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If you buy a used aerial lift, there are several critical items that should be checked. Page 4.

Arborists are turning to biopesticides in the battle against pests. Page 10.

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COVER PHOTO:
Why a truck on the cover? The tree care industry has a fleet of over 100,000 trucks. Tree companies are really in the transportation business. After all, if they can't get to the work, they can't do it.
Get out of the cave. Be where the hockey puck is going to be and where you’ll spend at least 400% of your time. Make sense? Absolutely!

As keynote speaker, Dr. Alex Shigo delivered an outstanding message at the Annual Meeting of the National Arborist Association in February. He spoke of how many of us are confined by our existence, living in a cave surrounded by shadows, and the initial but brief pain of leaving the cave to seek new horizons. He referenced a hockey star who attributed his success to knowing where the hockey puck was going to be—not where it is. He also spoke about successful people being able to do more than one thing at a time.

A cassette tape of Shigo’s talk is available from the National Arborist Association. Call 1-800-733-2622 for details. This is not a sales pitch. The tape doesn’t even come from NAA. This tape may be the best advice you get all year.

Al Shigo isn’t the only one talking about preparing for the future. Last fall economist Peter Drucker wrote about the need to be where you see the future. Tomorrow is for those with vision, who can anticipate future needs and have the courage to position themselves for it.

How does that relate to the tree care industry? There will be much greater focus on the environment. Now is the time to position yourself as an environmentalist.

Your market will be different. Those who may have the disposable income to care for their trees need to be educated now. That effort needs to be a function of your trade associations, but they need your support and participation.

The labor pool is also changing. The workforce is decreasing as language barriers increase. Perhaps the most important concern is that fewer people will be aware of careers in arboriculture unless you help spread the word. With your support, your trade associations can do the job.

Get out of the cave. Look around. Think about where that hockey puck is going to be. What will your marketplace be in five years and what do you have to do to be in its forefront? What will you do for field personnel in five years? What will you do now so that you will be in business then?

Don’t say you are too busy to think about it. That’s like saying you don’t have time to implement a safety program. Be at least a 300 percenter. Think while you’re doing and talk while you’re thinking. Don’t wait and don’t look back. If you do, business is going to pass you by. If you don’t believe me, listen to the Al Shigo tape.
Natural Enemies.

The traditional way to stop caterpillars from feeding on shrubs and trees has been chemicals. Now there's Foray®... a natural bioinsecticide that's safe to humans, as well as fish, mammals, birds, beneficial insects, and other non-targeted organisms. But also very effective at killing foliage-feeding caterpillars such as gypsy moths, loopers, leafrollers, webworms, bagworms, cankerworms, tent caterpillars and others.

Foray B.t. (Bacillus thuringiensis) does not contaminate groundwater. And it is biodegradable, too. No oils. No solvents. Foray is a safe and sound alternative to chemicals for both aquatic and terrestrial environments. More and more arborists are making enemies of caterpillars and friends of the environment by using Foray... naturally.

For more information on Foray, just call our toll-free number below.
If you are considering buying or leasing a new aerial lift, you might be interested in TECO’s Vanguard V5LO. With over-center actuation and end-hung bucket, the unit offers 57 feet of working height and 44 feet of side reach, reducing setup time and allowing the operator to position easily in difficult areas.

The articulation of the upper boom is 210 degrees, and the lower boom is 138 degrees. Rectangular-shaped booms guard against excessive flex and provide more strength. TECO’s patented easy-to-operate one-handle platform control delivers a smooth, easy ride. The V5LO is designed for low maintenance and features a low-pressure hydraulic system for less wear of components. Installing hydraulic tools is easier with one-quarter-turn shut-off valves and automatic pressure bleed. Tool outlets are on the back of the platform, eliminating interference with the work area.

TECO has manufactured aerial lift equipment for more than 18 years and has produced more than 50 models. Corporate offices are in Fort Wayne, Indiana. Sales and service facilities are located in Fort Wayne; Birmingham, Alabama; and Philadelphia, Pennsylvania. TECO products are sold through factory sales representatives and dealers nationwide. For more information contact Jeanette Dammeier at 219-747-1631.

Holan, meanwhile, has recently introduced two 829 series, heavy-duty service lifts for the electric utility and arborist industries.

The Model 829-50 is ideal for tree trimming, with its 55-foot working height and overcenter side reach of more than 41 feet. Lower boom articulation of 130 degrees provides 40 feet of non-overcenter side reach, as well as ground-level basket entry in either the non-overcenter or the over-center positions.

The Model 829-45 is a versatile service unit with more than 38 feet of non-overcenter side reach and with all the advantages of an overcenter articulating lift. The 829-45 is ideal for both electrical and utility service applications and urban tree trimming.

For additional information, contact your local Holan distributor or Holan sales at 303-427-3700.
...Or You Can Buy Used

Shopping for a used bucket truck involves more than kicking the tires. Many factors affect the safety and productivity of an aerial lift.

Still, a potential buyer can and should evaluate several items to determine if a unit is worth a closer inspection from an expert. Our list was compiled with the help of Craig Sterling of Opdyke Truck & Equipment Sales in Hatfield, Pennsylvania, who recently presented some of this information in a workshop for members of ISA's Penn/Del Chapter.

Sterling cautions against operating lifts from the bucket unless the lift's owner can produce a current certification for the unit. He warns that the boom should be tested within the safety standards established by the manufacturer. Probably the major consideration is not overloading the boom.

Here are items you can check yourself before calling on an expert:

1. Look for cuts, gouges or damage to

   Be sure to replace old bucket liners. Holes in a bucket can serve as points of entry for electrical currents.

2. When inspecting a used vehicle, check for excessive play in the pedestal bearings.

3. Check the condition of the rams.

   TREE CARE INDUSTRY - MARCH 1993
the upper boom and lower boom insert. They are fiberglass and prone to damage.

2. Check for excessive play in the pedestal bearings by elevating the boom using the lower controls. With the outriggers down and booms completely vertical, move the lower boom in a short arc. The base of the mast should not rock noticeably.

3. Check for excessive play in pins and bushings throughout the upper and lower boom and outrigger assembly.

4. Check for excessively weathered, blistered, kinked and burned hoses by removing the inspection covers. Burned hoses usually indicate a boom that will not pass a dielectric test and is unsafe to use. Be sure that hydraulic hose in the upper boom and lower boom above the isolator is the non-conductive type. Hose should be marked as non-conductive. Hose with a metal-braid core is unacceptable.

5. Check condition of the rams on hydraulic cylinders for leaks, nicks and abrasions.

6. Check hydraulic control valve banks for leaks and smooth action. Look for puddles of hydraulic oil on or around the truck.

7. Check that leveling covers and inspection covers are in place to prevent wildlife nests, twigs, and foreign matter from entering and jamming the leveling and drive system.

8. Make sure there are no holes in the bucket. Even places that have been patched can serve as points of entry for electrical current. As a precaution, experts recommend replacing older bucket liners.

---

Remove inspection covers to examine hoses.

---

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Arbortech Quality

When quality work is your trademark, you need a quality image. Arbortech builds chip trucks that give your company a professional look and are equipped with all the performance features you need. Galvanneal steel body resists rust for years of service and good looks; big tool boxes organize your tools and carry them to the job site where you need them — adding to your efficiency; and convenient roof top ladder rack with heavy duty rubber coated rollers simplifies ladder storage and retrieval.

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Put a streamlined Arbortech body on Ford's 14,500 GVW Superduty and you have a big 12 yard load space at a small truck price. Superduty features the powerful 460 V-8 or economical 7.3 liter diesel engine. Standard equipment includes dual tanks, power steering, power brakes with rear antilock; and heavy duty front axle; with 5 speed O.D. manual or automatic O.D. transmission available.

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Order your new 14,500 GVW units today from the industry's largest chassis pool — or spec an Arbortech body to your own Ford Superduty. With 24 hour turnaround installation and leasing options available, we make it easier than ever to own a quality Arbortech chip body. Whether you are looking for your first new truck or an economical addition to your fleet, Arbortech chip body fits your image — quality, efficiency, performance.

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The last resort to root control is losing the tree. As tree roots begin to spread into unwanted areas, you'd like to avoid trimming the roots or, worse yet, having to destroy the tree altogether.

And that's why there's Biobarrier®, the root control system that stops roots and controls their route. Biobarrier is a fabric that has controlled-release nodules containing trifluralin, a non-systemic active ingredient with a successful track record spanning over 30 years. Plus, Biobarrier is made with Typar®, a rugged polypropylene geotextile that allows air and water to flow through while holding the nodules in place.

Biobarrier's guarantee is as impressive as its performance. When used in a vertical application around tree roots and stumps, Biobarrier will provide effective root control for over 15 years. Plus, its flexibility allows it to be cut, shaped or formed to virtually any configuration your site requires.

So when you're choosing a root control system, there's no reason to get stumped. Just choose Biobarrier. It's something your trees can definitely live with. For more information on Biobarrier, call 1-800-25-ROOTS.
The need for planning

I enjoy reading TCI, but the letter Mr. Causton wrote (January 1993) was a travesty of professionalism and sovereignty. His use of the word travesty was also completely wrong. He should speak only for himself, as I am.

His groping for money and free services would be better spent at the environmental extremist groups rather than TCI and ISA. I take offense when compelled to be ally to someone who puts the “rights” of a tree (a tree has no rights) before the rights of a man who legally built an office building.

I also make my living maintaining the urban forest, but I must put people before trees. I know my word is not the last word, but I’ve spent time learning before I drop words.

I think I would spend less time trying to save this one tree and more time extolling the virtues of healthy trees and forests—this by education, professionalism and planning for the future.

Now, it may be wise to cut the tree down before it falls and does some damage or hurts someone.

If there had been a law against construction of an office building within twenty feet of the second-largest madrona tree in the state of Washington, I guarantee you the office building wouldn’t be there today.

Steve Kershner, tree inspector
City of Cleveland

Letters should be addressed to:
Tree Care Industry, Editor
P.O. Box 1094
Amherst, NH 03031
Manufacturers are producing pesticides from natural sources that are highly effective, cost-effective and less toxic to humans, the environment and most beneficial insects. Because of the positive effects of these biopesticides, rapid growth in their development and use is expected to continue.

The IPM specialist or Plant Health Care professional should be familiar with some significant characteristics of biopesticides.

The most common type of biopesticide involves the naturally occurring bacterium *Bacillus thuringiensis* var. *kurstaki* or *B.t.k.*

A bacterium is a primitive form of plant, such as ferns and mushrooms. *Bacillus thuringiensis* forms spores which enable it to survive in an adverse environment. During spore formation, *Bacillus thuringiensis* also produces a unique crystalline protein that is only toxic to certain insects. This natural substance is called delta-endotoxin.

Field collection studies show that *Bacillus thuringiensis* spores have been the natural cause of death for insect caterpillars for many years. *Bacillus thuringiensis*, originally found in diseased insects, was later proven to grow outside a susceptible insect host, on a completely artificial diet. Today, we are able to produce the spores and toxic protein crystals in large quantities by deep tank fermentation.

*B.t.* products were identified as early as 1915, but weren’t widely used commercially until the mid-1960s. Initially, *B.t.* insecticides were used in this country primarily on vegetables to control lepidopteran insect larvae. Today *B.t.* products are used on more than 250 crops and in forests across North America.

For *B.t.* products to be effective, they must be applied when larvae are young and actively feeding (this also minimizes damage to trees) and after egg hatch is completed. For treating gypsy moth, single high-dosage applications are more effective than several applications at lower dosage, provided there has not been an extended egg hatch period resulting in significant numbers of later-hatching larvae or under extremely heavy population pressure.

**Product selection**

There are nearly a dozen *B.t.k.*-based biopesticides on the market. While these products have similar active ingredients, their differences can be of major importance, depending on the situation.

*B.t.k.* products have traditionally been labeled at the LD50 level—defined as lethal dose of 50% of pest population—as a measure of potency of the biopesticide. A study presented at the 1988 National Gypsy Moth Review, however, stressed the importance of considering potency and slope of such products for controlling gypsy moth.

Slope determines how much additional active ingredient must be added to the LD50 dose to achieve higher levels of larval mortality (LD95). It once was thought that slope was not an important factor—that changes in dose would result in proportionate changes in larval mortality. But government research on gypsy moth confirmed that there are significant differences in slopes of various experimental and commercial products. That is, increases in dose of some *B.t.k.* products can provide dramatically high larval mortality.

When the goal is a high larval mortality, such as when faced with high-level popu-
Each year gypsy moths defoliate hundreds of thousands of acres of trees. In residential areas. Big cities. Small towns. National parks. And state parks. But the trees can be saved.

Spray programs that include Dimilin® insect growth regulator have been highly effective in controlling tree-damaging gypsy moth larvae.

What's more, Dimilin is a target specific material. Beneficial insects such as predators and bees aren't affected by the spray. And it's kind to the environment, too.

This year use Dimilin in your gypsy moth control program. And save the trees.
lations, it is critical to select a B.t.k. with a high slope. This means that the slope becomes an important consideration, along with cost, availability, ease of handling and rain-fastness.

**Dilution**

One of the keys to effective use of B.t.k. biopesticides is to apply highly concentrated droplets. This is best achieved by using the product either undiluted or diluted at low ratios.

The undiluted application is popular for several reasons. First, lower volumes need to be applied per unit area, providing greater spraying productivity while lowering labor and equipment costs. Second, no mixing is required, reducing labor and reducing the chance for spills. Third, droplets are more concentrated, and so more toxic to target pests. There is less evaporation, better ultra-violet light resistance and improved rain-fastness.

The dose rate depends on the degree of pest control desired, as well as several other factors. In undiluted applications, the dose rate can be more closely controlled.

For example, gypsy moth spray programs may have four broad objectives: providing foliage protection; reducing larval density; reducing egg mass density for the following year; and eradicating population in isolated infestations.

Government and private researchers continue to experiment with the various strains of B.t to produce optimum results.

**Microbial insecticides**

Foray 48B is a biological insecticide containing the spores and unique crystalline proteins produced by Bacillus thurin-

giensis. Biopesticides such as Foray are attractive because they target certain pests while most chemical pesticides kill a wide range of insects, including many natural parasites and predators of target insects.

Foray is composed of naturally occurring bacteria, which can be found most everywhere in the soil. The active ingredient of Foray is only toxic to lepidopteran caterpillars, which include many destructive insects.

Foray is a biological stomach poison, which means the spores and crystals must be eaten by the target insect before it can work. This mode of action is different from that of chemical pesticides, which only need to come in contact with the insect.

When Foray is eaten by leaf-eating lepidopteran larvae, the crystal dissolves rapidly and paralyzes the gut wall. As a result, the caterpillar stops feeding. The insect eventually dies after the spores invade the tissues and multiply in the blood.

Foray protects against several pests, including spruce budworm, bagworm, tent caterpillar, Douglas fir tussock moth, gypsy moth, webworm, cankerworm and hemlock looper.

A number of safety tests are required as part of the registration process with the Environmental Protection Agency (EPA). Based on the results of this testing, the EPA has decided that Foray can be safely used under label conditions.
Four Important Questions Every Employer Should Ask...

1. How can my tree workers operate safely around the electrical hazards they face each day? Proper training enables tree workers to operate safely.

2. Where can my tree workers get proper training? Through the National Arborist Association's 1992 edition of "The Electrical Hazards Awareness Program—EHAP"

3. What is EHAP? A program for both line clearance tree workers and residential/commercial tree workers which trains them to identify and work safely with energized conductors.

Available both in English and Spanish, the program includes a 4 lesson Home Study Program and two video cassettes complete with an instructor's guide and tests.

Your tree workers will learn:
- Safety requirements for Pruning, Maintaining and Removing Trees: ANSI-Z133 proximate to electric conductors.
- The relationship between electrical hazards and trees.
- Safe tree care practices around all electrical conductors.
- Aerial rescue techniques.
- Compliance with OSHA regulations.

Upon completion, participants will receive:
- NAA Certificate of Completion
- A hard hat decal
- EHAP completion card valid for one year.

Annual updates of EHAP training available for only $20.

4. How can I order the "Electrical Hazards Awareness Program"? By filling out the order form on page 41 or calling The National Arborist Association Hotline at: 1-800-733-2622.

Avoid costly, preventable accidents... invest in EHAP—protect yourself and your employees.
Foray is most effective when applied undiluted or at low-dilution rates. Foray should be applied to dry foliage, and spraying should be avoided if rain is likely within 24-48 hours. It is most effective against target pests when they are in their early stages of larval development and are actively feeding.

Microbial biotoxins

Other manufacturers, such as Mycogen Corporation, also have turned to biotechnology to produce new biological pesticides. Currently there are only two genetically engineered insecticides federally registered for use on shade and ornamental trees and both are Mycogen products: M-Trak bioinsecticide for control of elm leaf and imported willow leaf beetles and elm calligrapha; and MVP bioinsecticide for control of tent caterpillars, bag worms, cutworms, armyworms and other worm pests. The foundation for both products began with B.t. technology.

B.t. insecticides are effective pesticides because of their protein-based biotoxins. Unfortunately, the toxins are fragile, can break down rapidly after application and then are no longer available for ingestion by the pest.

To address the fragility of the crystals and the lack of persistence (residual) of B.t. insecticides, Mycogen used biotechnology to develop the CellCap encapsulation system. The CellCap process used in M-Trak and MVP encapsulates and protects the highly fragile protein crystals. When sprayed on trees for the control of beetles or worms, M-Trak and MVP can remain active five to seven days longer than non-encapsulated B.t.s.

Ultimately, Mycogen hopes to commercialize bioencapsulated versions of a wide variety of protein crystals to control many different pest groups.

Historically most commercial B.t. products only controlled lepidopteran worm pests, but that is changing. Today’s products contain newly discovered B.t. strains that control widely varying pest groups, including beetles, flies and mosquitoes, ant and nematodes, says Craig Laursen, specialty market manager at Mycogen. B.t. products also have become more consistent in control and cost-effectiveness due to recent developments in fermentation technology.
If you are already using a SATURN aerial lift, then you are experiencing the reliability, maneuverability and easy operation that we knew you would expect when our engineers designed it. But we believe that building and designing a good product is just half the job... the rest is quality service. Whether it's helping you make a prudent purchasing decision, getting your equipment delivered to you on time, following up and putting your unit into service, or helping you maintain the machines you use day after day... TECO is always there for you.

Choosing a reliable partner for your business is the best assurance for a solid future. So if you aren't using a SATURN in your neck of the woods... branch out by giving us a call. TECO Sales and Service Centers and Dealers are located nationwide to assist you.

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Please circle 47 on the Reader Service Card
Fatty acid-based insecticides
Fatty acid-based insecticides were discovered in the early 1900s and then forgotten with the advent of synthetic chemical products. Later these useful and versatile materials were revived by Safer, Inc., and even later through acquisition by Mycogen.

"Fatty acid-based insecticides have been around for more than 50 years," says Laursen. "They work very well in controlling pests on contact, such as aphids, mites and adelgids, but they have little or no residue when the spray dries. That slowed their acceptance when chemical pesticides with long residual control arrived on the scene.

"However, the benefits of these products have become more widely recognized today," Laursen says. "They are low in acute toxicity to non-target organisms, have few application restrictions and little effect on the environment. While it was not considered a major benefit a few years ago, their lack of residual control means less impact on beneficial insect populations."

Mycogen's fatty acid-based insecticide, M-Pede insecticide, is used to control mites, aphids, scale, adelgids, whiteflies and assorted lepidopterus pests. The formulation of M-Pede benefits from the technologies available today. It is produced with strict quality standards and formulated to provide maximum effectiveness and plant safety. M-Pede can be used as a stand-alone product in areas where environmental and health impacts must be kept at a minimum. But Laursen says M-Pede is increasingly used in a tank mix as a fast knock-down material in combination with other pesticides that provide residual control.

"M-Pede enhances the activity of certain tank mix partners," Laursen says. "In fact, patents have been issued (or patent applications are pending) to Mycogen (and Safer, Inc.) that disclose enhanced and/or synergistic effects when M-Pede is combined with several insecticides and miticides."

As a result, Laursen says M-Pede in a tank mix allows arborists the flexibility to more often use the lowest labeled rates of both M-Pede and its tank mix partners without reducing efficacy. In many cases, efficacy is improved over the application at the high rate of the conventional pesticide alone and the total cost of application can be less. Adding the fatty acid-based insecticide also introduces a different mode of action into the tank mix, an important consideration in resistance management programs.

Foray 48B is a trademark of Novo Nordisk A/S. For further information, contact Novo Nordisk Plant Protection Division, 33 Turner Road, Danbury, CT 06810-5101. Phone: 800-283-3386.

CellCap, M-Trak and MVP are registered trademarks of Mycogen Corporation. For more information, contact Felicia Gillham, Gillham & Associates, 1112 First Street, Suite 207, Coronado, CA 92118. Phone: 619-435-8880.
The VO-50 SAVES ON COSTLY SET-UP TIME!

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Federal Funds Available

Construction Projects In Your Area Could Lead To Contracts

By Brian Barnard

The landmark Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) provides a window of opportunity for the aggressive arborist.

ISTEA includes a large category entitled the Surface Transportation Program (STP), that is slated to receive $24 billion over six years. At least 10%, nearly $3 billion of the fund, is set aside for landscaping and scenic beautification projects along public roadways, bridges, bicycle paths and pedestrian walkways. Funding for such projects is slated to continue until fiscal 1997.

ISTEA emphasizes the relationship between the nation’s transportation system and the environment. States receiving ISTEA funds must prepare 5-year and 20-year transportation plans.

ISTEA allows state and local governments to choose where the STP funds will be used. That means that if a state currently has a sound transportation system, more than 10% of the enhancement funds could be used for transportation enhancement activities.

“ISTEA offers an excellent opportunity for the green industry,” says Joel Albizo, director of Public Relations for the American Association of Nurserymen.

Getting in the mainstream

To get into the ISTEA mainstream, make yourself known to public officials.

“Contact municipal planning agencies to find out what projects are in the works,” says Albizo.

Albizo also suggests that green industry professionals persuade community managers to get transportation projects underway and to include landscaping as part of the enhancement process.

As ISTEA does not specifically include funds for plant maintenance, funds cannot be used for post-construction projects such as routine tree pruning. However, ISTEA does not distinguish between post-construction finish work and enhancement. So think long term.

ISTEA requires public involvement in developing the 5- and 20-year management plans. By communicating with public officials and educating key people about the importance of large tree preservation, you can increase the likelihood of applying enhancement funds to landscape work. This is one way the arborist can become part of the decision-making process.

Look for public announcements for projects that may require tree care services. Local trade magazines, radio announcements or the newspaper publicize construction or maintenance projects. Some may include ISTEA resources.

For example, say you notice in the newspaper a public announcement proposing the construction of a new bridge in your district using ISTEA funds. The notice gives dates and times of public hearings on the project. Excited about the prospect, you attend the meetings. You address the group, pointing out that properly completing the project requires that 10% of ISTEA funds must be used for enhancement activities such as landscaping.

The state Department of Transportation does not have the staff to undertake the bridge construction project so officials refer to their list of bridge construction consultants. Usually the low-bid firm will receive the contract. By making a couple of telephone calls you can find out what company received the contract and will be building the new bridge.

Because you attended the public meetings, you know that the bridge construction firm must perform—or have a professional perform—tree work in order to fulfill the state’s contract. Make yourself known to the bridge construction firm. A couple of phone calls and/or a personal visit could land you a sub-contract for all tree work for the bridge project.

Key points

While this scenario seems rather simple, it brings several key points into focus. First, pay attention to proposed transportation construction projects. If they include ISTEA funds, you should be involved. To do this, make yourself visible! ISTEA funds are available for a wide variety of transportation projects from carpool and billboard removal projects to bicycle and pedestrian path installation.

Second, communicate with your state DOT, municipal planning agencies, roadway construction and maintenance firms, local historic societies, trail maintenance groups, or any organization that may be a direct recipient of ISTEA funds. When the “enhancement” portion of the ISTEA funds surfaces, they will remember your company.

Third, be aggressive in your search. The Federal Highway Administration is working to meet the challenge issued by President Bush to “enhance lives by contributing to a healthier and more attractive environment.” Take advantage of the ISTEA funds that are available to your company.

Transportation programs receiving federal aid have always been required to consider social, economic and environmental effects. ISTEA reinforces these provisions. The FHWA has stated that with ISTEA, the Administration “is committed to demonstrating that improved transportation can go hand-in-hand with an improved environment.” The professional arborist can play a valuable role in fulfilling these goals.
"Why did we join the National Arborist Association?"

"To learn to run my business better!"
Randy Owen, R.J. Owen Tree Service, Lum, Michigan

"One of the many reasons is NAA's Safety Programs."
Mark Tobin, President, Greymont Tree Specialists, Inc., Needham, MA

"For the wealth of information that NAA provides!"

"Because of all the benefits that I couldn't buy for 10 times the dues."
Paul Wolfe II, Integrated Plant Care, Rockville, MD

"To get their cost-effective training programs."
Bill Kucharski, Trees Are Us Professional Tree Service, Milford, NH

"To learn from other industry professionals."
Tom Golon, Wonderland Tree Care, Inc., Oyster Bay, NY

"To make my company more efficient."
Chuck Edmondson, President, Alfred's Superior Tree Service, Wichita, Kansas

There are many other benefits of membership that are also invaluable; the ability to network with other members, the free management guidelines and all of the other training programs that are available at substantial discounts to NAA members. In addition there are insurance programs, the annual management conference, marketing support and the NAA staff. You can call the NAA HOTLINE (1-800-733-2622) and ask any question about the tree care industry that you want. If the staff doesn't have the answer, they know where to find it for you.

If your firm is not an NAA member, why not JOIN TODAY—and start enjoying all of the benefits of membership.

SPECIAL OFFER: Join now for the NEW introductory dues of $150. Your annual dues in 1994 will be based on your firm's gross sales for 1993.

☐ YES, I want to belong to NAA and take advantage of this "Special Offer!"
Enclosed is my payment of $150 for dues through 1993.
☐ I'm interested. Send me more information.
☐ Send me information on your training programs.

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State __________ Zip ______ Phone ____________________

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Account # ____________________ Exp. Date __________

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Communication & Profits

By Laddie F. Hutar

As a company grows, one area that often becomes a bottleneck for future continued improved growth (CIG) is communications. Other areas of management such as sales, finances, profits, production, etc., can be quantified, identified and given visibility. These areas then are generally in the forefront of management thinking. Because communication is difficult to quantify, however, proper growth and development often are not taking place in that area.

The following is an approach to giving visibility and to quantifying the dynamics of communications as the number of persons involved increases.

In the small company where only two people are involved, there is direct conversation and discussion during the day and possibly for a few minutes at the end of the day. Communication is verbal, direct and quite frequent. Verbal communication is quick, easy, and through the use of tone and inflection, quite descriptive. There are only two possible lines of communication—from A to B and from B to A.

If a third member is added to the key management team, the number on the team increases by 50%. In this situation the following lines of communication are possible: A to B, B to A, B to C, C to B, C to A, and A to C. Now there are six possible lines of communication, an increase of 300%. With a situation like this, direct communication becomes more difficult; it is possible for a statement to be interpreted in several ways.

For example, if A conveyed information to B early in the morning when both were fresh and relaxed, A’s statement would be clear and concise and B would understand what was said. Suppose that a little later A conveyed this same information to C, but A and C were also discussing a difficult shipping problem. A’s tone may be more harried and he may omit several key words. His message then is not exactly the same as that conveyed to B earlier in the day. Also, since C was preoccupied with the shipping problem, he may not have heard all of the statements that A made. Thus, his understanding of the message may not be the same as B’s.

If there were four people on the team, then D would have to be contacted. Let’s say that A remembered in the afternoon that he had not told D. He makes a call to D to convey the message to him. Since D cannot see him, D cannot get the visual expression that A used along with his verbal statement to B and C. Also, at the time that D receives the call he has several salespeople in his office. He must shift his thinking from what he was discussing with the salesperson to concentration on what A is telling him. Since he is distracted by the presence of the salespeople, he is not registering the full meaning of the message that is being relayed.

Later in the week confusion and misunderstanding result, but each feels that he followed what was conveyed. That’s because each really got a different degree of understanding of the statement. This statement could be a policy statement, instructions for some type of actions, or information relating to a shipment, pricing, purchase, sales, personnel, finance, etc.

Avoiding confusion

When communications increase from two to three people, there are six possible lines of communications; when a fourth person is added, this increases to 12; when a fifth person is added, this increases to 20. With this multiplication of possible lines of communication, verbal communication on a one-to-one basis is impossible.
To overcome confusion, misunderstanding and waste of time in communicating in the smaller company, the natural evolution when going from a two- to three-person key management team leads to the periodic meeting of all three people at one time to convey a message, statement or policy. When possible, this should be done in an atmosphere of few distractions such as machines running, people talking or phones ringing.

When a fourth person is added to the key management team, there are 12 possible lines of communication so communication methods again must be upgraded. If the information to be disseminated was done piecemeal on a one-to-one basis, A would have to repeat it three times. This would be inefficient, increase the possibility of the statement being distorted after the first time, and lead to a situation whereby A may forget to tell D. The best way to convey information then is by calling a group meeting and making the statement at that time. If the statement is long and complex, it is best to read it aloud and then distribute a written copy of it. This technique substantially increases retention and understanding.

When a fifth person is added to the key management team, it becomes mandatory that regular and periodic staff meetings be held to disseminate information. Also, at this point the communications system becomes more formal and written communications (notes, memos, reports, etc.) become part of daily operations.

This frequency of exchange of information plus the documentation avoid the "I said, you said...but I thought you said..." syndrome of misunderstanding. At this stage of company communication development, the group meeting of key management people is preplanned and an agenda should be drawn up, even if only mentally. With five people involved, each wasted minute becomes five wasted minutes.

**Staff meetings**

In many smaller companies, a group meeting of key management people (sometimes called a staff meeting) is held early in the week. This meeting generally involves a quick review of what has happened during the last several days and some of the things that should be happening in the next two to three days. The key to these meetings is that they be brief and that they be held regularly; generally the most successful ones run 10 to 30 minutes. Brief notes are kept by the leader on what was discussed, what is pending, what should be followed up, items previously brought up that have been taken care of successfully and what should be brought up at the next meeting and the reasons why.

If meetings are planned properly and each attendee understands the need for brevity and sticking to only important points, then the suggested time limit is more than adequate. If a certain point requires further clarification among several of the people, they should not take the time of the entire group to pursue and discuss that point. It is the group leader’s responsibility to cut off this diversionary discussion.

Another meeting of this type should be held at the end of the week. In addition to disseminating information, these meetings begin to mold the company’s key management people into a team. The dynamics of the group makes each person accountable to themselves and the others in the group. When a matter is brought up in
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front of others, each person becomes more aware of what they did or did not do. They want to avoid looking bad in front of the others so they are motivated to do a better job. Through this interaction, these meetings become a valuable tool for top management.

Scheduled and periodic key management meetings let each member know that they will be briefed on important company matters that pertain to them and that they will be held accountable for their actions and responsibilities. The members also will feel that they are being treated fairly and on an equal basis with the others when it comes to being “tuned in” as to what is going on in the company.

Team building

Out of necessity, there is a strong feeling of independence among the members of the key management team in the smaller company. Over the years they have grown with their jobs. As their responsibilities have expanded, they have done things on their own because there was no one else to do them. They have developed a high degree of identification with their job. In some cases, they identify more with their job than they do with the overall company and its goals, namely necessary bottom-line profitability.

As the company grows and the key management team gets bigger, communications and management problems become more complex. Top management, the top person (owner/president/general manager) must make a concentrated effort to convert these strong and effective individuals into a strong, hard-hitting, cohesive team. As this is done, a transition takes place and the team becomes the guiding force for the company. No longer do just one or two people carry the entire load. Each team member is interdependent on the others.

The role of the owner/president/general manager then becomes that of team captain. He is responsible for calling the shots, discussing plans, training team members, keeping on top of the performance of the members, evaluating results and making needed recommendations and changes. All the while he realizes that his focus must be on profitability, because without profits, the financial structure and future of the company and its employees is in jeopardy. His skills as a communicator grow... from one-to-one verbal communications, to group verbal communications, to written memos and reports, and then to a blending of all these forms of communication.

Growth then depends on top management’s efforts to give visibility to all forms of communication, and a top priority is to see that these various forms of communication are improved and applied.

Laddie F. Hutar, CMC, is a certified management consultant and contributing author. He is the founder of the Hutar Growth Management Institute, a specialized management consulting firm dedicated to helping smaller companies achieve programmed growth. He can be reached at 1701 E. Lake Ave., Ste. 270, Glenview, IL 60025. Phone: 708-724-1910.
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Traffic Control

Reducing The Risks Of Working Near Traffic

More than 800 people, including workers and motorists, were killed in road and utility work zones in 1990, according to the Federal Highway Administration. While there are many causes for these tragic accidents, some of the blame might lie on the failure to adequately warn motorists of hazards ahead.

Tree care companies can take advantage of special resources to help cut the risk of accidents when their crews must work near traffic. Still, four tree care employees were struck and killed by motor vehicles between July 1972 and September 1989, according to Occupational Safety and Health Administration records. More may have been injured.

Manuals and standards

Every state and many cities and counties have a traffic control manual establishing the criteria for the design and use of all types of traffic control devices: signals, signs, pavement markings, etc. These manuals are based on the Federal Highway Administration’s Manual on Uniform Traffic Control Devices for Streets and Highways, commonly referred to as the “M.U.T.C.D.” or “the Manual.”

Some states have adopted the federal manual as their standard for traffic control, while others have used it as a starting point and added specific requirements. The standards described in these manuals are generally recognized by engineers and the courts as minimum standards. Governmental agencies, utilities, and contractors must meet the minimum standards, and often are required to do more.

For instance, contractors are often required to adhere to an approved traffic control plan for projects that will take weeks or months to complete or will significantly alter traffic patterns. The contractors, of course, must also follow the requirements of the traffic control manual.

Part Six of the manual focuses on the special needs of temporary traffic control, either short or long term. Temporary traffic control maintains traffic through or around road maintenance or construction areas or emergency scenes. The American Traffic Safety Services Association in Fredericksburg, Virginia, publishes Part Six of the manual as a separate document, making it more convenient to use as a planning tool and at the work site.

Equipment

The equipment used in work zone traffic control for most tree care operations is simple. Most roadside tree work requires only a single advance warning sign or a series of signs to alert motorists, along with a sufficient number of orange traffic cones to delineate the safe travel path and to separate workers from traffic.

The Manual specifies that advance warning signs must be diamond-shaped orange, with a black message or legend and a black border. Motorists are conditioned to recognize orange as a signal that there may be something new up ahead. Warning signs used for tree care operations are usually 36 inches by 36 inches, although 48-inch signs are becoming more common. They must be mounted at least one foot above the pavement.

Warning signs should be placed between 300 and 500 feet in advance of the...
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work area, but characteristics of the road or work site may govern where signs are positioned. For example, the Manual may dictate that a particular sign be placed 300 feet in advance of the work site but a curve in the road may obscure the sign. In such cases, the sign should be placed in a nearby location where it would be more easily seen.

The development of lightweight ‘roll up’ signs and improvements in sign stands have made it easier for field crews to warn motorists and protect themselves. However, these lightweight materials don’t last forever and should be replaced as soon as they become worn or faded. A sign that looks as though it has been abandoned at the work site is likely to elicit little reaction from motorists and may be ignored altogether.

Traffic cones are the most common device for separating the work area from traffic. The Manual requires that cones be orange and at least 18 inches high for use on city streets; the cones must be at least 28 inches tall on higher speed roadways or wherever greater visibility is desired. The Manual also endorses the practice of inserting orange flags into cones for greater visibility.

If the work area is on the shoulder of the road, a short row of cones closing off the shoulder followed by a series of cones along the roadway and past the work crew is often sufficient. Cones should be close enough to each other to discourage motorists from attempting to slip between them.

The placement of cones becomes more serious when they are used to close one or more lanes of traffic. On a two-lane, two-way road, the taper of cones must be short, no more than 50-100 feet, with flaggers stationed at either end of the work zone to control traffic. The short taper in that case will appear abrupt to approaching drivers and encourage them to slow down. On multilane roads, tapers must be long enough to allow drivers to merge smooth-
ly from the closed lane. Formulas in the Manual take into account the speed limit and the width of the lane closure to help determine the appropriate taper length.

The distance between the cones in the taper should be equal in feet to the speed limit in miles per hour. For example, if the speed limit is 35 mph, the cones in the taper should be spaced no more than 35 feet apart and often should be less. Closer spacing makes the cones appear more formidable, but the continuity of the line is maintained even if one or two get knocked over. Once in the section of the actual lane closure, the distance between cones may be increased to twice that used in the taper, but never more than 100 feet.

Another essential piece of equipment is the orange safety vest. When you work near traffic, you want to be as visible as possible. The orange vest helps you stand out from your surroundings.

Last but not least, don’t overlook your work vehicle in traffic control. Flashing beacons, strobe lights and warning lights, not to mention the sheer size of the vehicle, make your work truck the most visible and effective piece of safety gear on the job. Simply parking your vehicle between the job and oncoming traffic reduces the risk of personal injury to you or your crew. When you can’t use it for protection, however, park your truck where it is not a hazard.

**Training is key**

Even with the direction of the Manual and suitable equipment, traffic control devices can fail if the workers who set it up are not adequately trained. Trained personnel are more likely to place traffic control devices correctly and will be an important factor in any lawsuit arising from a traffic accident in or near the work site.

A training program for traffic control should include a review of the standards in the Manual and the type of equipment used. Because tree care operations may require flaggers to regulate traffic, personnel assigned to this task must know proper techniques.

Perhaps the most important lesson in any traffic control training is the need to look at every project with a fresh eye. It’s often not enough to follow the Manual blindly; some traffic situations will require that you do more than the minimum. Put yourself in the place of the drivers who will pass through the area: Are you giving them enough warning and time to react? Do you show them where to go and where to stay away? Is your crew protected from drivers who miss or ignore the warnings you provide? The volume of traffic, traffic speed, road alignment, sight distance, time of day, weather conditions, and other factors can all affect how you plan to control traffic.

Knowing the requirements of the Manual, using approved and appropriate equipment, and training the people who are responsible for the work can reduce the risks of working near traffic. Meeting those conditions will help protect drivers and workers from accidents and may lend important legal support in court if there is an accident.

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Parts of this article were excerpted from “Traffic Control For A Safe Work Zone,” an article by Michael F. Shalley that appeared in the December 1991 Outside Plant magazine. Shalley is director of member services for ATSSA.

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Benefits Of Small Chips

(An article in the November issue of Tree Care Industry discussed the new Ecochip Chipper offered by Wood/Chuck and the benefits of producing a smaller wood chip. Bandit Industries provided us with additional information on how to get small chips from disc-style brush chippers. — Ed.)

Bandit Industries has been offering disc chippers for the past three years that produce chips one-third the size of chips produced with a standard 12-inch diameter capacity, hydraulic-feed, disc-style chipper.

Smaller chips break down more quickly and hold moisture better than the larger chips. The smaller, more consistent chips are desirable for compost, mulch and potting soil. Many chipper operators leave chips on site as mulch, eliminating the need to dispose of wood waste.

The popularity of small wood chips with nurseries and landscapers prompted Bandit to produce the Mighty Bandit, Mighty Bandit II and Model 90 with more knives set to make a smaller chip.

The smaller chips compact better than larger chips, so more material can be blown into the chip truck, reducing trips to the dump. The small chip reduces and often eliminates the need for regrinding to make acceptable mulch.

Bandit's first small-chip chippers were built to produce chips for animal bedding. Small-chip chippers produce fewer twigs and splinters, and the smaller chips are more absorbent. Bandit warns that small chips may not always work for animal bedding, however.

Bandit's standard Model 200+ with a two-pocket disc produces a 5/8-inch thick chip. If a 1/4-inch chip is desired, Bandit provides four knife pockets, each containing two knives, for the 12-inch diameter disc chippers. For a 3/8-inch chip, Bandit provides three knife pockets. Adding the extra pockets is necessary to obtain a productive feed speed.

Units with two-pocket discs can be retrofit to make smaller chips, according to Jerry Morey of Bandit. However, the age of the unit and other factors can affect whether the conversion would be economical. Morey urges that chipper owners discuss their options with a dealer or the manufacturer.

The drawback with the short-chip system is that knife changes take a bit longer. However, the increased value of the end product and the reduction in the number of trips to dump outweigh the increased knife maintenance costs.

Companies doing line maintenance that have bought four-knife pocket chippers are reporting greater chip acceptability and more chip weight per truck. According to the operators, the chippers seem to feed better with the additional knives.
Lauren Lanphear Is NAA’s New President

Members of the National Arborist Association installed Lauren Lanphear as the organization’s 57th president at the NAA annual convention in St. Petersburg, Florida.

Lanphea is president of Forest City Tree Protection Co., in South Euclid, Ohio. The company was founded in 1910 by Lanphea’s grandfather, and offers complete arboricultural services to commercial and residential clients in the Cleveland area. The firm has been a member of NAA since 1948.

Prior to becoming NAA’s president, Lanphear served as chair of the association’s Pesticide Committee and chair of the Business Development committee. He was president of the Ohio Chapter of the International Society of Arboriculture in 1986 and editor of the chapter’s newsletter from 1981 to 1991. He chairman Ohio Pesticide Applicators for Responsible Regulation from 1985 to 1987 and the Pesticide Public Policy Foundation in 1988. He has chaired the City of South Euclid Tree Commission since its inception last year.

One of Lanphee’s highest priorities for the association will be to strengthen the “family” aspects of NAA membership.

In his acceptance speech, Lanphear spoke of “the strong tradition of family” in the NAA.

“Our membership boasts numerous family-owned and operated firms, with many operating under the third- and fourth-generation of family leadership. When it really comes right down to it, every tree business is a family business, whether intended or not, because I know of no successful tree business that is a 9-to-5 job. And, therefore, whether a spouse or family members serve the business in an official capacity or not, all of them share in the ups and downs and long hours in one manner or another,” Lanphear said.

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TREE CARE INDUSTRY - MARCH 1993
First New England Trade Show Attracts 5400

New England Grows, the historic merger of the major New England green industry trade shows held in February in Boston, has been heralded as an overwhelming success. Attracting more than 5400 attendees, the 400-booth two-day show proved to be just what the New England horticultural industry had been waiting for.

New England Grows is sponsored by the Associated Landscape Contractors of Massachusetts, the Massachusetts Nurserymen’s Association, the New England Nurserymen’s Association and co-sponsored by 20 allied industry associations. The collaborative effort put forth by every facet of the industry was responsible for providing the tremendous attendee turnout and well-rounded educational program. This ability to provide “something for everyone in the green industry” will continue to be New England Grows’ focus.

It was standing room only for diverse educational seminars which featured such names as Dr. Alex Shigo, Dr. Carl Whitcomb and Dr. H. Marc Cathey. In gestures of hospitality, attendees were welcomed with an exhibitor-sponsored cocktail party on the trade show floor; the New England Nurserymen’s Association took on a “Welcome to Boston” theme and distributed coupons to local attractions; and the Associated Landscape Contractors of Massachusetts announced their new MCLP certification program.

In 1994 New England Grows is scheduled for January 27-29. Changes will include an expanded exhibit hall which will accommodate 650 booths as well as a three-day format. For more information contact Jennifer Barth at 617-431-1622.

ACRT Acquires Steve Clark & Associates

ACRT, Inc., environmental specialist of Kent, Ohio, is pleased to announce the recent acquisition of Steve Clark and Associates, Inc., of Brentwood, Tennessee; Laurel, Maryland; and Houston, Texas.

Steve Clark is the vice president of the new service line: Natural Resources Consulting. Steve Clark & Associates has 20 years experience in tree protection and preservation; preconstruction conservation; natural resources protection; assistance with environmental and regulatory development permits; and post-construction management plans.

Steve Clark and Associates can be reached at 800-8216-2278 or through ACRT.
Arboriculture Students Volunteer At Liberty Island

In May of 1991, TCI published an article on the importance of volunteering in the arbor industry. New plantings, preventive maintenance and safety prunings are important issues in the realm of volunteerism. This was demonstrated last November when 24 arboriculture students from the University of Massachusetts/Amherst headed to New York to work with the National Park Service.

The students volunteered their services to prune London plaintrees (Platanus acerifolia) around the Statue of Liberty. Many of these trees had deadwood directly over walkways and picnic tables which could have put tourists at risk. It was through the cooperative efforts of the university’s Stockbridge School of Agriculture, ATG (the university’s agriculture fraternity), the UMass Arbor Club and the National Park Service that this project took place. NAA Class II prunings were performed on 47 trees.

Bob Irish, a park management major at the university, organized the trip as he worked with the Park Service on Liberty Island for his internship during the summer of 1992.

This trip gave the students the opportunity to put away their company T-shirts and create a team ready to work for the good of the U.S. Park Service.

The students were allowed to tour the Statue of Liberty after closing, food needs were supplied for the day, and brush was removed by the Park Service.

The trip pointed out the need for professional arborists in the community, and the island was made safer with the removal of dangerous deadwood.

Most important, tourists will have a safer and more beautiful place to visit.

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TREE CARE INDUSTRY - MARCH 1993
The new Black Jack from Sierra Moreno combines effective back support with an approved Class II Fall Restraint Belt. The orthopedically correct 9-inch pad is wide enough to maintain contact with the spine in its natural curve. The non-stretch 4-1/2-inch waistbelt provides the correct amount of isometric resistance for the abdominal muscles. Drop-test certified, the Black Jack is available in several colors and fire-resistant fabric. For further information, contact Sierra Moreno Mercantile, P.O. Box 292, Big Pool, MD 21711. Phone: 800-262-0800.

Circle 61 on the Reader Service Card

The Eagle T-40, made by AmeriQuip, is a non-insulated truck-mounted articulated aerial lift with a 23-foot side reach and 40-foot working height. It features positive bucket leveling, 360-degree continuous rotation and outstanding portability. An electrically operated proportional control valve featuring joystick operation with neutral position interlock allows two-function operation and complete feathering capability. For further information, contact AmeriQuip, 1480 Arrow Hwy., La Verne, CA 91750. Phone: 800-824-9776.

Circle 62 on the Reader Service Card

Germgum and Satmucil are high-quality natural tackifiers designed for fiber mulch binding, hay and straw tacking and soil stabilization. They have the properties of fast tank dispersion and absorption and retention of moisture. When mixed with water, they become slurry and viscous. This blend of gelling, hardening and holding agents retains moisture and provides a stable micro-climate for seed germination. When sprayed over the soil surface, the moisture is released from the activated particles and they bind to seed, fertilizer or even surface soil. This helps hold revegetation and erosion control materials in place during germination and seedling growth. The main feature of Germgum and Satmucil is to act as an adhesive. It will form a protective blanket over seed and soil allowing the penetration of rain and gluing seed and straw to the soil surface, thus reducing erosion. For further information, contact Eastern Products, Inc., 1162 Sycamore Lane, Mahwah, NJ 07430. Phone: 201-934-5050.

Circle 63 on the Reader Service Card

You KAN-DU large or uprooted stumps

• Designed by tree men for tree men.
• Self propelled - Fast walk travel speed.
• Except for cutting wheel, all work done with hydraulics - including steering.
• Cuts over 30" above ground & 24" below ground.
• Excellent stability for going over curbs, steps, & sidehills.
• Powerful 24 H.P. engine.
• Will out perform all grinders on the market today in all around grinding.

Don't say you can't, say you KAN-DU!

DSR, Inc. • 512 S. Summit • Sioux Falls, SD 57104 • (800) 359-2235 • (605) 334-0775
Bandit Industries offers the Model 90 chipper with a wider frame, heavier axle and new power options—the 33-hp Perkins Model 103-15 and the 44-hp Perkins Model 104-19 diesel engines. The Model 90 is appealing to utility line maintenance contractors, private tree contractors, municipalities, governmental units, and rental houses. The Model 90, a 9-inch diameter capacity machine, weighs approximately 3000 pounds, depending on the engine option. The Model 90 is a heavy-duty, industrial chipper that quickly and economically reduces brush to chips. For further information, contact Bandit Industries, Inc., 6750 Millbrook Road, Remus, MI 49340. Phone: 517-561-2270. Circle 64 on the Reader Service Card.

The Environmental Protection Agency has registered Primo, a turfgrass growth management tool, for use on highly maintained commercial and residential turf. The product may be used on all major warm- and cool-season turf species. Primo temporarily inhibits turf plants' production of gibberellic acid, which determines cell elongation and internode length. At standard rates, Primo reduces turf growth by 50% for four weeks. Primo may be used as an edging material around ornamental beds, trees, curbs and other areas. It has no negative effects on non-target plants or trees. For further information, contact Ciba-Geigy, P.O. Box 18300, Greensboro, NC 27419. Phone: 800-395-8873. Circle 65 on the Reader Service Card.

With summer right around the corner, it's important to know that hot weather can increase the risk of dehydration and heat illness, especially for those who work outdoors. Drinking a scientifically formulated sports beverage such as Gatorade before you become thirsty can help avoid dehydration. Early signs of dehydration include light-headedness, fatigue and even nausea. Further dehydration can lead to serious heat illness, coma or even death. Gatorade replaces fluids and provides energy to keep you at your best. For further information, contact Gatorade, One East Wacker Drive, Suite 1500, Chicago, IL 60601. Circle 66 on the Reader Service Card.

EAGLE 44
Trailer Mounted Aerial Lift

* 44 Ft. Working Ht.
* 360° Continuous Rotation
* Optional 110 V. Outlet At Bucket
* Optional Hydraulic Tool Circuit at Bucket
* 25 Ft. Side Reach
* Automatic Bucket Leveling

Outstanding portability for your maintenance needs. Avoid the expense of owning and licensing a truck mounted lift. Keep your truck free for other work.

For Additional Information, Call 1(800)824-9776

Financing Available Call For Details

EAGLE LIFT 
AmeriQuip
1480 Arrow Hwy., La Verne CA 91750
(909) 392-2033 Fax (909) 392-4651

Please circle 6 on the Reader Service Card
HELP WANTED

We are a full service tree and landscape management corporation with nationwide opportunities. We are looking for arborists who want career opportunities in operations, sales or management. We supply extensive training programs so that you can achieve your career goals with us. If you want to join a fast growing, progressive team, send resume or write to: Arbor Care, 825 Mabury Road, San Jose, CA 95133. Attn: Peter Sortwell. A service line of Environmental Care, Inc.

We are a full service arboriculture firm with offices in the Midwest and the East Coast. With our continued expansion, we are seeking qualified arborists for production, plant health care and sales positions within our company. We consider safety, quality, production and communication to be the foundations of proper tree care. If you believe the same and wish to make arboriculture a career, we would like to hear from you. Send your resume with salary history to Carol Denski, c/o The Care of Trees, Inc., 2371 S. Foster Ave., Wheeling, IL 60090. Phone: 708-394-4220.

We’ve advertised twice and found two good men to add to our team, so here we go again. Fast growing full service quality tree care company looking for ambitious, highly motivated arborist. Must be experienced in all aspects of the tree care industry. Preferably have a degree in horticulture/arboriculture and be a personable type. Responsibilities will include sales and supervision of work force. Please send resume with work and sales history to Empire Tree Service, RR 1, Box 523, Pine Plains, NY 12567 and call 518-398-5210.

Earn what you are worth! Small southern NE tree service looking for aggressive sales oriented professional to coordinate and solicit work for large tree spade, develop municipal and commercial tree care and consulting accounts. Unlimited earning potential for motivated team player. Call Tom Burgess, Residential Foresters, 203-429-9972.


Independent quality tree care company looking for ambitious, highly motivated tree climber/certified arborist for year-round work. Must be experienced in all aspects of tree care with proven arboricultural experience. Strong working background in large removals, pruning and cabling. Pesticide license a plus. Must be personable and have a drive for customer satisfaction. Excellent benefit program. Incentives for educational courses. Send resume and salary requirements to Musser’s Tree Service, 3444 Roundtop Road, Elizabethtown, PA 17022. Phone: 717-533-4458.
Does your reach exceed your grasp?
Come grow with us. Plant Health Care firm, Long Island, New York, seeks responsible arborists for positions of Plant Health Care practitioner, climber. Experience in Plant Health Care techniques is preferable but we gladly train motivated individuals possessed of the desire to learn. Our practitioners care for the finest landscapes in the country using research-driven, scientifically correct plant management. We emphasize customer service, practice the highest safety standards, provide the best plant care, and offer the opportunity for professional growth in a friendly environment. If you are looking to challenge yourself and grow along with us, please send your resume and salary history to Wonderland Tree Care, Inc., 221 South St., Oyster Bay, NY 11771. Phone: 516-922-5348.

Tree care foreman/licensed applicator—Well established eastern Long Island tree care company looking for individual to assist supervisor in daily operations, sales and client contact. Applicant must possess skills in identification of plants, insects and diseases. This is a full-time working position. Please send resume to: Whitmore-Worsley, Attn: Jim Kiley, P.O. Box 10—Montauk Hwy., Amagansett, NY 11930.

We are a full service tree, shrub and lawn company. Looking for ambitious, highly motivated tree climber/certified arborist. Must be experienced in all aspects of tree care. Strong working background in tree removal, pruning & PHC. Pesticide license a plus. Good communication skills and management capabilities required. Send resume with salary history to Jack’s Lawn & Landscape, Inc., N8910 Oneida Road, Manasas, WI 54952.

FOR SALE
Vermeer tree spade (TS-44) on Dodge one-ton, $8500; John Bean 100K mistblower, 300-gallon (perfect condition) on GMC truck, $12,500; 50-foot Hi-Ranger on 1973 Ford C-750, emergency electric hydraulic pump, postinstallation, 110 V generator, 361, 5 + 2, utility body, super short wheel base, $17,500; 50-foot Asplundh on 1976 Ford F-600 chip dump, 361 (0 miles on rebuild), 5 + 2, $16,500. Phone: 203-429-9972.

1989 Brush Bandit, Model 90, used very little, excellent condition, $7500. Phone: 304-379-8612.

Phil-Worth Mfg.
936 South Main St., Findlay, OH 45840
419/424-5793 • Fax 419/424-3484

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E-Z RINSE CAN RINSER
Reduce Pesticide Container Residues
• Rinse metal or plastic containers.
• Use at plant or in the field.
• Container residues go directly into spray tank.
• Rinse Containers in Seconds.

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Andy’s Truck Center Inc.
In West Palm Beach, Florida Since 1967
DELIVERY AVAILABLE
Tel: (407) 965-6666 • Fax: (407) 965-6844

1981 Chevy C-70 4x4 w/5F-48 PFI Hi-Ranger double insulated unit, clean.

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FOR SALE
(3) 1984-86 Ford-GMC 7000 w/52' Hi-Ranger’s chip dumps, posy motors, clean units. Cost: $25,500-$33,000.

(6) 1984 to 86 Ford & Chevy w/52’ Hi-Ranger chip dumps. Ready to go. Some with 4x4, from $27,500

One TECO (Vanguard 50) 55’ working height on a flat bed, rear axle mount, extra clean.

Several Ford & Chevy with chips dump.
L-shaped and large dump from $6,950

International Ford & Chevy, Knuckle boom crane, all 4x4, automatic, some air brakes.
1988 L-8000 Ford tandem w/240 hp Ford diesel 16 front, 44 rears, set back front axle. Allison automatic trans., mounted w/Big John A90 tree spade in excellent condition. $75,000 or B.O. Phone: 407-968-1045.

Skyworker—Largest new parts inventory, used equipment inventory, major service facility in U.S. Phone: 404-376-3192. FAX: 404-376-1150.

Hardware and software, by an arborist for the arborist. For more information about

the industry's best-selling package, call or write Arbor Computer Systems, 117 West
on Road, Westport, CT 06880. Phone: 203-226-4335.

Aerial bucket trucks. Hi-Ranger, As-plundh, Skyworker—most major brands—
40' to 95'. Also, brush chippers, stump grinders, tree spades, log loaders and
Rayco stump cutters. Parts for aerial buck-
ets. Allied Utility Equipment, Inc., W. 204
North 11509 Goldendale Road, German-
town, WI 53022. Phone: 414-255-6161.

Brush chippers! Largest inventory of

new and used in New England. Brush
Bandits, Morbarks, Vermeers. Phone:
603-536-2433. Hawkensen Enterprises,
Plymouth, NH.

Brush chippers, stump grinders, shred-
ders, mulchers, log splitters, new, used
and reconditioned, small, med. and large
capacities. Financing available. Cal-Line
Equipment Co., Livermore, CA. Phone:
510-443-6432.

Michigan Knife, M.K. 40 chipper blade
grinder, good condition, extra wheels.
Phone: 914-736-3356.

Plastic Composites Corporation
has produced more fiberglass
booms and buckets than ANY
other company. We have been
the primary original equipment
manufacturer of Hi-Ranger* glass
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decades. Now we are in a position
where we can deal directly with
the rebuilding and user industry
for replacement parts and repairs
to fit the Hi Ranger* and other
aerial lifts.

When you buy from PCC, you get
OEM quality at the best price
available.

Please call to discuss your needs
for glass or liners to fit Hi-Ranger*
and other aerial lifts. We have the
product, the price and the service
team to meet your needs.
Two 1000-gal, stainless steel Meyer & FMC sprayers, Wisconsin engs, 1984/85 F-700 trucks, low miles, excellent condition, $16,000 ea. Contact Greg Lester, 513-922-3270.


FOR RENT
Large tree spade (TS-60) with experienced arborist/operator. Any place in New England or eastern NY. Capable of moving 6'-7" trees in minutes. Develop a new profit center without any capital expenditure. Call Residential Foresters for details. 203-429-9972.

Classified ad rates: $45 per inch (1-inch minimum), payable in advance, due the 20th of the month two months prior to publication. Send ad and payment to: Tree Care Industry P.O. Box 1094 Amherst, NH 03031-1094

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Chlorosis tree medicine, 100% effective in oaks, many deciduous trees. 10-minute application. Guaranteed for iron chlorosis. Sample, $29/qt treats 16 trees. Postpaid. Information and instructions free. Pin Oak Tree Specialist, 7310 North 39th Terrace, Omaha, NE 68112. Phone: 402-455-9384.

1992 Vermeer 44M on 1985 Ford 600, $22,000; 1992 44-4 pod trailer on 2 pods, new, $12,000; 1987 80 Big John pod trailer, $13,500; 1987 65 Big John on 1970 Mack, $27,500; 1992 65 Big John, new on 1987 Volvo, $22,000; 1992 80 Big John, new, $14,200; 1990 80 Big John, reconditioned, $30,000; 1990 90 Big John, reconditioned, $35,000; Vermeer stump cutters, $5500 to $11,000. Phone: 612-455-1020.


Protective eyewear at discount. Spotlight Industries offers a special discount on their protective eyewear to the green industry. Meets ANSI standards, several tints, made in USA. Can be worn right over regular glasses. Call 800-345-5243 for discount details.
**Hoffco**

The BEST IDEA in Outdoor Power Equipment you've ever had... Hoffco since 1949.

**PH980**

(One-Man)

POST HOLE DRILL

Gas Powered

Easily started, carried and operated by ONE MAN.

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**Complete Portable. Fast cutting and powerful even in the hardest soil conditions!**

**An ideal tool for all your drilling applications!**

**Easy to control and lightweight. Standard earth augers and Pengo heavy-duty augers are available to do heavy-duty jobs!**

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Safety & Comfort

By Steven F. Pregler

One of the biggest concerns in our industry is that of safety. To an employer, a good safety track record means lower insurance rates and a sense of pride shared by the entire company.

On a more personal level, each one of us as individuals not only wants to avoid serious personal injury but would like to work from day to day in relative comfort with respect to the safety equipment we must wear and the conditions we work under.

This line of work is physically demanding. Almost daily, we feel muscles we never knew we had before. We receive scrapes, scratches and, from time to time, bumps and bruises to various parts of our body.

Our eyes become irritated from sweat and being rubbed with dirty fingers contaminated with gas and oil. We contend with pesky aphids, leaf hoppers, mosquitos, hornets and poison ivy.

We endure the hottest days of summer, the bitter cold days of winter and all the other adversities Mother Nature has to offer. Partial dehydration, sunburn, heat stroke and frostbite sometimes get the best of us.

How often have you had a pounding headache by noon, or cut your finger in one of those locations where you can’t get a bandage to stick?

For me safety and personal comfort go hand in hand. Over the years I have experimented with personal safety equipment and different kinds of tools I thought would make my job a little easier, especially on me.

I would like to share several of them that have worked especially well for me.

The first is safety glasses. I never liked to wear them. I was forever pushing them back up on my nose or they were constantly steaming up on me. At the time we used the less expensive plastic frame, wrap-around style. I’ve tried many different kinds but one style impressed me over all the rest. They were the metal-framed aviator-style glasses. They fit comfortably and stayed in place. The thinner metal frames allowed better air movement so they don’t steam up half as much as the other styles I’ve tried.

Have you ever noticed that your back, and other muscles for that matter, just don’t perform as they did five years ago without leaving you tired and sore at the end of the day?

In recent months through safety catalogs and magazine articles I was introduced to a new word, "ergonomics." I thought herein lies the answer to these problems. What a difference a support belt can make! I purchased a lower lumbar back support belt and wear it whenever the work gets heavy. I now go home far less fatigued at the end of a hard day.

How many times have you cut your finger handling chipper knives or slipped and cut a knuckle while filing a chain saw chain that has hardened in spots? I wear cut-resistant mesh fish filleting gloves every time I pick up a file or have to handle the chipper knives. Boy, do they work great!

Remember, the signature of a caring arborist is no signatures at all!

Steven F. Pregler is city forester in Dubuque, Iowa.

Do you have a story for From the Field? TCI will pay $100 for published articles. Submissions become the property of TCI and are subject to editing for grammar, style and length. Entries must include the name of a company and a contact person or they will not be considered for publication. Articles and photos must be received by the first day of the month for the following month’s issue.
I don’t think a week goes by that we don’t get a call from a tree company, asking for advice about some problem. It might be about an old tree with a large split in need of a rod or rods and possibly a cable or two. Sometimes the question is about a rope. Most of the calls are about tree removals, and of course we are glad to help in any way we can.

Not long ago, I took a phone call from a company in Florida. The fellow wanted our advice on his ropes - his crews kept breaking one rope after another. As we talked, I asked what type of rope he was using. He said, “We use a 9/16-inch coated double braid.” That got my attention. This man had gone the extra mile. He had upgraded his rope to get the best performance and greatest strength for weight. I asked if his crews used blocks often. He said, “Yes, of course we do.” By the tone of his voice, I could tell that he ran a first-rate operation. It was obvious he was doing everything possible to complete his jobs safely and give his people the best equipment.

I must confess I was a little stumped. Before you say anything, yes, I thought about the sling. As a matter of fact, that was the second thought that crossed my mind. He was using the correct sling for the job at hand. If he had been using too small or the wrong type of sling, it would have been the first link in the chain to break.

The sling was a 3/4-inch coated static polyester double braid. It was the right choice for the application. Keep in mind when you use a block as a false crotch, the mechanical advantage of the pulley creates two-to-one load factor on the sling. That means the sling needs to be twice as strong as the rest of your rigging setup.

By now I couldn’t think about anything but this person’s problem with broken ropes. So I asked, “You’re not burning the ropes up taking wraps around the trunk, are you?” He replied belligerently, “No, of course not. I use a descender on small wood and the Bollard on large wood.” This gave me confidence in how he approached his work. He knew what he was doing and had already been through all these problems a hundred times in his mind. That’s why he was calling me. Something was wrong and he just couldn’t put his finger on the cause of the problem.

At this point I was just as lost as he was. I said, “I’m sorry I don’t have any answer off the top of my head. Give me a day or two.” I would keep it in mind and see if I could figure it out.

Three or four days went by. All at once I realized that I may have overlooked the weak link in this case. I called him up and asked what type of block he was using. He said a 5/8-inch rescue block. I asked him to send me the block.

In three days, the block showed up. First, I checked if the edges of the block had worn sharp, but they had not. Now I was really stumped.

I decided to attack the problem differently. I took the block into the field. I attached a sling to the block and put it to use. It worked satisfactorily in the top of the tree. However, as I worked my way down to the larger wood, I noticed a squeak coming from the block. At once, the wheel stopped moving. I knew what the problem was. I detached the block, dropped the trunk and went back to the shop.

Naturally, I immediately took the block apart. In this case, the block had ball bearings. Much to my surprise, I found that the block had picked up sand. This destroyed the bearings and caused the block to freeze up. With the wheel unable to move, the effect of shock load was increased greatly.

In my opinion, a bushing wears a lot better than bearings. That may be because a bushing has fewer moving parts to wear out. A lowering block should have a bushing so sand cannot create a problem with the block.

The point is that you need to understand your work environment so you can match it to the right tool. Whether buying a block or another piece of gear, consider how you work and where you work. Ask your supplier as many questions as you feel you must. Don’t be pressured into buying the wrong tool for your needs and working conditions. Remember, it’s up to you to make the choice.
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