECTORY - 18
FANNO SAW WORKS

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

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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: 847-427-1455; E-Mail: info@growtech-inc.com; http://www.growtech-inc.com

JAMESON CORPORATION

Stick with the best. Jameson fiberglass pruner poles are more versatile, durable, safer, lighter and more cost effective to use. Choose from a full line of interchangeable pruning and sawing heads, each featuring our unique adapter system, which enables all accessories to lock easily into any handle. Available in foam core and hollow varieties, in sectional and fixed lengths, all Jameson pruner poles meet OSHA regulations. Jameson Corporation, P.O. Box 240277, Charlotte, NC 28224. Phone: 800-479-9346; Fax: 704-522-6161.

FRED MARVIN ASSOCIATES

For over 50 years, Marvin pruners and saws have become standard equipment for the professional arborist. Several new products have been introduced in 1998. Call for our latest brochure. Fred Marvin Associates, 1968 Englewood Avenue, Akron, OH 44312. Phone: 800-540-6680; http://www.pruner.com; E-Mail: fma@pruner.com
**PEAVEY MANUFACTURING COMPANY**

Peavey Manufacturing Company offers a variety of long-length handles in either white ash octagonal or fiberglass up to 16 feet long. We also carry sectional poles with lightweight aluminum couplers, pruner heads and saws, as well as a complete line of logging tools and pole line construction tools. Call or write for free brochure. The Peavey Manufacturing Company, P.O. Box 129, Eddington, ME 04429-0129. Phone: 888-244-0955 or 207-843-7861; E-Mail: peavey@mint.net; http://www.websiteserv.com/peavey/indexa.html

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**BANDIT INDUSTRIES, INC.**

The Model 3680 Beast Recycler is an exceptional, productive, cost effective waste reduction machine that you can afford to own and operate. Unique cuttermill allows material to be cut, not beaten apart. Reduces leaves, brush, stumps, palm fronds, whole trees, RR ties, telephone poles, pallets, newspaper, construction and demolition debris, sawmill and logging waste, cardboard and other similar materials to a consistent particle size. For further information, contact Bandit at 1-800-952-0178.

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**BROWN MANUFACTURING CORP.**

The NEW 2600 Series Brown Tree Cutter has a hydraulic folding rear deck for added safety, allowing the operator two distinct types of mowing operations. With the deck folded up, the unit can back into and cut standing trees up to 8 inches in diameter. Positioned down, the unit cuts and grinds material that the tractor has driven over without the discharge problem usually produced by other models. 810 RPM blade bar allows blade contact 54 times per second. Brown Manufacturing Corporation, Route 3, P.O. Box 339, Ozark, AL 36360. Phone: 800-633-8909 or 334-795-6603; Fax: 795-3029.

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**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., 14 B & B Lane, Sawyer Industrial Park, Weare, NH 03281. Phone Toll-Free: 888-BBRONTO (227-6686); or 603-529-7974; Fax: 603-529-7976.

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FECON RESOURCE RECOVERY EQUIPMENT

The BULL HOG™ is the right machine for land clearing, orchard pruning, thinning, land preparation, roadway clearing, and yard waste recycling. Patented fixed tools enable processing of heavy wood, stumps and brush. The BULL HOG™ is a very useful attachment for any contractor, city, state, national park, farm or golf course. Fecon Resource Recovery Equipment, 10350 Evendale Drive, Cincinnati, OH 45241. Phone: 800-528-3113 or 513-956-5700, Fax: 513-956-5701; E-mail: Fecon@Fuse.net, http://www.Fecon.com

THE AMERICAN GROUP - SAMSON DIVISION

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.

NEW ENGLAND ROPES, INC.

New England Rope manufactures a wide variety of highest quality climbing and bull ropes for the professional arborist. Bull ropes are available through 1-inch diameter (38,000 pounds breaking strength) with a unique abrasion-resistant coating for enhanced durability. Our climbing lines continue to be the best overall performing ropes on the market today. Write for a catalog and 9-inch sample. New England Ropes, 848 Airport Road, Fall River, MA 02720. Phone: 800-333-6679.

SHELTER TREE, INC./ TREE CARE PRODUCTS

Rope splicing experts - Choose from latest in spliced goods by Stanley Longstaff; arborist tools and supplies from Buckingham, Doggett, Fanno, New England Ropes, Samson, Weaver, Preformed Line, Petzl, CMI, Bashlin, Wall Safety, Felco & Corona. Shelter Tree, Inc./Tree Care Products, 60 John Dietsch Boulevard, North Attleboro, MA 02763. Phone: 800-720-TREE (720-8733) or 508-699-6550; Fax: 508-699-6570.
WALL SAFETY PRODUCTS/DIV. WALL INDUSTRIES

Manufacturer of high quality professional tree service industry rope and equipment. We offer a complete line of “No Knots” arborist rigging, slideline and ergonomically designed climbing kits. Affordable lease/financing terms are available. Additional products include: leather saddles, blocks, lanyards, bollards, slings, fliplines, and other related arborist equipment. Find out why Wall is the industry leader! Wall Safety Products, 900 Oregon Street, Kannapolis, NC 28072. Phone: 1-800-316-5944.

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YALE CORDAGE, INC.

From our XTC, XTC-Plus and XTC-12 climbing and bull ropes to our durable Double Esterson 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 wirecore 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: 207-282-3996, Fax: 207-282-4620.

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TREE MANAGEMENT SYSTEMS INC.

ArborGold Software for portable, hand-held computers and office PC’s. Imagine printing estimates on-site and presenting them to your customers! Yes, it’s true! Estimates download to your PC, eliminating manual entry. The PC software tracks jobs, inventory, equipment and employees, schedules crews, invoices and much more! Use the software in your office for 30 days risk free! You will save time and be more organized than ever before. Call Tree Management Systems, Inc. at 800-933-1955. Download a free demo at http://www.turftree.com or E-Mail: ttms@turftree.com

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JOHN BEAN SPRAYERS/DURAND-WAYLAND INC.

Our stainless-steel DM20E300SERH is a favorite of serious tree and grounds-care professionals everywhere. In fact, we offer a wide selection of tree sprayers with stainless steel tanks up to 1,500 gallons and pumps up to 60 gpm at 800 psi. Options include a variety of spray guns and hose reels. John Bean Sprayers, 395 Industrial Drive, Hogansville, GA 30230. Phone: 706-637-5251. Sales: P.O. Box 1404, LaGrange, GA 30241. Phone: 800-241-2308; Fax: 706-882-0052; E-Mail: jonbean@durand-wayland.com

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**GREENPRO SERVICES**

Polaris: the Rolls Royce of sprayers - without the cost. See the best innovation in design - solid value construction distinguishes our spray systems from all others. Grow your profits with multi-tank versatility for maximum production. Choose from many custom-built models to fit your budget. Let's talk about increasing your profits now. "The one-stop expert source." GreenPro Services, 380 South Franklin Street, Hempstead, NY 11550. Phone: 800-645-6464; Fax: 516-538-2042.

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**ITB CO. INC.**


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**ALPINE MACHINE**

The 88 lb. Alpine Magnum operates near fences, walkways, buildings and on side hills. Cuts a 24" stump in less than 20 minutes, a 12" stump in six to eight minutes. Clears brush, digs shallow trenches and maneuvers over soft ground without making tire tracks. Durable, low maintenance, fast cutting speed, safe and easy to operate. Goes anywhere - leaves the competition behind. Alpine Machine, 7910 Thornburg Street, SW, Olympia, WA 98512-2368. Phone: 360-357-5116.

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**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. Phone: 800-421-5985; Fax: 810-758-7829.

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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 optional 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. Phone: 800-243-9335.

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FOX MANUFACTURING, INC.

Special: Buy a machine in July 1998 - receive a FREE cutterhead. Fox Stump Routers feature 33-year proven design, impressive speed and depth capabilities exceeding 12 inches. Chips are retained under machine, great maneuverability, easy load and unloading and quick-change cutter head. Kohler engines from 18 to 25 hp. Low cost to purchase, and maintenance is primarily sharpening your teeth and many, many happy customers. All this backed by a great warranty. Video on request. Financing available. Fox Manufacturing, Inc., P.O. Box 6, Lowell, IN 46356. Phone: 219-696-1440; Fax: 219-696-8107; E-Mail: fox@netnitco.net

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LEONARDI MANUFACTURING

Manufacturer of teeth, pockets, and wheel savers for stump grinders. Also carry knives and anvils for brush chippers. Many other items available. Free brochure. Dependable people, quality products, and knowledgeable leaders. Looking forward to serving you. Leonardi Manufacturing, 2728 Erie Drive, Weedsport, NY 13166-9505. Phone: 800-537-2552 or 315-834-6611; Fax: 315-834-9220 (24 hours); E-Mail: leonardimfg@worldnet.att.net

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LEVCO MANUFACTURERS, INC.

Levco’s Model HD46 is all hydraulically driven and fits through most standard fence gates. The self-propelled feature has two speeds. It can cut stumps from 18 inches above grade to 26 inches below. The engine is a Kohler Command with 25 horsepower. The HD46 has a very low center of gravity for stability on slopes. One of ten models available from Levco. Levco Manufacturers, Inc., 3791 Highway 64 East, Wynne, AR 72396. Phone: 800-524-9252 or 870-238-8126; Fax: 870-238-8124; E-Mail: Levco@aol.com; http://www.Levco.com

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MILLER MACHINERWORKS

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. Six models are available from 24 to 150 horsepower. All are professional-grade machines with simplicity, durability and patented performers. Miller Machine Works, P.O. Box 11, Brownsburg, IN 46112. Phone and Fax: 765-659-1524.

RAYCO MANUFACTURING, INC.

Only Rayco makes a complete line of stump cutters from 13 to 275 hp. Worldwide, Rayco stump cutters command amazing popularity for their high profit earning performance and superior value. Either gasoline or diesel powered, each Rayco model (including the RG 120 DXH, shown) has special features that increase productivity while enhancing operator safety at a minimal labor cost. Rayco Manufacturing, Inc., Phone: 800-392-2686 (US & Canada). E-Mail: rayco@raycomfg.com; Web Site: http://www.raycomfg.com

VERMEER MANUFACTURING CO.

SC 752 Stump Cutter. Vermeer, the originator of the first stump cutter, offers a 75 hp model, the SC 752, with Vermeer’s exclusive Auto Sweep® system. The SC 752 is available with state-of-the-art remote controls that provide the operator freedom of movement with a range of up to 100 feet. Vermeer Manufacturing Company, P.O. Box 200, New Sharon Road, Pella, IA 50219. Phone: 515-628-3141.

ARBORSYSTEMS, LLC

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

**CREATIVE SALES, INC. (CSI)**

ACECAP® and MEDICAP® tree implants are the industry's lowest unit cost for prepared dosage systemics. We offer a complete product line, including insecticide, fertilizer and micro-nutrients. This unique application technique reduces time and labor, and there are no container disposal worries. Implants are available from an independent distributor network. Creative Sales, Inc., (CSI), P.O. Box 501, Fremont, NE 68026. Phone: 800-759-7739.

**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. (Soil-applied mycorrhizal spores). Free catalog available. The Doggett Corporation, 31 Cherry Street, Lebanon, NJ 08833. Phone: 800-448-1862.

**GROWTH PRODUCTS, LTD.**

HAIMBAUGH ENTERPRISES INC. - TREE FEEDER DIV.

Save labor and time with “TREE FEEDER - The Fertilizer Is In the Tube™.” Delivers measured amount of water right down to the root ball. 5-15-5 fertilizer is inside the tube. Install with new transplants to cut stress and trauma, help increase survival rates. Three sizes for professional or homeowner. Haimbaugh Enterprises, Inc., Tree Feeder Division, 2392 North Boeing Road, Warsaw, IN 46580. Phone: 800-822-TREE (822-8733); Fax: 219-269-1047.

J.J. MAUGET COMPANY

New! Dual-approach to tree pest control. Decline of valuable trees is often caused by a complex of pests, not a single problem. Trees weakened by insects are prone to attack from disease organisms. In some cases, insects are vectors of diseases, such as the elm bark beetle in Dutch Elm disease. In both cases, Mauget’s IMISOL & ABASOL solves two problems with a single injection. Mauget’s slow-exposure products place long-lasting Imidacloprid (Merit®) or Abamectin insecticides and fungisol fungicide which controls over 31 tree diseases in the tree’s vascular system. The Mauget Micro-Injection System ensures that only targeted pests are exposed to the pesticide. J.J. Mauget Co., 5435 Peck Road, Arcadia, CA. Phone: 800-TREES-RX (873-3779); http://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 sycamore. Odorless, non-staining, fast-acting. Monterey Lawn & Garden Products, Inc., P.O. Box 5317, Fresno, CA 93755. Phone: 209-499-2100; Fax: 209-499-1015.

NOVARTIS

Alamo systemic fungicide, which fights oak wilt and Dutch elm disease, is now available in 10-milliliter micro-injection units that are easily inserted into a tree’s flare roots. The new application system drastically reduces application time. Alamo is most effective when used to prolong the life of trees with as much as 20 percent crown loss. Alamo is also available in quarts for macro injection. Novartis Turf & Ornamental Products, P.O. Box 18300, Greensboro, NC 27419-8300. Phone: 800-395-TURF (395-5873) or 910-547-1160.
NU-ARBORTREE & SHRUB CARE PRODUCTS INC.

NU-ARBOR offers a variety of premium fertilizers and specialty products, including anti-transpirants, soil amendments, spray adjuvants and a natural plant wash. NU-ARBOR fertilizers are uniquely homogenized to enhance vigorous root growth and improve plant/soil relations. Apply these effective fertilizers with the Kioritz soil injector - no high pressure system required. For a free video or to purchase our starter package at discounted prices, contact NU-ARBOR Products, P.O. Box 151455, Grand Rapids, MI 49515-1455. Phone: 888-773-8777; E-Mail: grdarbor@aol.com

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ROOTS, INC.

ROOTS2™ and ironROOTS2™ provide arborists with a new approach to plant health care. Healthy trees and shrubs can now be maintained with reduced pesticide use. Trees and shrubs treated with ROOTS2™ are healthier and more stress tolerant than those treated with fertilizer alone. Plan now to use ROOTS2™ in your fertilizer program. ROOTS, Inc., 3120 Weatherford Road, Independence, MO 64055. Phone: 800-342-6173; Fax: 816-254-1408.

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TREE TECH MICROINJECTION SYSTEMS

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, 1879 SW 18th Avenue, Williston, FL 32696. Phone: 800-622-2831 or 352-528-5335; Fax: 352-528-0777; E-Mail: Treetech@aol.com; http://members.aol.com/Treetek/index.html

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WILLMAN’S EARTH RESTORATION CO.

FeedBack Liquid Compost and FeedBack DRY are all natural bio-stimulant surfactants. FeedBack products stimulate microbial activity, deliver micro nutrients, increase water retention, buffer trees from stress and disease and improve the health of trees and shrubs since 1969. Our products are Unconditionally Guaranteed! Willman’s Earth Restoration Co., 75 Daggett Street, New Haven, CT 06519. Phone: 800-770-5010; Fax: 203-782-1616.

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INDEPENDENT PROTECTION CO., INC.

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, P.O. Box 537, Goshen, IN 46527. Phone: 219-533-4116; Fax: 219-534-3719; E-Mail: ipc@netbahn.net; http://www.netbahn.net/ipc

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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, P.O. Box 91129, Cleveland, OH 44101. Phone: 440-461-5200; Fax: 440-442-8816; http://www.preformed.com

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AMERICAN TRUCK & TRAILER BODY CO., INC.

American Truck & Trailer Body Company brings together the best in forestry body manufacturing. Heavy-duty steel fabrication of customized arborist trucks: cranes, dump bodies, forestry bodies, hoists, hydraulic tailgates, platform bodies, service bodies, tool boxes, truck bodies and more. For your next tailored need, contact Mike Garner. American Truck & Trailer Body Company, Inc., 100 West Valpico Road, Building D, Tracy, CA 95376. Phone: 800-499-8985 or 209-836-8985; Fax: 209-836-1871.

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ARBORTECH

For the professional, Arbortech produces a complete line of forestry bodies: chip bodies, crew cabs, brush bodies, pickup caps, tool boxes. Ready-to-roll, turn-key packages are available with financing. Arbortech, 3203 West Old Lincoln Way, Wooster, OH 44691-3298. Phone: 800-255-5715 or 330-264-4266; Fax: 330-264-0891; http://www.aip.com/arbortech.

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GMC T-Series tilt cab and C-Series conventional cab trucks are available in single or tandem axle, tractor and LoPro versions, as well as a variety of GVWR’s and wheelbases. Savana offers the largest cargo volume of any full-size van. The Sierra pickup comes in many versions and configurations. Call 1-800-GMC-8782!

MIRK INC./TOOMBS TRUCK & EQUIP.

The “Extra Yarder” chip body package from MIRK, Inc. incorporates extra width to cover the tires of today’s larger trucks and extra length to fit the commonly stocked 120” cab-to-axle vehicle. The new size has a chip capacity of 21 cubic yards yet works well on a 26,000 GVWR truck (not requiring a CDL in many states). Available nationwide as a complete “Extra Yarder” package with a new Navistar cab and chassis through MIRK, Inc. Aerial packages also available. MIRK, Inc., 7629 Chippewa Road, Orrville, OH 44667. Phone: 330-669-2000; Fax: 330-669-3732.

SCHODORF TRUCK BODY & EQUIPMENT COMPANY

“Silver Knight” forestry bodies with “Dust Release System,” lengths from 9 feet to 18 feet. Very popular options include aluminum removable roofs, liftgates and cranes. Complete packages with chassis are available. You deserve the best and we are happy to provide it to you. For a free brochure/quote, contact Tom Siebert. Schodorf Truck Body & Equipment Company, 885 Harmon Avenue, Columbus, OH 43223. Phone: 800-288-0992.

SOUTHCO INDUSTRIES, INC.

NESCO, INC.

The leader in sales and rentals of new and used utility equipment. We offer bucket trucks, chippers, chipper trucks, stump grinders, digger derricks, trailers and more. Free catalog and videos available. NESCO, Inc., 3112 East State Road 124, Buffton, IN 46714. Phone: 800-252-0043; Fax: 219-824-6350; E-Mail: nesco@nescosales.com; http://www.nescosales.com

SOUTHEASTERN EQUIPMENT CO.

Meet the Southeastern Equipment Company staff! We are waiting to assist you with your next equipment purchase! Left to right: Don Fowler, Heather Salter (Leasing & Finance), Tony Baggett (Fabrication), Kyle Hobbs (Sales), Don Burgess (Shop Manager), Don Dayton (Lead Mechanic), Daniel Harrison (Mechanic), John Hardy (Paint & Body), Barbara Johnson (Payables & Receivables), Doug Barnes (Mechanic), Charlotte Fowler (Office Manager). Southeastern Equipment Company, 4180 Georgia Highway 20, Buford, GA 30518. Phone: 880-487-7089 or 770-271-8286; Fax: 770-271-4496.

ASV, INC. (ALL SEASON VEHICLES)

The Posi-Trak HD 4500 features a completely greaseless undercarriage and other low maintenance features. The HD 4500 is powered by an 80 hp John Deere 4.5 liter diesel. The rubber-tracked HD machine exerts only 3 psi ground pressure. The HD's reversible seat allows it to be quickly outfitted into a tractor with a 3-point hitch. ASV, Inc., 840 Lily Lane, P.O. Box 5160, Grand Rapids, MN 55744. Phone: 218-327-3434; Fax: 218-327-9122.

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 packing samples at nominal fee. B&B Manufacturing, 3007 West River Road, Olean, NY 14760. Phone: 800-654-5320; E-Mail: bbmfg@sprynet.com
BANDIT INDUSTRIES, INC.

Bandit's Log Buster is the economical way to dispose of big logs and stumps. Will quarter oversized logs and stumps in a single pass, is able to process logs 10” long and can tackle almost any diameter capacity. Lets you rid stumps of dirt and rock before you grind, as well as reduce material before chipping. For further information, contact Bandit at 1-800-952-0178.

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WOOD PROCESSORS

BRUTE MANUFACTURING CORP.


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WOOD PROCESSORS

GFX CORPORATION

Super Split’s innovative mechanical design produces an incredible two-second splitting cycle. It can easily split over two cords of wood per hour. Super Split is the most efficient, durable, low maintenance log splitter on the market - and has been for 20 years! It must be seen in action to be appreciated, so call for our video. It’s time to break the hydraulic habit and make firewood profitable with the Super Split. GFX Corporation, 608 Spring Street, East Bridgewater, MA 02333. Phone: 508-378-7100; Fax: 508-378-7122

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TIMBERWOLF MANUFACTURING CORPORATION

Timberwolf Manufacturing Corporation introduces the Model HE Wood Processor - by far the best value for the buck. High volume production: 1-1/2 to 3 cords per hour. Quality engine options. Affordable wood processing with high quality parts. Also offering a standard and PTO model. Professional wood splitters and conveyors. Timberwolf Manufacturing Corporation, 118 Spruce Street, Rutland, VT 05702. Phone: 800-340-4386 or 802-775-4227; Fax: 802-773-1275; E-Mail: twolf@sover.net; http://www.timberwolfcorp.com

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**USED EQUIPMENT**

**NESCO, INC.**

The leader is sales and rentals of new and used utility equipment. We offer bucket trucks, chippers, chipper trucks, stump grinders, digger derricks, trailers and more. Free catalog and videos available. NESCO, Inc., 3112 East State Road 124, Bluffton, IN 46714. Phone: 800-252-0043; Fax: 219-824-6350; http://www.nescosales.com; E-Mail: nesco@nescosales.com

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

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WOOD PROCESSORS

BRUTE MANUFACTURING CORP.


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TIMBERWOLF MANUFACTURING CORP.

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<td>5</td>
<td>148. Plant Health Care, Inc.</td>
<td>22</td>
</tr>
<tr>
<td>80. Blue Ridge Arborist Supply</td>
<td>5</td>
<td>74. Polecat Industries, Inc.</td>
<td>4</td>
</tr>
<tr>
<td>136. Border City Tool &amp; Manufacturing Co</td>
<td>19</td>
<td>152. Preformed Line Products</td>
<td>23</td>
</tr>
<tr>
<td>126. John Brown Company</td>
<td>17</td>
<td>90. Rapco Industries, Inc.</td>
<td>8</td>
</tr>
<tr>
<td>162. Brute Manufacturing Corporation</td>
<td>26</td>
<td>140. Rayco Manufacturing, Inc.</td>
<td>20</td>
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<tr>
<td>82. Buckingham Manufacturing Company, Inc.</td>
<td>6</td>
<td>149. Roots, Inc.</td>
<td>22</td>
</tr>
<tr>
<td>114. CNA Insurance Companies</td>
<td>14</td>
<td>155. Royal Truck &amp; Equipment, Inc.</td>
<td>24</td>
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<tr>
<td>137. J.P. Carlton Company, Div. DAF, Inc.</td>
<td>19</td>
<td>86. Safety Test &amp; Equipment Company</td>
<td>7</td>
</tr>
<tr>
<td>128. Columbian Rope Company</td>
<td>17</td>
<td>91. SawJammer Company</td>
<td>8</td>
</tr>
<tr>
<td>119. Corona Clipper</td>
<td>15</td>
<td>92. SawJammer Company</td>
<td>8</td>
</tr>
<tr>
<td>73. Crane &amp; Shovel Sales Corp.</td>
<td>3</td>
<td>156. Schodorf Truck Body &amp; Equip. Company</td>
<td>24</td>
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<tr>
<td>143. Creative Sales, Inc. (CSI)</td>
<td>21</td>
<td>130. Shelter Tree, Inc.</td>
<td>18</td>
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<tr>
<td>109. Cummins Michigan, Inc.</td>
<td>12</td>
<td>87. Sherrill, Inc.</td>
<td>7</td>
</tr>
<tr>
<td>144. The Doggett Corporation</td>
<td>21</td>
<td>93. Shindaiwa, Inc.</td>
<td>8</td>
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<tr>
<td>110. Engine Distributors</td>
<td>13</td>
<td>98. Simonds Industries, Inc.</td>
<td>10</td>
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<tr>
<td>120. Fanno Saw Works</td>
<td>15</td>
<td>156. Southco Industries, Inc.</td>
<td>24</td>
</tr>
<tr>
<td>111. First Sierra Financial, Inc.</td>
<td>13</td>
<td>159. Southeastern Equipment Company</td>
<td>25</td>
</tr>
<tr>
<td>83. Forestry Suppliers, Inc.</td>
<td>6</td>
<td>94. STIHL Incorporated</td>
<td>9</td>
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<tr>
<td>154. GMC Division, General Motors Corp.</td>
<td>24</td>
<td>141. Sunrise Concepts, Inc.</td>
<td>20</td>
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<tr>
<td>96. Gravely International</td>
<td>9</td>
<td>75. TECO, Inc.</td>
<td>4</td>
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<tr>
<td>134. GreenPro Services</td>
<td>19</td>
<td>76. Terex Telelect Inc.</td>
<td>4</td>
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<tr>
<td>122. Growtech, Inc.</td>
<td>16</td>
<td>163. Timberwolf Manufacturing Corporation</td>
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<tr>
<td>145. Growth Products, Ltd.</td>
<td>21</td>
<td>150. Tree Tech Microinjection Systems</td>
<td>23</td>
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<tr>
<td>132. Gyro-Trac, Inc.</td>
<td>18</td>
<td>116. TreePro™/National Insurance Programs (NIP)</td>
<td>14</td>
</tr>
<tr>
<td>115. The Hartford</td>
<td>14</td>
<td>142. Vermeer Manufacturing Company</td>
<td>21</td>
</tr>
<tr>
<td>164. The Hartford</td>
<td>2</td>
<td>77. VERSALIFT/TIME Manufacturing Company</td>
<td>4</td>
</tr>
<tr>
<td>89. Husqvarna Forest &amp; Garden Company</td>
<td>7</td>
<td>117. West Coast Shoe Company/WESCO</td>
<td>14</td>
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<tr>
<td>151. Independent Protection Company, Inc.</td>
<td>15</td>
<td>148. Western Tree Equipment &amp; Repairs</td>
<td>7</td>
</tr>
<tr>
<td>123. Jameson Corporation</td>
<td>16</td>
<td>183. Willman’s Earth Restoration</td>
<td>28</td>
</tr>
<tr>
<td>84. Kramer Equipment Co., Inc.</td>
<td>6</td>
<td>99. Wood/Chuck Chipper Corporation</td>
<td>10</td>
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<tr>
<td>&amp;</td>
<td></td>
<td>131. Yale Cordage, Inc.</td>
<td>18</td>
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<tr>
<td>&amp;</td>
<td></td>
<td>100. Zenith Cutter Company</td>
<td>10</td>
</tr>
</tbody>
</table>

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

This directory contains listings of companies supplying the tree care industry with products and specialized services. The information contained herein should not be construed as an endorsement of products or techniques.
(D) A & F Warehouse
Unit B, Hurstfold Farm
West Sussex, England
GU2 3JG
Toll Free #1: 011 441 428 661767
Toll Free #2: 011 441 428 654181
Sales Phone: 011 44 1428661767
Fax: 011 44 1428654181
Contact: Penny A. Allanson-Bailey
ACRT, Inc.
2545 Bailey Road
P0 Box 401
Cuyahoga Falls, OH 44221-0401
Toll Free: 800-622-2562 x 238
Phone: 330-945-7500 x238
Fax: 330-945-7200
E-Mail: askacrt@aol.com
Web: http://www.acrtinc.com
Contact: David Hill
A full-service consulting firm providing electric hazard and line clearance training, testing and certification. We also offer consulting, research and technical services pertaining to urban forestry, utility forestry and the environment.

(M) ADI Pruning Tools by TOL Inc.
955 East Levin Avenue
PO Box 1498
Tulare, CA 93275
Toll Free: 800-732-2142
Phone: 209-686-2844
Fax: 209-685-1006
E-Mail: toline@aol.com

(S) Albiez Insurance Agency, Inc.
Plaza Nine
900 Rt 9 North; Suite 503
PO Box 39
Woodbridge, NJ 07095
Toll Free: 800-ARBORS-(1272-6771) x 235
Phone: 908-602-3785
Fax: 732-634-5379
Contact: Devin Blazer
Low cost insurance program designed exclusively for the Arborist and Landscape industries. Featuring low cost, dedicated loss control, claim service, flexible payments, and special insurance coverages.

(M) Alliance Equipment Company, Inc.
1000 North Union Avenue
Alliance, OH 44601
Toll Free: 800-383-2290
Phone: 330-821-2291x221
Fax: 330-821-4836
E-Mail: SharonMcCary@worldnet.att.net
Web: http://www.Alliance-Equipment.com
Contact: Sharon McCary
Manufacturer of replacement booms, buckets, liners, bucket covers, saw scabbards and related aerial device accessories. Also, fiberglass repair to booms and buckets.

(M) Altec Industries, Inc.
31 Inverness Center, Suite 103
Birmingham, AL 35242
Phone: 205-991-7733
Fax: 205-991-7747
Web: http://www.altec.com
Contact: David Hill
Altec's complete line of high-quality tree care equipment includes aerial lifts with superior working reach and wood chippers with a proven record of durability and performance. For more information, call 1-800-958-2555.

See our ad in the 4-Color Pictorial Buyer's Guide
Available for immediate shipment is the latest in rigging equipment; a full line of safety gear; reference books and diagnostic supplies; professional quality saws and pruners; gear bags; gas-and-air-powered pruners and saws. For your convenience, we now have a 24-hour answering service and all orders received by 2 p.m. are shipped the same day! If you can’t find it, CALL US - We locate that hard-to-find tool!

See our ad in the 4-Color Pictorial Buyer’s Guide

For your convenience, we now have a 24-hour answering service and all orders received by 2 p.m. are shipped the same day! If you can’t find it, CALL US - We locate that hard-to-find tool!

See our ad in the 4-Color Pictorial Buyer’s Guide

Specialized arborist software managing your daily tree business: accounts receivable, accounts payable, payroll, plant health care, tree inventory, video imaging and more. Available for DOS/WIN 95/NT.

See our ad in the 4-Color Pictorial Buyer’s Guide

We stock tree trimming equipment, i.e. Buckingham & Miller saddles, lanyards, climbers, ropes, Felco & Corona saws & pruners, poles & pole saws, at competitive prices. Also, horticultural books by Shigo, Pirone, Harris & Mattheck with a selection of tree disease & insect books, palm books, tropical tree books and CD-ROMs.

See our ad in the 4-Color Pictorial Buyer’s Guide
See our ad in the 4-Color Pictorial Buyer's Guide

(D/M) ArborMaster Training, Inc.
P.O. Box 62
Willington, CT 06279
Phone: 860-429-5028
Fax: 860-429-5058
E-Mail: ArborMastr@aol.com
Web: http://www.ArborMaster.com
Contact: Ken Palmer

ArborMaster™ Training conducts educational programs throughout North America and abroad, offering a variety of safety and productivity programs for the tree care profession: from participatory, hands-on training for small groups to customized workshops, seminars and tradeshow demonstrations for larger groups. ArborMaster™ Training is also involved in developing educational tools such as videos, study guides, articles, etc. See our ad in the 4-Color Pictorial Buyer's Guide

(M) B & B Manufacturing
RD 3; 3007 West River Road
Olean, NY 14760
Toll Free: 800-654-5320
Phone: 716-373-5881
Fax: 716-373-5883
E-Mail: bbsmg@sprynet.com
Contact: Melissa Nix
The WOOD-PAKer turns your wastewood firewood into profits. See our ad in the 4-Color Pictorial Buyer's Guide

(D) Bailey's
44630 Highway 101; PO Box 550
Laytonville, CA 95454-0550
Toll Free: 800-322-4539
Phone: 707-984-6133
Fax: 707-984-8115
E-Mail: baileys@bbaileys.com
Web #1: http://www.bbaileys.com
Web #2: http://www.arborists.com/BAILEYS/baileys.htm
Contact: William G. "Bill" Bailey
Affiliated Location:
Southeast Division

Bailey's
196 Edwards Drive
PO Box 9088
Jackson, TN 38314-9088
Phone: 901-422-1300
Fax: 901-422-6118
Contacts: Sonny Chumney, David Mullins
Bailey's is a mail-order woodsman supplies company that's been in business over 24 years. They sell timber harvesting equipment, arborist supplies, reforestation implements, lumberjack competition tools, portable saw mills, plus much more - all at discounted prices. They print four catalogs a year - contact them for a free catalog. Order toll-free: 800-322-4539. See our ad in the 4-Color Pictorial Buyer's Guide

(D/M) Baker Equipment Engineering Co.
P.O. Box 25609
Richmond, VA 23260-5609
Phone: 804-358-0481
Fax: 804-322-4539
E-Mail: info@barnel.com
Web: http://www.barnel.com/~barnel
Contact: Josh Newman

Barnel® International Inc.
822 NW Murray Boulevard, Ste. 256
Portland, OR, USA 97229-5868
Toll Free: 800-331-7101
Phone: 503-291-1500
Fax: 503-291-1600
E-Mail: info@barnel.com
Web: http://www.barnel.com

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See our ad in the 4-Color Pictorial Buyer's Guide
(M) Bayer Corporation - Ag. Div.
8400 Hawthorn Road
Kansas City, MO 64120
Toll Free: 800-842-8020
Phone: 816-242-4749
Fax: 816-241-4735
Contact: Neil Cleveland
Manufacturer of fungicides: BAYLETON; insecticides: DYLOX, MERIT, MORESTAN, NEMACUR, OCTANOL and TEMPO; herbicides: SENCOR.

(D) Ben Meadows Company
3589 Broad Street; PO Box 80549
Atlanta, GA 30366-9821
Toll Free: 800-241-6401
Phone: 770-455-0907 x3140
Fax: 770-457-1841
E-Mail: Mail@benmeadows.com
Web: http://www.benmeadows.com
Contact: Jay Buell
Web: http://www.optimaltreespades.com
Contact: Paul Bennett
OPTIMAL tree transplanting machines.

(M) Bennett & Bennett Enterprises, LLC
PO Box 1099
Gatlinburg, TN 37738
Phone: 423-436-2008
Fax: 423-436-5082
E-Mail: sales@optimaltreespades.com
Web: http://www.optimaltreespades.com
Contact: Paul Bennett
OPTIMAL tree transplanting machines.

(D) Blue Ridge Arborist Supply
PO Box 1626
Culpepper, VA 22701
Toll Free: 800-577-TREE [577-8733]
Phone: 540-829-6889
Fax: 540-825-6451
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 the 4-Color Pictorial Buyer's Guide

(D) Blue Ridge Arborist Supply
PO Box 1626
Culpepper, VA 22701
Toll Free: 800-577-TREE [577-8733]
Phone: 540-829-6889
Fax: 540-825-6451
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 the 4-Color Pictorial Buyer's Guide

(M) Border City Tool & Manufacturing Co.
23325 Blackstone Avenue
Warren, MI 48094-2675
Toll Free: 800-421-5985
Phone: 810-758-5574
Fax: 810-758-7829
Buy direct from the original manufacturer.
See our ad in the 4-Color Pictorial Buyer's Guide

(M) Brink's Mfg. Co., Inc./ VAN LADDER
2020 Pioneer Trail
Albert Lea, MN 56007
Toll Free #1: 888-887-5847
Toll Free #2: 887-VAN-LADDER [5847]
Phone: 507-373-9078
Fax: 507-373-8095
E-Mail: bgaudian@smig.net
Web: http://www.vanladder.com
Contact: Dr. Chuck Darrah
Complete laboratory services for the tree service industry. Call for a catalog or stop by.
See our ad in the 4-Color Pictorial Buyer's Guide

(M) Brown Manufacturing Corp.
Route 3; PO Box 339
Ozark, AL 36360-0339
Toll Free: 800-633-8909
Phone: 205-795-6863
Fax: 205-795-3029
Contact: Jeff Thagard
Brown Manufacturing Corp. 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 the 4-Color Pictorial Buyer's Guide

(M) Brute Manufacturing Corporation
RR 2, Box 314
Route 103
PO Box 314
East Clarendon, VT 05759
Toll Free: 800-261-9301
Phone: 802-773-9301
Fax: 802-773-9730
Contact: John Norton-Griffiths
Manufacturers of firewood processors, log splitters and conveyors.
See our ad in the 4-Color Pictorial Buyer's Guide

(M) Buccaneer Rope Company
4711 126th Avenue North
Clearwater, FL 34622
Toll Free: 800-358-ROPE [358-7673]
Sales: 813-573-6066
Fax: 813-573-1210
E-Mail: bucrope@earthlink.net
Contact: Dan Pockman
Buccaneer Rope Company is 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 the 4-Color Pictorial Buyer's Guide

(M) Buckingham Manufacturing Co., Inc.
1-11 Travis Avenue
PO Box 1690
Binghamton, NY 13902
Toll Free: 800-367-2825
Phone: 607-773-2400
Fax: 607-773-2425
E-Mail: sales@buckinghammfg.com
Contact: Jim Pennefeather
Buckingham Manufacturing Co., Inc. is 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 the 4-Color Pictorial Buyer's Guide
(S) CNA Commercial Insurance
CNA Plaza 38 South
Chicago, IL 60685
Toll Free: 800-CNA-6241 [262-6241]
Phone: 312-755-2048
Fax: 312-822-5580
Web: http://www.cna.com
Contact: Ben Nichols
See our ad in the 4-Color Pictorial Buyer’s Guide

(D) Chesapeake Engine Distributors
10241 Sycamore Drive
Ashland, VA 23005
Toll Free: 800-666-5928
Phone: 804-550-2231
Fax #1: 800-685-8607 [Toll Free]
Fax #2: 804-550-2139
E-Mail: jadams@ribicorp.com
Contacts: Donald Ashby, Mike Rhoades
Central distributor for Kohler engines and parts. Service parts for Homelite saws and generators.

(M) Cleary Chemical
178 Ridge Road; Ste. A
Dayton, NJ 08810-1501
Toll Free: 800-524-1662
Phone: 732-449-0833
Fax: 732-444-5611
Contact: Lenny Cleaves

(D) Clear Line Equipment Company
6010 South Front Road
Livermore, CA 94550
Toll Free: 800-654-8749 [CA only]
Phone: 925-443-6432
Fax: 925-443-6573
Contact: Dennis G. Knoll
Bandit chippers, Carlton stump grinders, log splitters, shredders, mulchers, waste recyclers, new and used. Aerial lift, truck and trailer mounted. Financing available.

(M) J. P. Carlton Company, Div. DAF, Inc.
121 John Dodd Road
Spartanburg, SC 29303
Toll Free: 800-243-9335
Phone: 864-578-9335
Fax: 864-578-0210
Web: http://www.stumpcutters.com
Contact: John T. Bird, Daniel R. Falatok
J. P. Carlton Company manufactures the highest quality stump cutters available, from 25 hp self-propelled units to 106 hp tow-behind units. Carlton machines incorporate many exclusive features which improve both the cutting performance and life of the machines. Compare Carlton’s specifications to the competition. You will quickly see why a Carlton is the best choice.
See our ad in the 4-Color Pictorial Buyer’s Guide

(S) Cascade Leasing/First Sierra Financing
159 South Worthen Street; PO Box 2861
Wenatchee, WA 98801
Toll Free: 800-662-6703
Phone: 509-663-6703
Fax: 509-663-1304
E-Mail: TimCetto@firstsierra.com
Contact: Tim Cetto
See our ad in the 4-Color Pictorial Buyer’s Guide

(D) Compact Technologies/OmniQuip Int’l
901 Sunset
Port Washington, WI 53074
Phone: 414-268-3250
Web: http://www.omniquip.com
Contact: Mike Bernardy
Compact Technologies supplies a full range of skid steer loaders, mini-excavators, and material handling equipment to the landscape industry. SCAT TRAK™ skid steer loaders are known for their rugged, easy-to-service design. SCAT TRAK™ mini-excavators and WorkPro™ material handlers are known for their high performance in a compact package.

(S) Norman R. Cordle Insurance Agency
PO Box 3676
Antioch, CA 94531-3676
Phone: 925-779-1455
Fax: 925-779-1421
Contact: Norman R. Cordle

(M) Corona Clipper
P.O. Box 1388
Corona, CA 91719
Toll Free: 800-234-2547
Phone: 909-737-6515
Fax: 909-737-8657
E-Mail: jreisbek@coronaclipper.com
Web: http://www.coronaclipper.com
Contact: John Reisbeck
See our ad in the 4-Color Pictorial Buyer’s Guide

(D) Crane & Shovel Sales Corporation
26781 Cannon Road
Cleveland, OH 44146
Toll Free: 800-362-8494
Phone: 440-439-4749
Fax: 440-439-2177
Contact: John Such
Atlas cranes 3.6 to 60 metric tons, Wood/Chuck chippers, Fecon composting equipment, Dosko chippers, stump grinders, root cutters, crane and chipper parts, used equipment.
See our ad in the 4-Color Pictorial Buyer’s Guide
Featuring ArborWare®, the arborist/landscaper business software for DOS/Windows/Win '95/Win NT. Computer hardware and software consultation, custom software programming and systems design supporting LANs, field laptops and hand-helds. Your complete resource for all your automation needs.

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Replacement parts for chain saws, trimmers, lawn mowers, Honda engines. We also have a complete line of pruning and tree climbing equipment.

See our ad in the 4-Color Pictorial Buyer's Guide

Manufacturer of Accucap® and Medicap® systemic tree implants. Markets to professional arborists via a network of independent distributors.

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Cummins power for the tree care industry. B and C series engines have set the standard! Durable, fuel efficient and long-lasting performance that every arborist expects.

See our ad in the 4-Color Pictorial Buyer's Guide

Deep Root manufactures tree root barriers to prevent roots from uplifting and damaging sidewalks, curbs, patios and other hardscapes. Also manufacturer of ArborGard+ tree trunk protector to protect trees from damage by weed trimmers, mowers and rodents and ArborTie™ the arborists’ answer for staking and guying of trees.

Deutz Corporation is a worldwide manufacturer of diesel and gas engines in the 6-10,000 hp range.

Deutz Corporation is a worldwide manufacturer of diesel and gas engines in the 6-10,000 hp range.
(M) The Doggett Corporation
31 Cherry Street
Lebanon, NJ 08833
Toll Free: 800-448-1862
Phone: 908-236-6335
Fax: 908-236-7716
E-Mail: RMELL@compuserve.com
Web: http://www.DOGETT.NET
Contact: Roger Mcellick
Professional slow release injectable tree fertilizers. Organic formulations and chelated minor elements for specific deficiencies. Soil amendments to correct pH extremes and correct soil compaction. Soil applied mycorrhizal spores. See our ad in the 4-Color Pictorial Buyer’s Guide

(M) Doskocil Industries, Inc.
1324 West Rialto Avenue
San Bernardino, CA 92410
Phone: 909-885-0988
Fax: 909-381-4743
Contacts: Marilyn Doskocil, David Doskocil, Bill Arden
Doskocil Industries, Inc. is a manufacturer of work zone and safety products since 1947. Including a complete line of portable sign stands, roll-up signs, flags and storage bags, center-hinged signs, flagger paddles, barricades and Signvelope temporary sign covers. National distributor of a wide variety of associated products.

(M) Dow AgroSciences
9330 Zionsville Road
Indianapolis, IN 46268
Toll Free: 800-263-1196
Fax: 800-905-7326
Web: http://www.dowagro.com
Garlon"4 Herbicide
Garlon"3A Herbicide
Tordon"101 Mixture Herbicide
Tordon"K Herbicide
Transline Herbicide
Pathway" Herbicide
Pathfinder" Herbicide
Spike"20P Herbicide
Spike"80W Herbicide
Profile" 2SC Tree Growth Regulator
Cutless" Tree Implant Tree Growth Regulator
See our ad in the 4-Color Pictorial Buyer’s Guide

(M) EcoPlug, Inc.
4704 140th Avenue North; Ste. 317
Clearwater, FL 33762
Phone: 813-531-3973
Fax: 813-738-1627
See our ad in the 4-Color Pictorial Buyer’s Guide

(D/M) Eastern Metal/USA-SIGN
1430 Sullivan Street
Elmira, NY 14901-1698
Toll Free: 800-872-7446
Phone: 607-734-2295
Fax: 607-734-8783
E-Mail: info@usa-sign.com
Web: http://www.usa-sign.com
Contact: Mr. Jan Miller
Manufacturer of work zone and safety products since 1947. Including a complete line of portable sign stands, roll-up signs, flags and storage bags, center-hinged signs, flagger paddles, barricades and Signvelope temporary sign covers. National distributor of a wide variety of associated products.

(M/S) Environmental Information & Design Inc.
1651 Calfs Ferry Road
Lexington, SC 29072
Phone: 803-356-3672
Fax: 803-356-3672
E-Mail: naturedan@aol.com
Contact: Richard Dubé
Custom software for business applications; business consulting; design consulting; training.

(D) ESSCO Distributors, Inc.
1555 5th Industrial Court
Bayside, NY 11706-3440
Toll Free: 800-842-1104
Phone: 516-665-1370
Fax: 516-665-1559
Contact: Jerry Sluker
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(D/M) Excalibur DMM
P.O. Box 1007
Sandy, UT 84091
Phone: 801-942-8471
Fax: 801-942-8531
E-Mail: xcalibur@inconnect.com
Web: http://www.dmm.wales.com
Contact: Steve Petro
DMM Carabiners are three sigma-rated and ISO 9001 quality system certified. Our products meet and exceed strength requirements of all relevant national and international standards. Call for the name of your nearest arborist supplier.

(1) Engine Distributors Inc.
332 South 17th Street
Camden, NJ 08105-1798
Toll Free: 800-220-2700
Phone: 609-365-8631
Fax: 609-338-0606
E-Mail: ENGINE@ Jersey.NET
Contact: Anthony DeMarco
See our ad in the 4-Color Pictorial Buyer’s Guide

(S) Environmental Consultants, Inc.
301 Lakeside Drive
Southampton, PA 18966-4527
Phone: 215-322-4040
Fax: 215-322-9404
E-Mail: 103-135.107@compuserve.com
Contacts: Dennis E. Loewinski, Philip Charlton, Keith Forry, Tom Williams
FMC manufactures Astro and Talstar insecticides for use on trees, ornamentals and lawns. Call your chemical supplier for details or call 1-800-321-1FMC for your nearest FMC sales representative.

(F) FMC Corporation - APG Specialty Products
1037 Watervliet Shaker Road, Ste. 13
Albany, NY 12205
Toll Free: 800-528-8873
Phone: 518-869-2439
Fax: 518-869-4957
Contact: Arden Bull
FMC manufactures Astro and Talstar insecticides and Talstar Flowable Insecticide-Miticide. Both are safe on foliage, have virtually no odor, and come with "Caution" labels.

(Affiliated Location)
1735 Market Street, Philadelphia, PA 19103
Toll-Free: 800-321-1FMC [321-1362]
Phone: 518-869-2439
Fax: 215-299-6100
Contact: Arden Bull
FMC manufactures Astro and Talstar insecticides for use on trees, ornamentals and lawns. Call your chemical supplier for details or call 1-800-321-1FMC for your nearest FMC sales representative.
**Fanno Saw Works**
224 West 8th Avenue; P.O. Box 628
Chico, CA 95927-0628
Phone: 530-895-1762
Fax: 530-895-0302
Web: http://www.fannosaw.com

Manufacturer of folding saws, curved-blade tree saws, pole saws & special purpose saws. Also, supplier of pole pruners with wood or fiberglass poles. Fanno International, supplier of Tri-Edge pruning saws with durability in mind.

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**First Sierra Financial, Inc.**
3901 Roswell Road, NE, Ste. 200
Marietta, GA 30062
Toll Free: 800-443-8301
Phone: 770-971-6213, x 223
Fax: 800-343-0392 [Toll Free]
E-Mail: eileengresens@firstsierra.com
Web #1: http://www.firstsierra.com
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Contact: Eileen Gresens

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E-Mail: foleyeng@aol.com
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**Forestry Suppliers, Inc.**
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Jackson, MS 39293-8397
Toll Free: 800-647-5368
Phone: 601-354-3565
Fax: 800-543-4203 [Toll Free]
E-Mail: fsi@forestry-suppliers.com
Web: http://www.forestry-suppliers.com
Contact: Jerry Pelly, VP Sales

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**Forrest Lytle & Sons, Inc.**
740 West Galbraith Road
Cincinnati, OH 45231
Phone: 513-521-1464
Fax: 513-521-0779
Contact: Peggy L. Lytle

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**Gowan Company**
P.O. Box 5569
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Fax: 520-343-9255

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Fax: 920-756-2407
E-Mail: info@gravely.com
Web: http://www.gravely.com
Contact: Mike Wall
Manufactures a complete line of disc
type chippers from 6-foot to 14-foot
capacity. Also, complete line of com-
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Green Garde Div.,
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Fax: 312-644-7989
E-Mail: gshort@hdhudson.com
Web: http://www.hdhudson.com
Contacts: Gene Short, Paula Marshall

Green Manufacturing Inc.
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New Boston, MI 48164
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Fax: 313-753-5226
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Web: http://www.greenmanufacturing.com
Contact: Kevin J. Green

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Fax: 215-646-0151
E-Mail: ira.pierce@cenet.org
Web: http://www.cerf.org/greenoil
Contact: Ira Pierce

GreenPro Services
380 South Franklin Street
Hempstead, NY 11550
Regional - East
Toll Free #1: 800-645-6464
Fax #1: 516-538-2042
Phone: 516-538-6444
Regional - West
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Fax #2: 435-286-2229
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Fax: 418-565-3833
E-Mail #1: gyrotrac@gyrotrac.com
E-Mail #2: bert@netc.net
Web: http://www.gyrotrac.com
Contacts: Eric Berthelot, Daniel Gaudreault
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Phone #2: 219-267-7666
Fax #1: 291-269-1047
Fax #2: 219-269-3628
E-Mail: dlee@compuserve.com
Web: http://www.treefeeder.com
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Fax: 704-541-1266
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Contact: Charles Breitbart

(D) Hollie Wood Enterprises
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Norton, MA 02766
Phone: 508-222-9350
Fax: 508-222-5254
Contact: Steve Zumalt

(D) Holt Company of OH
5252 Walcutt Court
PO Box 28525
Columbus, OH 43228
Phone: 614-878-2287
Fax: 614-851-5015
Contact: Dwight Dana

(M) Husqvarna Forest & Garden Co.
9006-J Perimeter Woods Drive
Charlotte, NC 28216
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Fax: 704-599-4302
Web: http://www.husqvarna.com
Contact: Barbara Paez
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Fax: 219-534-3719
E-Mail: ipc@netbahn.net
Web: http://www.netbahn.net/ipc
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Phone: 207-854-4990
Contact: Joey Bello

Innovative Garden Supply, Inc.
9 Vineyard Court
Tivoli, NY 12583
Phone: 914-756-3210
Fax: 914-452-2434
Contact: Keith Tomkins

(S) International Society of Arboriculture
1400 West Anthony Drive; PO Box 3129
Champaign, IL 61826-3129
Toll Free: 1-888-ISA-TREE [472-8733]
Phone: 217-355-9411
Fax: 217-355-9516
E-Mail: isa@isa-arbor.com
Web: http://www.ag.uici.edu/isa
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Contacts: Sam Cohoon, Jon Cleland, Ted Perry, Steve Scott

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Fax: 818-444-7414
E-Mail: mauget@mauget.com
Web: http://www.mauget.com
Contacts: Dale Dodds, Nate Dodds
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Toll Free: 880-728-2749
Phone: 302-929-1070
Contact: Tom Wanner, Bill McCrae
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MIRK
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Orrville, OH 44667
Phone: 330-669-2000
Fax: 330-669-3732
Contacts: Richard Thut, Dick Williston

Mobile Data Collection Corporation
1511 Ensign, Side B; PO Box 486
Normal, IL 61761
Toll Free: 800-669-2000
Phone: 330-669-3732
E-Mail: todd@servicetracker.com
Web: http://www.servicetracker.com
Contact: Todd Reinhart

Mobile Tool International Inc./Holman
5600 West 88th Avenue
Denver, CO 80230-9986
Toll Free: 800-521-5351
Phone #1: 303-657-2590
Phone #2: 303-657-2557
Fax #1: 303-657-2505
Fax #2: 303-657-2545
Web: http://www.mobiletool.com
Contact: Bill Holberg
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Monterey Lawn & Garden Products, Inc.
3654 South Willow Avenue
PO Box 5317
Fresno, CA 93755-5317
Phone: 209-499-2100
Fax: 209-499-1015
Contact: W. T. Thomson

Moyer & Son, Inc.
113 East Reliance Road
Souderton, PA 18964-0198
Toll Free: 800-345-0419
Phone: 215-723-6000
Fax: 215-721-2800
Contact: Mark Phipps
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520 Eldora Lane
Lincoln, NE 68505-2447
Toll Free: 880-728-2749
Phone: 402-467-5926
Contact: John Fischbach

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520 Eldora Lane
Lincoln, NE 68505-2447
Toll Free: 880-728-2749
Phone: 402-467-5926
Contact: John Fischbach

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Denver, CO 80230-9986
Toll Free: 800-521-5351
Phone #1: 303-657-2590
Phone #2: 303-657-2557
Fax #1: 303-657-2505
Fax #2: 303-657-2545
Web: http://www.mobiletool.com
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Amherst, NH 03031-1094
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Phone: 603-673-3311
Fax: 603-672-2613
E-Mail: naa@natlarm.com
Web: http://www.natlarm.com
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Missoula, MT 59807-7723
Phone: 406-721-3263
Fax: 406-543-2295
E-Mail: natpath@naturalpath.com
Web: http://www.naturalpath.com
Contact: Mark Duntemann

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Bluffton, IN 46714
Toll Free: 800-252-0043
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Phone: 610-356-2672
Fax: 610-353-7200
Contact: Dean Diehl

North American Engine Company
3003 Thurston Avenue
Greensboro, NC 27406
Toll Free: 800-543-2289
Phone: 336-370-4776
Fax: 336-370-4993
E-Mail: naecompany@msn.com
Contact: J. L. Hamrick

Northcoast Capital Leasing
20220 Center Ridge Road
Rocky River, OH 44116
Toll Free: 800-366-4228
Phone: 440-925-3734
Fax: 440-925-4677
Contacts: Scott Kaase, George Ziegler, Chris Thies

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Portsmouth, NH 03802-4434
Toll Free: 800-841-2498
Phone: 603-436-4804
Fax: 603-436-1493
Contact: Jeffrey W. Ott

Northeastern Associates
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Fax: 973-227-0865
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Fax: 562-863-1296
E-Mail: npeco@aol.com
Contact: Scott Deeth

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Contact: Mark Shipp
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Bdg H-1; PO Box 1780
Airway Heights, WA 99001
Phone: 206-885-3110
Fax: 206-885-2307
http://www.omegapac.com
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(S) Omni Leasing
(A First Sierra Financial Company)
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Hatfield, PA 19440
Toll Free: 800-933-7101
Phone: 215-822-8200
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Phone: 215-721-4444
Fax: 215-721-4350
Contact: Robert Opdyke

(M) Oregon Cutting Systems/ Div. Blount, Inc.
4909 SE Int'l Way; PO Box 22127
Portland, OR 97269-2127
Toll Free: 800-547-7800
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Fax: 503-653-4201
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Fax: 717-656-0477
E-Mail: pacer@success.net

(M) Pacific Arborist Supplies (Canada) Ltd.
154 Riverside Drive
North Vancouver, BC
Canada, V7H 1T9
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Web: http://www.peavey/indexa.html
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(M) PELLENC AMERICA, Inc.
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446 US Highway 27 N
Lake Wales, FL 33853
Toll Free: 800-930-LOAD [930-5623]
Phone: 941-676-1493
Fax: 941-676-6844
Contacts: Paul Lussier, Don Rice, Bruce McGill

(D) Pitt Auto Electric Company
2900 Stayton Street
Pittsburgh, PA 15212
Toll-Free: 800-245-0711
Phone: 412-766-9112 x124
Fax #1: 800-551-5908
Fax #2 412-766-3229
E-Mail: info@pittauto.com
Web: http://www.pittauto.com
Contact: Dale Clifford


(M) Plant Food Company, Inc.
38 Hightstown; Cranbury Station Road
Cranbury, NJ 08512
Toll Free: 800-562-1291
Phone: 609-448-0935
Fax: 609-443-8038
E-Mail: pfc@plantfoodco.com
Web: http://www.plantfoodco.com
Contact: Ted Platz

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Toll Free: 800-421-9051
Phone: 412-826-5488
Fax: 412-826-5445
E-Mail: www@planhealthcare.com
Web: http://www.planhealthcare.com
Contact: Holly Cyphers

PHC, Inc. is a microbial biotechnology company specializing in the development of mycorrhizal fungi and beneficial bacteria products. Sold under the MycorTree, Biopak and Compete brand names.

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(D) Plantoil, Ltd.
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Phone: 011 440181 748 9898
Fax: 011 44 0181 7484250

(M) Plastic Composites Corporation
8301 North Clinton Park Drive
Fort Wayne, IN 46825
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Phone: 219-484-3139
Fax: 219-483-2532
Contact: Craig Keoun

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Toll-Free Number: 800-282-7673
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Fax: 706-764-1531
E-Mail: info@pmi-petzl.com
Web: http://www.pmi-petzl.com

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(M) PoulanPRO
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Fax: 318-683-3787
Contact: Fred A. Danielson

(S) Practical Solutions, Inc.
PO Box 128
Worthington, OH 43085-0128
Phone: 614-436-9066
Fax: 614-888-5315
Contact: A. Maris Franke

(M) Preformed Line Products
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Fax: 440-442-8816
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(S) Pro Staffing
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Fax: 808-523-3435
Contact: Joan C. Kitchen

(D) Professional Tree Surgeons Supplies Inc.
580 west Hoffman Avenue
Lindenhurst, NY 11757
Toll Free: 800-TREE-203 [873-3203]
Phone: 516-957-0301
Fax: 516-957-6109
Contact: Al Lane

(S) Rapid Drug Testing Services
97300 Overseas Highway, Ste. 2
Key Largo, FL 33037
Toll Free: 888-797-6800
Phone: 305-852-3007
Fax: 305-853-5374
E-Mail: pocrunner@aol.com
Web: http://www.rapiddrug.com
Contact: Peter O’Connell
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(M) Rayco Manufacturing, Inc.
4255 Lincoln Way East
Wooster, OH 44691-9954
Toll Free: 800-392-2686 [US & Canada]
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Fax: 330-264-3697
E-Mail: rayco@raycomfg.com
Web: http://www.raycomfg.com
Contact: Jake Stout
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(M) Rear’s Manufacturing Company
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Toll Free #2: 880-547-8925
Fax: 913-294-3971
Web: ELLIOTTA@WORLDNET.ATT.NET
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(M) Reemay Corporation / Bio Barrier
70 Old Hickory Boulevard
Old Hickory, TN 37138
Toll Free: 800-284-2780
Phone: 615-847-7132
Fax: 615-847-7068
Web: http://www.reemay.com
Contact: Bill Hawkins

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868 Passaic Avenue
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Fax: 973-575-4919
Contact: Robert Wittpenn
Full line of insecticides, fungicides, and fertilizers for tree and shrub care.

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(M) Roots, Inc.
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Phone: 816-254-6000
Fax: 816-254-1408
Manufacturers of: 1-2-3™, ROOTS2™, ironROOTS™, Agrilplex Micro Mix, Noburn™, Lawnplex, Fe8 Chelated Iron, Soluplex, DryROOTS™
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(S) Royal Horticultural Society
Wisely Gardens, Woking
Surrey, England GU23 6 QB

(D) Royal Truck & Equipment Inc.
6910 Rte. 309
Coopersburg, PA 18036
Cooper Free: 800-283-4090 [outside PA]
Phone: 610-282-4090
Fax: 610-282-8986
Web: http://www.RoyalTruckEquip.com
Contact: Steve Haman
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(S) RSR Capital Corporation/AGM Ltd.
425 Broadhollow Road; Ste. 210
Melville, NY 11747
Cooper Free: 800-394-7771 x215
Phone: 516-249-2345 x215
Fax: 516-249-2472
Contact: Judy Gohlesen
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(S) Safety Test & Equipment Company
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(M) Salsco, Inc.
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Phone: 203-271-1682
Fax: 203-271-2596
Contact: Sal Rizzo

(M) Sandvik Saws and Tools, Inc.
PO Box 2036
Scranton, PA 18501-2036
Toll Free: 800-828-9893
Phone: 717-341-9500
Fax: 800-877-5687
E-Mail: lori.nguyen@sandvik.com
Web #1: http://www.sandvik.com
Web #2: http://www.thomasregister.com/sandviksaws
Contact: Lori Nguyen
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(D) SelfHEAL, Inc./Oral Ivy
104 Guy’s Lane
Bloomsburg, PA 17815
Toll Free: 800-553-6778
Phone: 717-389-1814
Fax: 717-389-0126
Contact: Bob Miller

(M) Service Communications Software
7400 Industrial Parkway
Plain City, OH 43064
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Fax: 614-873-4168
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Fax: 508-699-6570
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Web: http://www.wtsherrill.com
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Fax: 301-582-3639
Contact: Don Blair

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Big Rapids, MI 49307
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Fax: 757-727-9295
E-Mail: southeast@ezdial.com
Contact: Dave Richards

**Southeastern Equipment Company**
4180 Highway 20
Buford, GA 30518
Toll Free: 800-487-7089
Phone: 770-271-8286
Fax: 770-271-4496
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PO Box 481
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Fax: 219-638-4116
Contact: Michael Brock

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Toll Free #1: 800-786-6433
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Fax #1: 877-469-4295
Fax #2: 800-786-6384 [Toll Free]
E-Mail: 4MYHAWK@SUNRISECONCEPTS.COM
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*Sunrise Concepts’ attention to detail concerning safety and operation, and in providing the best customer support, makes the HAWK your best choice in stump grinders. The HAWK’s innovative design is the result of research, imagination, ingenuity and 30 years of experience. For more information on the HAWK and Sunrise Concepts’ FREE PARTS program, call toll free: 877-4MY-HAWK [469-4295].*

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Barnstead, Surrey
England UK SM7 3EY
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Fax: 011 44 1737 353382
E-Mail: N.R.B@btinternet.com
Contact: Nick Beardmore
(D) Takagi Tools, Inc.
337-A Figueroa Street
Wilmington, CA 90744
Toll Free: 800-777-5538
Phone: 310-513-1113
Fax: 310-513-2199
Contact: Tish Nakayama

(D) Tamarack Clearing Inc.
PO Box 370
Canton, NY 13617
Toll Free: 800-858-0437
Phone: 315-386-8273
Fax: 315-386-8331
Used and reconditioned aerial lifts, brush chippers, forestry dumps, log loaders, stump grinders, chipper power units, used parts. Call 1-800-858-0437.

(M) Tanaka
22461 72nd Avenue South
Building #3
Kent, WA 98032
Phone: 253-395-3900 x 205
Fax: 253-395-4245
E-Mail #1: support@tanaka-ism.com
E-Mail # 2: tanamerica@aol.com
Web: http://www.tanakapowerequipment.com
Contact: Mark Woodling
Tanaka offers a wide variety of outdoor power equipment, including chain saws, pole saws, attachments, grass trimmers/brushcutters, hedge trimmers, edgers, blowers, drills, augers, pumps, parts and accessories.

(M) Teco, Inc.
9733 Indianapolis Road
Fort Wayne, IN 46809
Toll Free: 800-860-5438 [Outside IN]
Phone: 219-747-1631
Fax: 219-747-6732
E-Mail: teco@tecointl.com
Web: http://www.tecointl.com

Affiliated Locations
Eastern Division
1600 Chestnut Tree Road
Honeybrook, PA 19344
Toll Free: 800-860-0186
Phone: 610-942-2500
Fax: 610-942-9195
Contact: Scott Verzinski

Southeastern Division
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Toll Free: 800-860-0185
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Contact: Eric Stippler
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(M) Timberwolf Manufacturing Corp.
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Toll Free: 800-340-4386
Phone: 802-775-4227
Fax: 802-773-1275
E-Mail: twolf@sover.net
Web: http://www.timberwolfcorp.com
Contact: Allan Doaner
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(S) Tree Climbers International
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Phone: 407-377-3150
Contact: Peter Jenkins

(D) Tree Line Supply Company
1747 Copley Road
Akron, OH 44320
Toll-Free: 888-873-3546
Phone: 330-864-0342
Fax: 330-864-0771
E-Mail: tlms@turftree.com
Web: http://www.turftree.com
Contact Jon V. Garner

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Tree Tech Microinjection Systems  
Williston Airport Industrial Park  
Williston, FL 32696  
Toll Free: 800-622-2831  
Phone: 352-528-5335  
Fax: 352-528-0777  
E-Mail: reetek@aol.com  
Web: http://members.aol.com/reetek/index.html  
Contact: Dr. Roger Webb  
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(D) Tree Tools  
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Phone: 503-635-0063  
Fax: 503-635-0084  
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Easton, MD 21601  
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Phone: 410-822-5596  
Fax: 401-820-4797  
Contact: Celia West  

(M) TRIMS Software International, Inc.  
3110 North 19th Avenue; Suite 190  
Phoenix, AZ 85015  
Toll Free #1: 800-608-7467  
Toll Free #2: 800-608-7467  
Phone: 602-277-0067  
Fax: 602-277-8029  
E-Mail: info@trims.com  
Web: http://www.trims.com  
Contact: Mara Weber  
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(V) Valley Processors Inc.  
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Fax: 413-253-0339  
E-Mail: vallpro@vallpro.com  
Web: http://www.vallpro.com  
Since 1984, the source for firewood processors. Faster by design. Valley builds your processor for you. Only Valley offers the new, faster, easier to use, TOP ROLL feed system. (Patent Pending)

(M) Valley Processors Inc.  
330 Harkness Road  
Amherst, MA 01002  
Phone: 413-253-4867  
Fax: 413-253-0339  
E-Mail: vallpro@vallpro.com  
Web: http://www.vallpro.com  
Since 1984, the source for firewood processors. Faster by design. Valley builds your processor for you. Only Valley offers the new, faster, easier to use, TOP ROLL feed system. (Patent Pending)

(M) Vermeer Manufacturing Company  
New Sharon Road; PO Box 200  
Pella, IA 50219  
Toll Free: 888-837-6337  
Phone: 515-628-3141  
Fax: 515-621-7734  
Web: http://www.vermeer.com  
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(M) VERSALIFT, TIME Manufacturing Co.  
7601 Imperial Drive; PO Box 20368  
Waco, TX 76702  
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Fax: 254-666-4544  
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(D) Vespro, Inc.  
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Fax: 415-459-4038  
E-Mail: rootstop@aol.com  
Web: http://www.marinmarket.com/Vespro  
Contacts: Michael Miller, George McCord  
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(M) Wall Safety Products/Div. Wall Industries  
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Phone: 704-785-8484  
Fax: 704-785-8486  
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Phone: 330-674-7548  
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Contact: Dick Kiefer  
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(M) Wellington Leisure Products
PO Box 244
Madison, GA 30650
Toll Free: 800-228-6680
Phone: 706-342-1916
Fax: 706-342-4656
Contact: Mark Walters

(D) WesSpur, Inc.
2111 Lincoln Street
Bellingham, WA 98225
Toll-Free: 800-845-1213
Phone: 360-734-5242
Fax: 360-733-6311
Contact: Mike Kaufman

(M) West Coast Shoe Company/WESCO
52828 NW Shoe Factory Road; PO Box 607
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: http://westcoastshoe.com
Contact: Roberta Shoemaker
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Toll Free: 800-94-ARBOR [942-7267]
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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.
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Phone: 913-843-1633
Fax: 800-843-3281 [Toll Free]
E-Mail: westheffer@idir.net
Web: http://www.westheffer.com
See our ad in the 4-Color Pictorial Buyers Guide

(M) Willman's Earth Restoration Co.
The Troubled Soils Company, Inc.
75 Daggett Square
New Haven, CT 06519
Toll Free: 800-770-5010
Phone: 203-782-5944
Fax: 203-782-1616
E-Mail: treacyfa@ix.netcom.com
Web: http://www.willmanearthdoctor.com
Contact: Ed Willman, Joe Martin

(M) Wis-Con Total Power Corporation
3409 Democrat Road
Memphis, TN 38118-1160
Toll Free: 800-932-2858
Phone: 901-365-3600
Fax: 901-365-4050
Web: http://www.totalpower.com
Contact: Fred Vollbach

(M) Wood-Mizer Products, Inc.
8180 West 10th Street
Indianapolis, IN 46214
Toll Free: 800-553-0182
Phone: 317-271-1542
Fax: 317-273-7024
E-Mail: woodmizer@woodmizer.com
Web: http://woodmizer.com
Contact: Dave Mann

(M) Wood/Chuck Chipper Corporation
PO Drawer 400
Shelby, NC 28151
Toll Free: 800-269-5188
Phone: 704-482-4356
Fax: 704-482-7349
E-Mail: woodmizer@shelby.net
Web: http://www.woodchuckchipper.com
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(M) Woodsman Chippers
PO Box 159
Ithaca, MI 48847
Phone: 517-875-8585
Fax: 517-875-8622
Web: http://www.woodsmanchip.com
Contact: Bob Engler

(M) Zenith Cutter Company
5200 Zenith Parkway
PO Box 2252
Rockford, IL 61131-0252
Toll Free: 800-223-5202
Phone: 815-282-5200
Fax: 815-282-5232
Web: http://www.zenithcutter.com
Contact: Bob Jennings
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