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• EndoMycorrhiza (VAM) seven species
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  Glomus intraradices
  Glomus clarum
  Glomus monosporus
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  Glomus brasiliense
  Gigaspora margarita
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This 16 ounce bag contains 1,000,000,000 dry spores of Pisolithus tinctorius and 100,000,000 spores of four species of Rhizopogon (cold resistant EctoMycorrhiza), plus seven species of EndoMycorrhiza (VAM), and the ROOTS® biostimulant in soluble form.

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With Four Species of Rhizopogon, Cold-Tolerant EctoMycorrhiza
(Also contains Pisolithus tinctorius and seven species of VAM)
"It was the best of times. It was the worst of times."

I remember reading that unforgettable opening in high school and thinking, “Why can’t that Dickens guy make up his mind?”

Is this the best of times in the tree care industry or the worst of times? Is all of America riding as high as the stock market or is the country headed in the wrong direction?

According to David Whitman, author of *The Optimism Gap*, polls show that personal optimism is at record highs, but national optimism is near record lows. Most people rate their own prospects and condition quite well as they think the country is sinking lower and lower. This pessimism, or alarmism, masks a much sunnier reality. Nationwide, crime is down. So is teen pregnancy, drug use, cases of cancer, air and water pollution and accidental deaths. At the same time, personal income and life expectancy are at all-time highs.

If statistically things seem to be improving, why does a negative cloud hang over so many people? If you were to spend your days listening to talk radio or local newscasts (or my father), you might come to believe America is headed straight downhill. In Boston, one local network affiliate has gotten particularly bad in promoting its evening news: “The air you breathe, the car you drive, the food you eat, the chair you sit on ... will kill you! Details at 6!”

The undeniable facts that the air is cleaner, cars safer and food healthier seems to matter not at all. This gap between reality and perception is evident in the tree care industry. Not everything is rosy, of course, either nationally or within the world of arboriculture, and individual circumstances will always vary. Nevertheless, the broader picture provides better insight into the profession as a whole. Though the tree care industry has only sporadic surveys on its financial size and health, clues can be drawn from trends in spending on equipment, attendance at trade shows and regional meetings, donations to tree care trusts and foundations, consumer surveys, membership in green industry organizations, participation in committees and turnout at volunteer events.

Only you can judge your own personal and financial circumstances, but industry-wide trends are undeniably positive.

What do the measurable improvements in our nation’s health tell us? Action and good ideas can make a difference with problems that were once thought beyond solution. Closer to home, we should take the same approach with arboriculture. Instead of throwing up our hands and saying, “Tree care is hazardous, there will always be accidents” or, “We will never be able to attract qualified employees,” realize it’s never too late to improve our circumstances. We do not have to accept the industry as it is; rather, we can work to affect positive changes. Don’t let the pessimists discourage you from working to better our profession or our society.

Mark Garvin
Editor
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FEBRUARY

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On the Cover

A300 Levels the Playing Field

Cover courtesy of Tim Johnson
Squeezing Through The Back Gate, Or Slicing Through The Back Nine. A Great Place For Vermeer.

When you need more power and less width for your stump-cutting applications, go with the right equipment — go with Vermeer.

Designed for tree and small land-clearing contractors, the SC505 performs. Whether you’re facing an open field or a tight backyard, the SC505 has the power, features and maneuverability to succeed.

A powerful gear-driven cutter wheel, a towless self-propelled design, turf-friendly rubber tracks and a 35” (89 cm) width (in retracted mode) combine to offer a tough and versatile stump-cutting machine.

The Vermeer SC505 — an innovation in efficiency and productivity.

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A powerful gear-driven cutter wheel, a towless self-propelled design, turf-friendly rubber tracks and a 35” (89 cm) width (in retracted mode) combine to offer a tough and versatile stump-cutting machine.

The Vermeer SC505 — an innovation in efficiency and productivity.

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By Lucian Dean
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Stalking Asian Long-Horned Beetle
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New Tree Fertilization Standards

By Tim A. Johnson

The Tree Fertilization Standards clause of the ANSI A300 for Tree Care Operations—Tree, Shrub and Other Woody Plant Maintenance—Standard Practices was completed, approved, and published in December 1998. It will be available from the NAA, ISA, or ANSI.

The Fertilization clause is another silver bullet to be placed next to the Pruning clause in your arsenal for promoting professionalism and producing high-quality Tree Health Management Services.

Are you familiar with the pruning clause of A300? If so, are you using them? How?

The arborists who are using A300 standards as intended, continue to improve their job specifications, job orders, production, and communication, which equals customer satisfaction, tree health and, ultimately, profits.

The A300 standards are performance standards only—a measuring criteria, a point of departure—and supersede any other tree care standards previously developed.

Note: The ISA’s pruning guidelines are performance guidelines (How To’s) only and should not be confused with the A300 performance standards. They are complimentary to each other, yet A300 is the primary document. A300 was created as a guide for drafting tree care specifications. It should be adapted in whole and in specified parts. In other words, just saying “prune or fertilize the trees to A300 standards” is not a complete or clear specification. One should say, “all fertilization (or pruning) shall be performed in compliance with A300 standards (this statement encompasses the whole standard eliminating the need to describe general information concerning cuts, safety, etc.) and to the following specifications.” Then list the specific items for a tree or group of trees (see box for examples).

The ANSI pruning standards have been available since 1995, yet they are under-utilized. Change takes time. We still see guidelines that don’t reference A300 from organizations that should know better. The other day, a client told me the Power Company was going to come by and prune his trees. He showed me a pamphlet that read, “All trees are pruned to the utility guidelines, which are based on recommendations by the US Forest Service, and will not harm your trees in any way. This pruning method is endorsed by the International Society of Arboriculture and the Association of State Foresters.” A300 was not listed in any way, yet all parties mentioned are either on the A300 committee or have been included in the review process.

Another typical request for a proposal came in the mail recently. It read, “The board of directors has requested that a bid be presented as soon as possible for the trimming of trees throughout the complex that need trimming due to problems, hazards, liabilities and aesthetics.” There was no detail in this request. How do we bid this type of project? The only thing the client can compare is price. They have little idea of what they are going to get. The goal of common standards is to create a level playing field, because these types of requests are presented to us 90 percent of the time. With a bid request like this, we do not have a level playing field. A300 provides that level field.

A builder in our area once called me and said, “we need all the trees located in our parking lot and grounds trimmed.” I responded, “I would be glad to submit a proposal. Please send me the number of trees and your specifications.” He didn’t have any, so I tried to determine his goals by asking, “what would you like to accomplish with this pruning?”

He said, “you’re the expert, you tell me.” So I told him, “I know about trees, but I can’t read your mind. Without knowing your goals, satisfying you would be a ‘crap shoot’ and stressful for both of us.”

He stated that he thought I was being unreasonable and said, “none of the other tree companies asked for that information.” I stated that I prefer to start a business relationship on the same page. To make my point, I said, “By the way, I’m putting an addition on my house, a 26 foot x 40 foot garage, could you give me a bid?”

He said, “Sure, send over the drawings and plans.”

I said, “I don’t have any.”

He said, “How are you going to have it built?”

I said, “You tell me, you’re the expert.” He said nothing and I never heard from him again.

The above examples take place in one form or another across the country with all aspects of tree care—pruning, fertilizing, cabling, lightning protection, etc.

My goal for this article is to clear up some confusion on how to use A300 Standards. The committee has created standards that offer the consumer and trees a
A300 Needs You!

Have you ever lost a job to a less-than-honest local competitor because you use proper tree care practices and your competitor doesn’t? Do you have difficulty explaining that your tree care practices are far superior to those of your competitors? Is it difficult to explain that fact to your clients? Have you ever thought to yourself, “If there were only a level playing field, at least the client would be comparing oranges to oranges when deciding who to hire!” Well, ANSI A300 is the American National Standard designed just for that purpose! It has been created to give the standard language you need!

This is an important and dynamic time for A300. Currently two public comment periods are in place:

Here’s how to submit a comment: Comments should be in written form, provide supporting evidence, provide diagrams when appropriate, provide alternate wording, and mailed to ATTN: A300 comments, NAA, PO Box 1094, Amherst, NH 03031-1094.

Before commenting, it is a good idea to read Tim Johnson’s article and the following forward to the A300 Standard. Tim’s article and the forward do a good job of explaining what the A300 committee is and how the A300 Standards should be used.

Forward to ANSI A300

(This foreword is not part of American National Standard A300-1995.)

An industry-consensus standard must have the input of the industry that it is intended to affect. The Accredited Standards Committee A300 was approved June 28, 1991. The committee includes representatives from the residential and commercial tree care industry, utility, municipal, and federal sectors, landscape and nursery industries, and other interested organizations. Representatives from varied geographic areas with broad knowledge and technical expertise contributed.

The A300 standard can be best placed in proper context if one reads its Scope, Purpose, and Application. This document presents performance standards for the care and maintenance of trees, shrubs, and other woody plants. It is intended as a guide in drafting maintenance specifications for federal, state, municipal, and private authorities; including property owners, property managers, and utilities.

The A300 standard stipulates that specifications for tree work should be written and administered by a professional possessing the technical competence to provide for, or supervise, the management of woody landscape plants. Users of this standard must first interpret its wording, then apply their knowledge of growth habits of certain plant species in a given environment. In this manner the user ultimately develops their own specifications for plant maintenance.

Any single part of A300, such as A300 (Part 2) - Fertilization, should be used in conjunction with the rest of the A300 standard when writing specifications for tree care operations.

Suggestions for improvement of this standard should be forwarded to: A300 Secretariat, c/o National Arborist Association, P.O. Box 1094, Amherst, NH 03031-1094.

This standard was processed and approved to submit to ANSI by Accredited Standards Committee on Tree, Shrub, and Other Woody Plant Maintenance Operations - Standard Practices, A300. Committee approval of the standard does not necessarily imply that all committee members voted for its approval.

WINDOW OF PROTECTION. A common notion I want to dispel is that A300 is not the way to perform tree care. A300 is a smorgasbord of choices to build specifications, not tell you what or how to do it. Compliance is voluntary with A300, allowing for a window of protection. A common notion though the standard will be the benchmark used in tree care malpractice litigation. Compliance is key and most of us are complying, we just need to tweak things here and there to be in full compliance.

The first two parts of all A300 clauses will contain the scope, purpose and application of A300. The third part will be a clause-specific glossary. This glossary is a side goal of A300 is to establish terms uniformly used throughout the tree care profession. For example:

“Drip line: a boundary on the soil surface delineated by the branch spread of a single plant, or groups of plants.”

If we all adhere to the above definition, we all start on the same page. The purpose of the fourth part is to provide standards for developing specifications. This is where the adopted in whole and parts becomes important. Specifying, “All fertilization shall be performed in compliance with A300 Standards” encompasses all the general language of the document that would be ridiculous to mention every time. For example:

11.2.2 All fertilizers shall be used in accordance with manufacturer’s recommendations — or 12.1.3 Slow-release fertilizers should be the preferred type.

The end of the statement, “and to the following specifications” provides for professionalism. This places accountability on both the arborist who writes the specifications and the technicians who perform the work.

To comply with A300 Fertilization Standards, the following standards shall be followed with every job order:

11.2.1 Reason for fertilization
The reason for fertilization is to supply nutrients determined to be deficient to achieve a clearly defined objective. That objective should be accomplished in the manner most beneficial to the plant.

11.2.4 The types and rate of fertilizer; as well as, timing, method, and location of application, shall be specified.

12.2.1 The fertilization area shall be defined prior to application. Consideration shall be given to root accessibility, root location, fertilization objectives, and plant species.

Knowing that each work order shall
contain:

- Objective
- Type and rate of fertilizer to use
- Defined area to be fertilized
- Timing necessary to achieve objective
- Method of application

It is easier to see where other standards play into specification building. For example:

11.2.5 Secondary nutrients and micro-nutrients shall be applied at specified rates and timing to achieve fertilization objectives.

12.3 Surface application

12.3.1 Fertilizer shall be uniformly distributed within the defined area of fertilization.

12.4.1 Holes shall be evenly spaced within the defined fertilization area.

12.6.2 Foliar applications, injections, or implants shall only be used when soil application of fertilizer is impractical or ineffective in achieving fertilization objectives. Fertilizer specified shall be formulated for the application method.

I can hear some of you saying, "Whoa, this is going to take some work!" Yes, but not as much work as knowledge. Writing and following proper tree care specifications will definitely separate the professional from the nonprofessional. To write specifications, the arborist will need more than a basic knowledge of tree biology, anatomy, soils and chemistry, as well as experience with good tree care practices.

Let's look further at the required items in professional fertilizing specifications.

Sample work order

ARTISTIC ARBORIST, INC.

<table>
<thead>
<tr>
<th>JOB PROMISED</th>
<th>Cross Streets:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job#</td>
<td>Map Page:</td>
</tr>
<tr>
<td>Job Name</td>
<td>Index:</td>
</tr>
<tr>
<td>JOB ADDRESS</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>State</td>
</tr>
<tr>
<td>Requested by</td>
<td>Date:</td>
</tr>
<tr>
<td>Phone No.</td>
<td>H</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item #</th>
<th>Qty</th>
<th>Work Description: Fertilization</th>
<th>Est. Hrs.</th>
<th>Pers. Assign</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>Citrus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Objective: Reduce pH of soil, making minor elements available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specifications:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Create 2&quot; diameter vertical ports, 12&quot; on center and 8&quot; to 18&quot; deep.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Area treated starts 24&quot; out from trunk and extends 24&quot; past drip line.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evenly broadcast 8 lbs. of soil sulfur over area.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mix excavated soil &amp; sulfur together with rake while loosely filling vertical ports</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leach area with 2&quot; of water.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Complete the above by February 28, 1999</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check pH in April, 1999, for follow-up recommendations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 2      | 4   | Citrus                          |           |              |
|        |     | Objective: Overcome iron deficiency |           |              |
|        |     | Specifications:                 |           |              |
|        |     | Apply a liquid solution of EDDHA chelated iron, 1/2 lb. per 600 sq. ft., 4" to 8" below the soil surface. Application points shall be 18" on center starting 12" out from the trunk and extending to the drip line. |           |              |
|        |     | The above to be completed in May, 1999. |           |              |
|        |     | The above fertilization shall be performed in compliance with A300 Fertilization Standards and the above specifications. |           |              |

Labor hours: Travel Hours: Total Estimated Hours for Work Order:

DEBRIS: □ Haul □ Firewood – length: Billing Invoice Information: □ Itemized

Additional Information: □ Lump Sum □ Time & Material – rate:

Extra Equipment, Tools, Materials Required: Invoice # Date:

Date Paid: Check #

Total Investment to complete the work described above: $ □ Open Account □ COD

AUTHORIZED BY: DATE:

JOB COMPLETED DATE ACCEPTED FOR BILLING DATE

JOB ACCEPTED DATE □ SEE REVERSE SIDE

Follow up:
Mycorrhizal Fungi

Nature's Tree Protection

More than 400 million years ago, trees evolved a symbiotic relationship with mycorrhizal fungi—a relationship that remains critical to tree health today.

Mycorrhizal fungi (fungus roots) are unique fungi that colonize the outside (ectomycorrhizae) or inside (endomycorrhizae) of absorbing roots to obtain essential organic chemicals. In return, the fungus extract water and essential elements from soil and share them with their host. Mycorrhizae are able to absorb mineral elements and water more rapidly than roots with no mycorrhizae. Mycorrhizae increase the tolerance of their plant host to drought, compaction, high soil temperatures, heavy metals, soil salinity, organic and inorganic soil toxins and extremes of soil pH. These fungi also extend the life of the root system.

How to Select Mycorrhizal Fungal Products

Commercial access to mycorrhizal fungi is due largely to the research begun 40 years ago by the U.S. Forest Service's Dr. Donald H. Marx. Awarded the 1991 Marcus Wallenberg Prize by the King of Sweden for his research on mycorrhizae, Dr. Marx continues his work as Chairman and Principal Scientist of PHC Inc. The company is the world's leading producer and supplier of mycorrhizal fungal products.

Experts worldwide agree that use of mycorrhizal fungi in plant health management will become widespread in the new millennium. However, because production of these beneficial fungi requires significant technical investment and expertise, buyers should be very selective about the products they purchase and who they purchase from. Ask these important questions before you make a product purchase:

1. Does the product manufacturer, packager and seller have adequate scientific expertise and technical knowledge? Growing, formulating and delivering mycorrhizal fungal inoculants require significant in-house scientific expertise. Four PhD specialists are on staff at PHC Inc. to guarantee quality, develop usage guidelines, and answer customer questions.

2. Are you buying long-lived spores or short-lived propagules? Many products that claim to be viable VAM fungal inoculants contain mostly fungal mycelium in root fragments and few viable fungal spores. The fungus in these roots only survive for 3 to 4 weeks after production. PHC Inc. products contain a guaranteed number of quality dormant spores that are viable for a minimum of 18 months after production. PHC Inc. conducts independent spore viability tests and plant root colonization to ensure our products work as represented.

3. Is the product guaranteed pathogen-free? Random sample testing of several commercially available “me-too” products show they contained an abundance of unintentional, but undesirable fungi and nematodes. All PHC Mycor® and MycorTree® brand products are guaranteed pest-free with the full backup of rigid laboratory Quality Control production standards.

Check out our new website: www.planthealthcare.com

Fungal Facts

- **Benefit more than 95 percent of Earth's plants**
- **Increase absorptive surfaces of root systems up to 700 percent**
- **Extend through the soil up to 30 feet away from a plant host**
- **Can occupy 100 times more soil volume than a non-mycorrhizal plant's entire root system**
- **Depress many root diseases caused by pathogenic fungi and nematodes**

Mycorrhizae Types Matter:

- **ECTO VS. ENDO**
  - Ectomycorrhizae: Colonize the outside of plant cells and the root to benefit conifers and hardwoods, such as beech, birch, eucalyptus, and willow.
  - Endomycorrhizae: Colonize the inside of plant root cells to benefit hardwoods, ornamental plants, grasses, fruit and nut trees and shrubs.

How Mycorrhizal Fungal Inoculant Products Work

Any condition that affects root growth influences mycorrhizal development. For example, grossly over-fertilized and watered plants produce rapidly growing absorbing (white) roots that contain few available sugars, so these roots are much less susceptible to mycorrhizal fungal colonization. Also:

- Mycorrhizal fungi benefit colonizing juvenile non-woody roots, not woody or white water roots. For best results, apply them with a root stimulant product to encourage root growth.
- Research has shown that soil-enriching bacteria, natural surfactants and soil-water managing gels are very effective in stimulating root fibrousity (fine absorbing roots), rooting depth and mycorrhizal development.
- High light intensity and moderate soil fertility encourage mycorrhizal colonization.
- Some fungicides can have a detrimental effect on mycorrhizae, while some are beneficial. In general, insecticide and herbicide applications do not affect mycorrhizae.
- Once roots are colonized, the mycorrhizal fungi spread to new roots in new soil areas and continue to thrive as long as root growth is maintained and soil conditions are appropriate.
I. A Defined Objective—associated standards are:

11.2.1 Reason for fertilization
The reason for fertilization is to supply nutrients determined to be deficient to achieve a clearly defined objective. That objective should be accomplished in the manner most beneficial to the plant.

11.2.6 Soil and/or foliar nutrient analysis should be used to determine the need for fertilizer.

And in the forward to A300, it states:
The A300 standard stipulates that specifications for tree work should be written and administered by a professional possessing the technical competence to provide for, or supervise, the management of woody landscape plants. Users of the standard must first interpret its working, then apply their knowledge of growth habits of certain plant species in a given environment. In this manner, the user ultimately develops their own specifications for plant maintenance.

So,

12.1.2 In the absence of soil and/or foliar nutrient analysis, a fertilizer ratio of 3:1:1 or 3:1:2 should be used. For palms, the ratio should be 3:1:3. These ratios should be adjusted based on local knowledge, age and/or condition of the plant, soil and environmental conditions.

To clearly define an objective requires us to answer the question: what is our goal? All nutrients have a function. Why are we fertilizing? Hopefully, we are not fertilizing because it is spring.

II. Type and Rate—associated standards are:

11.2.7 Soil pH shall be considered when selecting the fertilizer.

11.2.8 Fertilizer (salt) sensitive plants and new transplants should only be fertilized with a slow-release fertilizer.

11.2.11 Soil modification to improve nutrient uptake shall be considered prior to fertilization.

12.1.3 Slow-release fertilizers should be the preferred type.

12.1.4 Slow-release fertilizers should be applied at rates between 2 and 4 pounds of actual nitrogen per 1000 sq.ft. (0.8 to 1.7 kg N/100 m²) per application and shall not exceed 6 pounds of actual nitrogen per 1000 sq.ft. (2.5 kg N/100 m²) annually.

12.1.5 Fertilizers with a salt index of less than 50 should be preferred.

The most critical factor here is dose. The young, newly installed tree would require a smaller dose than an established, maturing tree. The dose would drop again from maturity to over-mature stage.

III. Defined Area—associated standards are:

12.2.1 The fertilization area shall be defined prior to application. Consideration shall be given to root accessibility, root location, fertilization objectives, and plant species.

12.2.1.1 Damage to the buttress roots should be avoided.

12.2.2 For most trees and shrubs, the fertilization area should be from near the trunk to near or beyond the dripline. Inaccessible surfaces shall not be included in the rate calculation. Overlapping fertilization areas shall only be calculated once.

12.2.3 For fastigiate trees and unusual situations, the method for determining the fertilization area is by multiplying the plant’s diameter at breast height (DBH 4.5 feet (1.4m) above ground), measured in inches (cm), by 1 to 1 1/2 (0.12 to 0.18) to determine the radius, expressed in feet (m), from the trunk of the plant.

For example, a 15-inch (38.1-cm) DBH
140 SPECIALIZED TRUCKS IN STOCK!

3 units. 1988-89 Chevy C60, 8.2 Diesel, 5sp/2sp, 30,000 GVW with 8 ton JLG cranes. 65' Hook Height. 16' bed. Starting at $31,000

(3) 1994-95 Ford F800s; Cummins 6 Spd: A/B; 35,000 GVW w/15-ton JLG Cranes; 60' Hook Height. Call for Info.

1988 GMC: 8.2 Diesel; Auto; Chip Body w/ Aerial Lift of CT 50' Bucket. $37,500

1994 Ford F800: 8.3 Cummins; 5 sp/2 sp; air brakes; 33,000# GVW; 12' flat dump; 16k original miles. Like New $29,500


1987 Ford F800 4x4; 7.8 Dsl; auto; 33,000 GVW; 14' Dump Body; Front Bumper & Rear Bed Winches; 31k Orig. Miles. Very Clean $29,500

87 Gradall Model 552-2S 10-ton Mat. Handler: 23' Max. Lift; has Winch, Forks, Bucket, Pole Grapple $34,500

1988 GMC Topkick, 3208 Cat, 5 spd, A/B, w/ 6-1/2 ton Pitman Crane, 47' Hook Height $16,500

(4) Other Crew Cab Stake in Stock

86 Ford C8000, 3208 Cat 5x2 - 4x4, 36 GVW, 28.5k Orig. Miles, w/7.5 ton RocRane, 44' Hook Height, Clean! $19,500

1982 Ford F700, V8, 5sp/2sp w/50' Altec double bucket $18,900

1988 GMC Topkick, 3208 Cat, 5 spd, A/B, w/ 6-1/2 ton Pitman Crane, 47' Hook Height $16,500

(5) Fuel Trucks, Steel or Aluminum, Gas or Diesel $4,900 and Up

Prentice 120-yard machine, Diesel Pony engine, on gas International. $12,500

33 Ford, dsl 8.2, 5sp/2sp w/455 Nat'a 29' jib. 94' hook height. $24,500

1986 GMC Topkick, 3208 Cat, 5 spd, A/B, w/ 6-1/2 ton Pitman Crane, 47' Hook Height $16,500

87 GM7 GMC, 8.2 Dsl, 6 sp, 30 GVW, A/B, 12' Stake Lift Gate, 22k miles, IMT Knuckle-boom, 25' Side Reach $22,500


(10) HIAB; INTCO; National; Etc. Knucklebooms Unmounted Or Mounted $4,500 And Up

(8) Single Axle Knuckleboom Trucks - Ford, GMC, Internationals Call For List & Prices

(10) Chip Body Dumps in Stock; Call For Sale Price

(30) 1 Ton Buckets: 28' to 36' In Stock. Call For Price List

3 FMC Sprayers. 35 GPM, 500 gallon, etc. $3,900 to $4,500.

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tree would have a fertilization area radius of 15 to 23 feet (4.6 to 6.9 m).

IV. Timing—associated standards are:

11.2.5 Secondary nutrients and micro-nutrients shall be applied at specified rates and timing to achieve fertilization objectives.

11.2.9 Plants with disease, insect infestations herbicide damage, or other conditions which could increase to damaging levels with fertilization should be fertilized only in conjunction with a treatment program.

11.2.10 Root pest management to improve nutrient uptake shall be considered prior to fertilization.

12.1.1 When to fertilize
Fertilizer should be applied so that nutrients are available when roots are growing.

V. Method—associated standards are:

12.3 Surface application
12.3.1 Fertilizer shall be uniformly distributed within the defined area of fertilization.

12.3.2 Where turf or ground cover exist, subsurface fertilization should be the preferred method of fertilization.

12.4 Sub-surface dry fertilization
12.4.1 Holes shall be evenly spaced within the defined fertilization area.

12.4.2 Hole depth, diameter, and spacing shall be specified. Holes should be 2 to 4 inches (5 to 10 cm) in diameter, spaced 12 to 36 inches (30 to 92 cm) apart, and 4 to 12 inches (10 to 30 cm) deep.

12.4.3 The fertilizer shall be evenly distributed among the holes.

12.4.4 Fertilizer should not be closer than 2 inches (5 cm) to the soil surface.

12.5 Sub-surface liquid fertilizer injection
12.5.1 Injection sites shall be evenly spaced within the fertilization area.

12.5.2 Injection site spacing and depth shall be specified. Injection sites should be 12 to 36 inches (30 to 92 cm) apart, and 4 to 12 inches (10 to 30 cm) deep.

12.6.2 Foliar applications, injections, or implants shall only be used when soil application of fertilizer is impractical or ineffective in achieving fertilization objectives. Fertilizer specified shall be formulated for the application method.

As you re-read the above standard, remember the definition of should—advisory and shall—mandatory.

Now that we have covered some of the major points, here is an example of how to use the standards:

Pecan trees—the goal is nut production, which automatically changes the purpose away from simply health maintenance. Health maintenance fertilizer requirements are different than nut production. The same would hold true for citrus trees.

Objective—reestablish required level of zinc. Pecan trees can be zinc deficient, become susceptible to diseases such as bunch disease (rosette), and start declining. In the spring, the plant is waking up, so you apply N-Z-N, a nitrogen zinc solution, that is formulated for foliar application at manufacturer’s recommended rates. To meet the objective, we are going to apply the solution three times starting at bud break and every two weeks thereafter.

In our area, the southwest, it takes six weeks for those leaves to mature, so we are going to spray at the previously mentioned timing to make zinc available from bud break to maturity. We also cover foli-
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age completely to runoff when spraying to help meet the objective.

Let’s say for this same Pecan tree, the goal is health restoration with the same objective yet it is in the summer, weeks after the leaves have matured. Depending on our local knowledge and available root system, we could either apply zinc with a sub-surface application or an injection. The key word here is available root system.

Yet, to use A300 properly, it will take knowledge and time to visualize the results we achieve.

I interviewed a couple of people this year for a sales job. I asked the first person how he sold fertilizer. He told me you don’t have to be a rocket scientist to sell fertilizer. He counts the trees and multiplies by $25. I did not hire him.

The next person started into a big speech of how she sold the client. I told her I did not want to hear her spiel. I wanted to know how she formulated and calculated the quote. She said she multiplied the number of trees by $30.

When I asked how she controlled what went into the ground, she answered she has no control. The person who does the work decides what to do. That is how crazy it is out there. Is this professional tree care?

When the clients that these two were dealing with see a proposal or work order containing an objective, type/rate, defined area, timing, and method listed, how can they waiver, if they are truly interested in caring for their trees.

Remember that A300 is not a ‘how to’. A300 does not tell you how to prune or fertilize. However, as far as I am concerned, it is the best tool that we can use for pruning or fertilization, because we can pick and choose how fertilization is going to be done in a specific area for a specific tree based on our local knowledge. It does level the playing field, and will improve tree care practices. With A300, clients have a way to compare oranges to oranges when comparing prices. Arborists, by having to specify the parameters of their fertilization program, now must be able to defend the practices they employ.

Tim Johnson is the chair of the A300 Committee, which is the body responsible for developing national consensus standards for tree care. He is the president of Artistic Arborist in Phoenix, Arizona.

Now Available

The ANSI A300 (Part 2)-1998 Fertilization Standard is now available for purchase from the National Arborist Association. For a limited time NAA members can receive this standard free, as a benefit of NAA membership.

In addition there are two public comment periods for parts of the ANSI A300 Standard. One is for the scheduled five-year revision of ANSI A300-1995 Tree Pruning, running from January 1 to March 2, 1999. Use your current copy of ANSI A300-1995 as a draft copy.

The second is for ANSI A300 (Part 3)-Tree Support Systems, a. Cabling, Bracing, and Guying, running from January 15 to March 16, 1999. You can find a draft copy of Part 3 in last month’s (January ’99) TCI magazine.

If you want to learn more about the A300 Standard and how to submit a comment on the standard, see page 9.
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A 60' W.H. Altec LR III on a 1999 GMC Topkick with a Cat 3126 Diesel Engine
B 55' W.H. Asplundh LR-50' on a 1988 F-700 Ford with a 6.6 Diesel Engine
C 57' W.H. Aerial Lift of Conn. on a 1999 All Wheel Drive International with a DT 466 Diesel Engine
D 60' W.H. Aerial Lift of Conn. on a 1998 Timberjack 240
E 57' W.H. Aerial Lift of Conn. on a 1999 International with a DT 466 Diesel Engine
F 55' W.H. Asplundh LR-50' on a 1988 GMC 7000 with a 366 Gas Engine and a Kubota Pony Engine
G 60' W.H. Aerial Lift Conn. on a 1999 International with a DT 466 Diesel Engine
H 1996 Woodchuck WC 17 Disc Chipper with a Ford 300 6 Cyl Gas Engine

Happy New Year from everyone at Forestry Equipment!
### Events & Seminars

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<td><strong>February 3, 1999</strong></td>
<td>Michigan Arborist Association</td>
<td>Pruning &amp; Cabling Seminar</td>
<td>Waterford Oaks Activity Center, Waterford, MI</td>
<td>800-MAA-4055</td>
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<tr>
<td><strong>February 8, 1999</strong></td>
<td>Michigan Arborist Association</td>
<td>CPR/First Aid by Arborist Aid</td>
<td>Waterford Oaks Activity Center, Waterford, MI</td>
<td>800-MAA-4055</td>
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<td><strong>February 3, 1999</strong></td>
<td>Turfgrass Producers International</td>
<td>Mid-Winter Seminar, Conference &amp; Expo</td>
<td>Tampa, FL</td>
<td>800-405-8873</td>
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<td><strong>February 15-28, 1999</strong></td>
<td>L.I. Turfgrass Management Short Course</td>
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<td>Long Island, NY</td>
<td>607-255-1792</td>
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<td><strong>February 17-19, 1999</strong></td>
<td>ISA-Midwest. Chapter Annual Conference</td>
<td>Holiday Inn - Westport</td>
<td>St. Louis, MO</td>
<td>314-863-1903</td>
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<tr>
<td><strong>February 20-24, 1999</strong></td>
<td>ALCA Executive Forum</td>
<td>Westin Mission Hills, Rancho Mirage, CA</td>
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<td>703-736-9666</td>
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<td><strong>February 21-24, 1999</strong></td>
<td>Michigan Chapter ISA</td>
<td>Winter Conference, Lansing Holiday Inn Convention Center</td>
<td>Lansing, MI</td>
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<td><strong>February 23-25, 1999</strong></td>
<td>Pennsylvania Turfgrass Council</td>
<td>Western PA Turf Conference &amp; Trade Show</td>
<td>Pittsburgh EXPO Mart/Radisson Hotel, Monroeville, PA</td>
<td>814-863-3475</td>
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<td><strong>February 24-25, 1999</strong></td>
<td>University of Illinois Extension</td>
<td>S. Illinois Grounds Maintenance School, Gateway Convention Center, Collinsville, IL</td>
<td>618-692-9434</td>
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<tr>
<td><strong>February 26, 1999</strong></td>
<td>Ecology and the Managed Landscape</td>
<td>Boxborough, MA</td>
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<td>978-897-7490 or 413-545-0895</td>
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<tr>
<td><strong>February 27, 1999</strong></td>
<td>Long Island Arboricultural Association</td>
<td>Annual Tree Conference, Hofstra University, Hempstead, NY</td>
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<td>516-454-6550</td>
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<tr>
<td><strong>March 9-12, 1999</strong></td>
<td>American Society of Consulting Arborists</td>
<td>Arboricultural Consulting Academy, Newport, RI</td>
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<td>301-947-0483</td>
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<tr>
<td><strong>March 18-21, 1999</strong></td>
<td>ALCA Student Career Days</td>
<td>University of Kentucky, Lexington, KY</td>
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<td>703-736-9666</td>
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<tr>
<td><strong>April 9-12, 1999</strong></td>
<td>Student Society of Arboriculture</td>
<td>Annual Conference and Job Fair, Eagle Bluff, Lakesboro, MN</td>
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<td>715-346-4211</td>
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<tr>
<td><strong>April 28 - May 2, 1999</strong></td>
<td>Western Chapter - ISA</td>
<td>Annual Conference, Mandalay Beach Resort, Oxnard, CA</td>
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<td><strong>July 1 - 3, 1999</strong></td>
<td>AAGA</td>
<td>Annual Conference, British Columbia</td>
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<td>610-925-2500 ext. 11</td>
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<td><strong>July 23 - 25, 1999</strong></td>
<td>ALCA Masters in Management</td>
<td>Hilton Chicago O'Hare Airport, Chicago, IL</td>
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<td>703-736-9666</td>
</tr>
<tr>
<td><strong>October 8 - 9, 1999</strong></td>
<td>ALCA Masters in Management</td>
<td>Sheraton Bradley International Airport, Windsor Locks (Hartford), CT</td>
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<td>703-736-9666</td>
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**Send information on your event to:** Tree Care Industry, PO Box 1094, Amherst, NH 03031-1094.
Fax: 603-672-2613; E-mail: Garvin@natlarb.com

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**Peavey Tree Pruning Poles & Supplies**

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We have a variety of poles including white ash in solid lengths; and also six foot sectional poles with lightweight aluminum couplers. There is also available a line of non conductive sectional, or full length fiberglass poles for the electrical contractors. Included you will find a complete price list and order form for all pruner poles and equipment.

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**S1 Saw Head**

Available in threaded or clip type couplers.

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**TREE CARE INDUSTRY - FEBRUARY 1999**
Roots, Inc., of Independence, Mo., announces "ironROOTS® with EctoMycorrhiza" that restores stressed oaks and conifers to their optimum root growth and color. The new product has four species of Rhizopogon, a cold-tolerant EctoMycorrhiza that is widely used in forestry where other species don’t work well. Research data is available. For more information, contact Roots, Inc at 203-786-5295.

Please circle 112 on Reader Service Card

The Jonsered “Iron Horse” is a modern alternative to horse teams and large, expensive machinery as a source for hauling logs out of the woods. A pedestrian-assisted tracked transporter, it is capable of moving heavy loads over varied terrain. With weight well-distributed over dual rubber tracks, its low ground pressure allows transportation with minimal impact on the forest floor or well-manicured lawn. Originally developed for log transport in small-scale forestry, the Iron Horse has also proven to be a tool for landscapers and arborists. Capable of hauling up to a ton, it offers high-torque pulling power, transmitted via a heavy-duty V-belt drive to a mechanical transmission with forward and reverse gears. For more information, contact Tilton Equipment Company at 800-447-1152.

Please circle 110 on Reader Service Card

Tanaka Power Equipment's new professional limbing saw features a compact design combined with excellent power-to-weight ratio. The TCS-3401 features a 34cc, 1.8 hp engine and weighs only 7.4 pounds. It comes with a 14- or 16-inch Oregon bar and chain combination. Other key features include: AirForce Air Filtration system, heavy-duty anti-vibration system, Walbro carburetor, and a priming pump. In addition, it’s backed by Tanaka’s 1/2/5 warranty coverage, which provides one-year coverage for professionals, two-year coverage for homeowners, and five-year coverage on the electronic ignition module. For more information, contact Tanaka at 253-395-1515.

Please circle 111 on Reader Service Card

Mobile Tool International, Inc., manufacturer of Holan insulated aerial lifts, offers the Bronco 829 Holan lift, which can be mounted onto a utility or forestry body. The lift features a 210- degree upper boom, a 130-degree lower boom, and more than 40 feet (12.19 meters) of side reach. Like all Holan articulating lifts, it incorporates chain and fiberglass rod leveling, rigid rectangular booms, and continuous rotation. For more information, contact Mobile Tool at 303-657-2590.

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The Pit Boss digger by Victorian Postman Limited does more than allow landscape architects and contractors to quickly dig planting holes for shrubs and small trees. It also lets anyone dig deep holes without damaging nearby vegetation or plantings. Ideal for work in well-established planting beds, its rotating blade makes every digging job easier because the blade forms a scoop, so no sand or loose dirt falls back into the hole; a single, earth-piercing blade focuses all its energy on a single spot for digging, cutting tree roots, or removing large stones from holes; and the single-handle-and-lever design ensures a consistent hole diameter over any depth. For more information, contact Victorian Postman at 414-445-2692.

Please circle 114 on Reader Service Card
Vermeer Manufacturing Company recently introduced the industry's first self-propelled stump cutter mounted on rubber tracks in its horsepower range. The SC505 has been designed to go where towable stump cutters can't, climbing and descending inclines and traveling through narrow openings with ease. The 50 hp (37 kw) Perkins diesel engine provides power to the patented gear-driven cutter wheel system. With chip decks removed, the turf-friendly tracks can be retracted to a narrow profile of only 35 inches (89 cm) from the outside edge of each track, allowing it to maneuver through confined areas and backyard gates. For more information, contact Vermeer Manufacturing Company toll-free at 888-VERMEER (837-6337) or 515-628-3141.

Please circle 115 on Reader Service Card

Jeffrey, a leading manufacturer of wood hogs, crushers, shredders and feeders, has recently introduced the Road Hog 320. Capable of producing 40 to 80 tons per hour of product, the Road Hog can turn construction and demolition, wood waste, pallets, and brush into reusable materials for a variety of applications. It converts to accommodate transporting or processing, and setup time is less than 30 minutes. The rigid, high-inertia 447WBH shredder features fixed hammers with inertia weights to prevent plugging. In addition, it is engineered with a rear door that can be opened hydraulically for fast hammer changes and a quick-change screen grate system for easy cleaning. For more information, contact Jeffrey at 800-615-9296 or 864-476-7523.

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Detroit, MI • June 9, 10 1999
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Locations for the seminar may vary.

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Please circle 42 on Reader Service Card
Timberwolf Acquires Valley Processors

Timberwolf Manufacturing Corporation of Rutland, Vt., a national manufacturer of high-quality firewood processing equipment, has acquired Valley Processors, Inc., of Amherst, Mass. This move will improve Timberwolf's offerings in terms of processor designs, including self-loading and drop-style models. All of the Valley equipment models will continue to be produced.

The Valley Top Roll clamping system, patent pending, will be offered on both Valley and Timberwolf processors. This design maintains constant pressure on the log as it feeds to the saw, eliminating the need to lower the clamp with each cycle. Jeff Weeks, the former owner of Valley Processors, has become a Timberwolf and Valley dealer and will be a consultant to Timberwolf. Jeff brings years of knowledge of firewood processing to the union.

The fabrication and assembly of the Valley equipment will be moved to Timberwolf's facility in Rutland, Vt. Valley equipment will be available through the Timberwolf/Valley Dealer network.

Two Green Industry Guides Updated

For the first time in several years, the Professional Grounds Management Society has fully updated and augmented two of its most popular guideline booklets, *The Grounds Maintenance Management Guidelines* and *Grounds Management Forms & Job Descriptions Guide*.

This updating comprises the sixth full edition of each guide. Everything is updated, including the format. The guides are for those with grounds responsibilities at schools and universities, hospitals, office and industrial parks, cemeteries, recreation areas, hotels and motels, resorts, theme parks and large estates.

The updated Management Guide has 40 pages fitted into a standard one-half inch vinyl binder. It provides specific information on all of the key major areas one must take into consideration in establishing or running a typical grounds operations.

The Forms & Job Descriptions Guide, comprising 52 pages, is involved solely with representative forms and other record-keeping tools needs by grounds professionals, plus detailed position descriptions.

The price for each guide is $25, plus $1.50 postage and handling. They can be ordered from the Professional Grounds Management Society at 120 Cockeysville Road, Suite 104, Hunt Valley, MD 21030. Phone: 410-584-9754.

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**INDUSTRY NEWS**

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Specifications:

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7. Pintle, Pin, or Pintle/Ball Combination Trailer Hitch with Tow Hooks
8. Bodies: Mounted, Undercoated, Chemically Degreased, Coal Tar Epoxy Coating inside Chip Box, Primed and Painted
9. Stainless Steel Hinge Pins with Grease Zerks
10. Weatherproofed Tool Boxes
11. Chipper Air Exhaust Vents

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

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

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

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

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

Please circle 52 on Reader Service Card
As the tree care industry develops and the National Arborist Association and International Working together to meet the challenge, arborists need to have realistic guidelines for handling traumatic and dangerous emergency situations. Industry standards and guidelines should be consistent with professional rescue procedures, so that if an accident does occur on the job, all parties can work together for the benefit of the victim.

Society of Arboriculture broaden international membership, safety and training concepts take on new perspectives. Arborists are gaining knowledge from experts in other fields, such as mountaineering and high-angle rescue. Professionals from other countries and other areas of expertise are introducing new approaches to climbing, rigging and emergency response procedures. The “traditional” approach to aerial rescue in the United States has fallen into question by arborists from Canada, England, Europe, Australia, New Zealand and South America. Currently there are no official industry standards for aerial rescue—only guidelines, as reflected in the ISA Arborist Certification Study Guide, the NAA training video on aerial rescue (and other NAA publications), as well as the aerial rescue event of the International Tree Climbing Championships. The questions and concerns that have been raised are prompting a review of existing training guidelines and materials.

The current industry guidelines (as published by the NAA in the EHAP Program) for testing tree worker proficiency in aerial rescue are as follows:

1. The rescue must be performed at a height of at least 35 feet. This is the average height of a distribution line.
2. The “victim” must be on the ground within four minutes. This is the maximum amount of time that can elapse before brain damage will occur if the victim’s heart has stopped.
3. A trainee who ordinarily works out of an aerial lift may perform the rescue from an aerial lift. It is recommended that a trainee also be able to perform a rope and saddle rescue.
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Timing will begin when the rescuer picks up a climbing rope or starts the rescue. (However, in many cases a preset access line is used.)

These guidelines have led to debate about appropriate emergency response procedures, ensuring the safety of the rescuer(s), and the consideration of a time factor in aerial rescue. Concerns have been raised that current procedures may endanger the rescuer, and that the emphasis on speed may result in errors. The most likely accident requiring a speedy rescue in the tree care industry is electrocution, because the victim may require CPR. Although it is true that in most cases brain damage will occur soon after a four-minute time period, there are other variables to be considered.

The first issue is the likelihood of the rescuer reaching and rescuing the victim within four minutes. A hurried decision and/or climb could lead to a second victim. Emergency rescue and medical personnel are always trained to avoid creating additional victims in emergency operations. No such time standard or requirement has been set by any other professional rescue organizations.

If electrical contact has occurred, the first priority must be for the rescuer to ensure that it is safe to proceed with the rescue at all. The tree, the victim’s climbing line, truck, chipper, and the ground around the truck could be energized, making a rescue very dangerous. Current rescue procedures call for breaking contact between the victim and the electrical conductor, if possible. Some training materials currently recommend using a non-conductive tool or a clean, dry rope. Representatives of the utility industry, however, have recommended that if electrical contact exists, the only course of action is to contact the utility company, as the risk of a second victim is too high to attempt a rescue and the probability of success is low.

Emergency response training

In a controlled environment, a four-minute aerial rescue can be a valuable exercise. However, in a real-life...
Unless CPR is necessary, rushing to get the victim to the ground may not be the best course of action. In fact, if there is a spinal injury, moving the victim can have serious consequences. Furthermore, rushing to get the victim to the ground may be putting the rescuer’s life at risk.

There are many variables to consider in every emergency situation. In order to act responsibly, we must be able to assess the risks, as well as understand and carry out the appropriate emergency response. The current approach of using general, and often unrealistic, guidelines can create a more chaotic and dangerous environment than initially existed.

The fact is that many of the emergencies that occur during tree care operations do not require aerial rescue. Each crew member should be capable of responding to an emergency if he has been taught to think clearly and act wisely. Safety training can go a long way in preventing accidents from occurring in the first place. If an accident does occur, however, the entire crew should be trained and equipped to respond to an emergency to the best of his or her ability.

Working together to meet the challenge, arborists need to have realistic guidelines for handling traumatic and dangerous emergency situations. Industry standards and guidelines should be consistent with professional rescue procedures, so that if an accident does occur on the job, all parties can work together for the benefit of the victim.

To meet this challenge, the ANSI Z133.1 Committee has formed an Aerial Rescue Subgroup (A.R.S.) to develop industry standards. The NAA and ISA are working together to form an Emergency Response Committee (E.R.C.) to examine and develop emergency response guidelines and procedures.

We invite you to participate in this important endeavor by forwarding your comments and suggestions by e-mail to ArborMastr@aol.com or by fax to 860-429-5058. Until then, we’ll see you at the top!

Ken Palmer is chairman of the Emergency Response Committee.
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My family joined me for a week in Philadelphia recently at a convention. We did the “tourist” thing, including a guided trolley tour of the numerous historical sights in the celebrated hometown of Thomas Jefferson, Benjamin Franklin and Betsy Ross.

As we rounded the corner to Carpenter’s Hall, our guide explained that it had been the local version of a union hall and consequently the first meeting place for what later became the new United States government. “The delegates left that day without shouting about what they were doing,” the guide explained, “for surely if they did, they knew they would have been arrested for treason.”

I suppose I knew that from my early years in grammar school, but hearing it again, I was struck by how much risk these men and women took to disrupt their status quo.

Status quo is Latin for “the level by which” or “the place where we are.” Although the English language adopted the phrase verbatim, the current definition of “status quo” has now come to mean the opposite of creativity or innovation and generally carries a negative connotation.

However, the stability of the status quo can be somewhat reassuring in turbulent times. Times of crisis require it, and times of study, transition or confusion can ultimately benefit from it. Leaders must occasionally rely on the status quo to provide security for their employees when downsizing looms, competition threatens, or management personnel changes occur. Although such stability is frequently desired, to be a defender of the status quo is not always the highest compliment we can pay to a leader.

Modern dictionaries define status quo as “the state of affairs as it is or was before a recent change.” This term doesn’t necessarily have to possess a negative connotation every time it is used. In fact, there are times when keeping the status quo is considered an accomplishment. When things are how you want them to be, when a goal has been achieved, when consensus demands stability, or when you are on the right track, are all indicators that the status quo is a good thing to preserve.

However, like our early founding fathers, there are also situations that demand that we break through the status quo and lead beyond what is stable and secure. Thomas Jefferson prefaced such necessary times of transition with: “When in the course of human events it becomes necessary ...” Have you ever felt similarly about your company or your way of conducting business? Are things just old and dusty? Have you found a newer, improved way of doing things that is perhaps safer or more cost-efficient? Has someone on the team become complacent, demanding or discouraged? Are you growing tired, stale and feeling defeated more often than not? These are the times that cry out for a leader to change the status quo.

Make no mistake, when you are ready to disrupt what is and probably what always was, you will encounter resistance, and a lot of it! The common retorts of “We can’t do that ... we’ve never done that,” or the old standby, “why do we have to change that too?” may be good signs that you are either on the right track or on sacred ground for these creatures of habit, or both.

In that case, the opposite of the status quo touches upon inevitable disruption, change, growth (or death), and perhaps even has something to do with the evolution of our lives and the histories of our corporations. For today’s leader, the opposite of status quo is “generative instability.”

Since Einstein’s era, or perhaps even back to the days of ancient Greece, we have been warned that conventional thinking is a dangerous affair with the truth. It makes us think we know, so that we can surreptitiously rest assured in our knowledge. We like to be “right” so much, that we even allow ourselves to invent reasons of being so.

But the true leaders throughout history have beckoned us to remain open. So, too, with great business leaders. Ray Kroc, founder of McDonald’s, paid his secretary with what was then
near worthless stock because he had no liquid assets. Ted Turner had a crazy idea for a 24-hour news network. Someone even had a wild idea for a channel that would have 24-hour weather on it! What are the “crazy” ideas that you had this past year? It could be that they were just as good as these famous ones with one exception: they were not acted upon.

Do you know some less well-known personality who believed so much in what he was doing that he forged ahead despite the personal risk? Could it have been your mother, your father, or even you?

How much of the status quo do you notice in your tree care company? How much of it do you notice without being alerted to it by someone else? How disturbing is it to you personally? More importantly and to the point for you as a leader, how much of the status quo do you allow?

Employees’ stories of what goes on in our corporations is filled with accusations of leaders not reprimanding consistently poor performers, mistakes not corrected, bonuses paid despite poor performance and special treatment for the special few. In these organizations, change may only come with financial bleeding, market failure, executive retirement or death. In some organizations, though, even death does not end the cycle.

Cycles only end with leaders that say “no more.” New cycles can begin when those same leaders say, “Here’s how.” These leaders have not only observed what must not continue, they have also asked themselves the toughest of self-reflecting questions. I’d like to offer ten such questions for your own self-inventory. They are by no means complete, but instead are intended to help you see and do more in order to affect more.

1. When was the last time you took a risk so great that everyone would notice its success or failure and you would be held responsible?

   Responsible risk taking can become a healthy habit only if you make a conscious decision to do it. How often have you asked yourself about the value of the “safer” way? Responsible risk takers rarely believe that they are stepping into nothingness; their belief is that the risk is justified because it is the only logical thing to do at that moment.

2. How have you managed poorly performing employees?

   Do they know from you personally what you expect when you expect it? When was the last time you talked to them about it? Sometimes it is difficult to confront problem employees because we may like them too much, dislike them a great deal, have legal concerns, or a myriad of other very real reasons that prevent us from doing what needs to be done.

   But what if we engage them in an off-the-record conversation? What if we decided to prepare our comments with the other person’s feelings in mind? What if we tried to make sense of their behavior before we opened our mouths? What if we collaborated” rather than “confronted”?

   When you as the leader take a step forward—even a small step—you display a decisiveness to them and reassure yourself that you aren’t stuck anymore: a real win-win for everyone.

3. When was the last time you met face-to-face with a customer that was not a sales call?

   Remember the United Airlines commercial where a company took its best customer for granted, lost the business and the boss responded by passing out airline tickets to all of his salespeople? It is important to reinforce your relationship with your customers by contacting them outside of the regular sales routine.

4. When was the last time you worked with an employee on the job to get a better appreciation of his work and the process involved, instead of merely observing?

   When you truly work with an employee instead of merely supervising or overseeing him, an interesting thing can occur. You can meet the person on a level playing field, person-to-person. Even if you once did that person’s job in the field, go back out—conditions may have changed.

5. What was the last book you read on leadership?

   When was the last time you read one for fun, to acquire a new skill, or maybe just to keep up? We don’t always realize that we are subconsciously placing extraordinary limits on our potential. The
best defense here is an ongoing chain of learning events—books, workshops, meetings with colleagues, or just asking for advice.

6. What was your smallest, yet greatest, contribution this past year to your company, fellow colleagues or family?

A medical administrator recently told me she was very proud that she was able to cover for another staff member during the final six weeks of her colleague’s father’s hospice stay. Think about the past year at home and at work. What do you consider to be the highlight of what you did for each?

7. What must your senior management team discuss if any significant progress is to be made in 1999?

How will you encourage this to happen? How will you sell it? How often have you experienced a feeling of fear, anxiety or panic in managing your business? At those times, we ask ourselves, “What should I do?” It is a time when our actions are dependent upon how we perceive the problem. Could it be viewed as merely a challenge, or simply the thing that needs to be done? Victor Hugo advises, “The future has many names. For the weak, it means the unattainable. For the fearful, it means the unknown. For the courageous, it means opportunity.”

8. What has been the most courageous act of your career thus far?

What are you personally most proud of? How do you account for your ability to perform this act? Courage is contagious. When we see someone with courage, we are inspired instead of ashamed; we affirm their ability to take the appropriate next step.

9. Where do you want to be in the next six months?

What must you do today in order to ensure that it happens? Regret and fear are the enemies of our ambition, not its competition, delays, stresses or fates. Regret and fear hold even the mightiest back. If they are allowed to.

10. Who or what has been affected most because of your influence? How did you accomplish that? Was your influence deliberate or unintentional? Was the effect subtle or dramatic?

Begin the process now by disturbing your status quo. After all, if you don’t, who will?

Kevin O’Connor, CSP, is a speaker, trainer and corporate consultant who specializes in team building, communication and customer relationships. He is a faculty member of Loyola University in Chicago and author of four books.
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Among arborists, word is spreading to watch out for the Asian long-horned beetle. This exotic import from China has surfed the wave of expanded global trade and surfaced in hardwoods in metropolitan New York and Chicago. For trees infested with this wood borer, mortality is the certain result. Tree care professionals need to know about this insect and watch out for it.

If you think you've found one, contact your state department of agriculture or state plant health director as soon as possible.

The Asian long-horned beetle lives in a wide variety of hardwood trees. It feeds on the wood, boring tunnels that impede the transfer of nutrients. As an adult, it chews a hole through the wood and emerges to spread the infestation. By then the damage to the tree is already done.

Although the Asian long-horned beetle is native to China, Japan and Korea, only China is documented as the current exporter of this pest. It arrives burrowed in solid wood packing materials used to crate and ship a wide range of goods. Infested shipments have been discovered at ports in California, Washington and South Carolina, and in warehouses in 14 states at 26 locations.

Hot on the trail of this beetle are state and local officials in New York and Illinois, and foresters and plant health experts in two U.S. Department of Agriculture agencies—the Forest Service and the Animal and Plant Health Inspection Service (APHIS). Their goals:

• find all occurrences of the beetle
• eradicate it by removing infested trees
• help communities to replant the trees that are removed
• regulate shipments from China to prevent any more from entering the United States
• learn more about the beetle, to help find better ways to control it
• enlist public support to watch out for and report potential finds of this pest.

Looking for the beetle

Early detection of infestations is essential to the control of this pest, but is complicated by the lack of effective trapping methods. Presently, detection is solely dependent upon examination of individual trees for old egg niches and exit holes. Sometimes piles of frass can be found around the base of an infested tree or in branch crotches.

Binoculars, lifts and ladders should be used to examine small limbs high in the crowns of potential hosts. The best time to look for infested trees is after leaf fall, when it is easier to view the small limbs in the upper crown. Leaf symptoms don't show up until sufficient larval tunneling has occurred to disrupt water and nutrient flow in the tree.

Treatment of an infestation is a multi-year commitment. A quarantine of the area is imposed to prevent infested materials from being removed from the area without treatment. Also, several years of monitoring trees in and surrounding the infested area for signs of beetle attacks, and removal of infested trees is required.

How you can recognize the Asian long-horned beetle:

Heads-Up to Spot Tree-Killing Asian Long-Horned Beetle

By Jill Cherpack and Russell McKinney

It's Pretty, and Pretty Bad

For an insect, the adult Asian long-horned beetle is a remarkable beauty. It is large, more than 2-inches long including antennae, and jet black with white spots on the wing covers. Its antennae can be 2 -1/2 times the body length, and are striped with black and white bands (see photo). Its feet have a bluish tinge.

The spectacular appearance of the beetle has helped to make it a media star. Its occurrence has been widely reported on network TV news and in newspapers. Because of the trade implications of increasing regulations on Chinese shipments, business and trade media have covered the issue as well. In Chicago the media coverage has been so extensive that the beetle is virtually a household word and has even been the subject of editorial page cartoons. The extensive coverage is valuable in building public awareness to be alert for infested trees.
Large (1/2-inch diameter) smooth round exit holes anywhere on the tree.

2. Oval to round darkened wounds on the bark, where adult females have chewed a place to lay eggs.

3. Piles of coarse sawdust at the base of trees or where the branches meet the main stem, where adult beetles have chewed their way from inside to outside of the tree.

**Beetle basics**

The damage inflicted on the host trees is a direct result of the characteristics and requirements of the beetle’s life cycle. In China the beetle may have one or two generations a year, while in the United States it seems to have only one generation yearly. Adult beetles emerge from infested materials in late spring and are present from June to October. They may stay on the trees from which they emerged or may disperse short distances to a new host, to feed and reproduce.

Eggs are laid in football-shaped pits chewed in the bark by the female. Each female is capable of laying 30 to 70 eggs. The eggs hatch in 10-15 days and the larvae bore into the inner bark of the tree.

The early larval instars feed within the inner bark. Late in the summer, the larva move into the woody part of the tree to feed. The larvae pupate in the inner wood. The following year, the adult beetles emerge from the tree by boring holes out horn the pupal sites.

The larval tunneling girdles tree stems and branches. Repeated attacks by the beetles over a couple of years leads to die-back of the tree crown and eventually to death of the tree.

Beyond some of the basic information presented here, relatively little is known about the Asian long-horned beetle. An array of forest and entomological research is needed. Dr. Boy Eav, director of the USDA Forest Service, Northeastern Research Station, notes, “There are important questions about the biology, taxonomy and flight patterns of the Asian long-horned beetle; about the resistance mechanisms of trees that do not become infested; and about the pheromones and attractants. These are just a few of the data gaps. Research can lead to the development of better beetle control methods.”
Susceptible species

Asian long-horned beetles attack different hardwood trees. In the United States, it has attacked primarily maple species, including Norway, red, sugar, silver, and boxelder. Beetles have also infested mulberry, poplar, willow, green ash, locust, elm, horsechestnut and chinaberry. A complete list of host species in U.S. is being developed as beetles are found.

No effective treatment

So far there are no methods to protect or save an infested tree. To prevent the beetle from spreading to healthy trees, it is necessary to remove the infested tree, chip the wood, and grind the stump. Trees are cut during the winter when beetles are in immature life stages deep in the wood. Since 1997, 2,000 trees have been removed in New York City and Amityville, N.Y. In metropolitan Chicago, about 400 trees will be removed this winter.

Tourism, maple syrup, nursery and timber industries are substantially at risk. Forest and community trees are equally at risk. On a tour to inspect Chicago's infested trees, Secretary of Agriculture Dan Glickman declared that the Asian long-horned beetle is "one bad bug."

Mark Stennes, a plant pathologist with extensive experience as a consulting arborist at Top Notch Tree Care in St. Louis Park, Minn., hopes the Asian long-horned beetle will be eradicated. The urban forests where he works have a high concentration of maple, an Asian long-horned beetle favored host. "Compared to the Asian long-horned beetle, Dutch elm disease looks like the common cold. If the beetle arrives here, it will effectively eliminate maple as useful ornamental trees," he predicts.

In China, the beetle has few natural enemies. In the United States, it has none. In its immature stages, it lives within the tree and is nearly impossible to detect. By the time the signs are plainly visible, the damage to the tree is already done.

Even with aggressive efforts to eradicate the Asian long-horned beetle and prevent new introductions, the problem could continue or worsen. Michael T. Rains, Director of the USDA Forest Service, Northeastern Area State and Private Forestry, sums up the concern. "I believe there are Asian long-horned beetle populations present in the United States that are undetected. In spite of tough regulations on shipments, more Asian long-horned beetles could potentially be introduced. Worst of all, there is no treatment. Infested trees will die, period. It is a tremendous environmental threat."

Non-native invasive species—trending upward

Non-native invasive pests, pathogens, animals, and plants are nothing new. Among pests and diseases of trees, Dutch elm disease, chestnut blight, butternut canker, dogwood anthracnose, hemlock woolly adelgid and gypsy moth are but a few agents that have changed the character of America's neighborhoods and the composition of its forests. However, the problem of non-native invasive species has reached epidemic proportions. Land managers are alarmed.
A quarantine of the infested area is critical to successful control.

At Pennypack Park, which is northeast of Philadelphia, non-native plants are the biggest problem for forest regeneration and tree care. “Much of our effort in forest restoration is battling aggressive non-native species, with vines being the worst part of the problem.” explains Dr. David Robertson, director of the Pennypack Trust. “A majority of our land management budget is spent on activities such as mowing, herbicide application and person hours to control invasive species.”

Non-native invasive species can permanently change ecosystems. They are the second greatest cause of decline in nearly half of threatened and endangered species listed today. Among non-native invasive insects, 370 have been identified and 17 could result in severe economic and biological consequences.

Parks, private trees and landscaped settings are not immune. Invasive and exotic species can be spread to community trees naturally or artificially—such as when seeds, plant material, or insect life stages are inadvertently transported to new locations attached to car tires, firewood or lawn furniture for example. In gypsy moth infested areas, a quarantine remains in effect to reduce the artificial spread of this notorious defoliator.

Stennes sees gypsy moth “knocking at the door.” He conducts invasive species control on a regular basis and describes some of the work as “downright distasteful. Buckthorn control in particular is nasty, unrewarding work,” he says. “It has no aesthetic value, no wildlife value, puts out 75 seedlings per square foot, and overruns the understory.”

Fighting invasive species is expensive. In New York, $4 million has been spent so far to fight the Asian long-horned beetle, and the cost in Chicago may be as much or more. The Asian gypsy moth eradication in the Pacific Northwest cost $20 million. These sums are modest compared to the cost of damage that could be done by these pests. However, the toll for controlling non-native invasive species is expected to grow, as it has for Pennypack Park.

Forest Service Director Michael Rains appeals to the tree care industry to help watch for signs of the Asian long-horned beetle. “Tree care professionals are among the best qualified and most capable people to identify new infestations.

“Your help to watch for and report signs of infestation is of tremendous value. You’ll be protecting the trees you care for which are typically significant investments. And you’ll be helping to protect the nation from a potentially devastating loss of trees.”

What’s Being Done

To prevent new introductions of the Asian long-horned beetle, USDA-APHIS is requiring that wood packaging for
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Asian long-horned beetle exit hole, where the adult beetle has emerged from an infested boxelder.

The Asian long-horned beetle infestation in Chicago was discovered when a private citizen saw the bug, wondered what it was, and searched the Internet for clues. When he found information that seemed to identify the beetle, he alerted responsible officials. That action evolved into the Asian long-horned beetle eradication project in the Chicago metropolitan area.

As the beetle problem grew, so did the amount of information available electronically. The following USDA sites have more information and links to other resources:

- http://willow.ncfes.umn.edu/

Check the Net
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Why You Should Be on the Web

More Clients Will Find You at NAA Web Site

Just a few short years ago, the National Arborist Association’s public outreach campaign encouraged consumers to call the association’s toll-free number for the names of NAA member companies in their area. While that effort continues—generating an average of 200 calls per month seeking referrals—the ever-increasing number of phone calls spurred a move of that service to the Internet.

Consumers may now locate offices of members through a zip code search on the NAA’s Web site. Tens of thousands of consumers visit the site each year in search of information on tree care and referrals to professional arborists in their area.

Using this service, potential clients type in their zip code and instantly receive information on NAA members who perform tree care work in their towns. The service, which has proved popular with consumers and member companies, has become a low-cost, 24-hour marketing tool.

www.natlarb.com

Many owners of small tree care companies ask why they should be on the World Wide Web. After all, most of their business is local, not national or international, and much of it comes from referrals. Why should they care about being on an international network when not that long ago they didn’t have a computer or a fax machine?

If you think your tree care business is way too small for the World Wide Web, read on. It’s time to learn how a Web presence can help improve your operations and boost your bottom line. But first, a few questions. Do you have:

✓ a telephone?
✓ A listing in the telephone book?
✓ stationery and envelopes bearing your business name?
✓ business cards?
✓ a sign in front of your place of business?
✓ advertisements that run in the paper or on the radio?

If you answer “yes” to any of these questions—and you almost certainly will—you should take a look at what the Web offers you.

Put simply, by creating a World Wide Web site, you’ll extend the communication and marketing power of your telephone, your ads, and other business-building tools at your disposal. Here, specifically, is what the Web will allow you to do:

♦ Spread yourself thick. If you had unlimited time, think of the number of prospects and customers you could meet. In practice, however, you have to eat, sleep, and take time out for yourself and your family. The Web, however, is an unrelenting 24-hour-a-day presence, making you available to your customers whenever they want.

♦ Build techno-credibility. Whether you like technology or not, you’ve got to face one fact: we live in a high-tech age. Customers who believe you capable of understanding and mastering the technological tools of the age will be more apt to believe that you’re capable of understanding and mastering other things, most significantly the products or services you sell. A Web presence positions you as a technologically adept business person.

♦ Provide information. A Web site is like a reference library, display booth, and file cabinet—all rolled into one collection of customer-friendly information. You can use the site to hold data, answer tree care questions, host sales promotions, position seasonal promotions, talk to customers through audio clips, and even show video material.

♦ Advertise the advertising. Marketing experts today note the importance of “integrated advertising”—various advertis-
ing elements which strategically complement and support each other. A newspaper ad might, for instance, promote your Web site, which might, in turn promote a powerful product brochure. Or your site might encourage visitors to place their names on your mailing list.

- **Foster internal pride.** A Web site often commands respect from the people around you: colleagues, employees and vendors.

- **Give them a voice.** Yes, you hear from your customers from time to time, especially when things go wrong. But the Web gives you an opportunity to solicit the views of your customers all the time. How? Simply insert an e-mail comment form on your site, and receive a stream of valuable feedback.

- **Get yourself on the receiving end of referrals.** A Web site is a wonderful tool that prospects, customers and visitors can use to pass along the names of friends and acquaintances who might need your goods or services. All it takes is an e-mail option at your site.

- **Build an image.** “Corporate identity” is one of the keys to effective marketing. When prospective customers instantly recognize your business, you have a leg up on the future. Reinforce your identity through the consistent use of your logo, slogans, and important marketing messages at your site. And unlike other advertising, which reaches your prospects for 30 or 60 seconds of air time, or a few column inches of print space, your Web presence can elaborate on the meaning of those logos and slogans.

- **Answer those burning questions.** You can answer tree care questions 24 hours a day, all the while escaping from the hustle and bustle of anxious telephone calls. A “frequently asked questions” section gives visitors answers to common questions, or even allows them to leave their unique questions for you.

- **Save money.** Suppose you could reduce the cost of mailing catalogs, circulars and other materials? Suppose you could cut your long distance telephone bill? Suppose you could reduce your fax volume? You can—by establishing a Web site and making information freely available there.

- **Open another branch.** Ever thought about opening a branch in another neighborhood, city or state? By building a Web site, you can establish a branch location in cyberspace that attracts visitors, and potential clients, from surrounding towns.

Today, tree care firms of every size and description are on the Web. More than 35 percent of North Americans have Internet access, and the percentage is growing with each passing year. The Web presence of business firms is not lost on technologically adept consumers. The Web is often their information and communications medium of choice. Put yourself on the Web, and you’ll put yourself squarely in front of these savvy consumers.

Richard Ensman is a freelance writer based in Rochester, N.Y. He specializes in business-related topics.

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**TREE CARE INDUSTRY - FEBRUARY 1999**

39
HAZCOM and You

With all the issues that must concern a tree care employer with regard to maintaining a safe workplace, the hot buttons for regulatory compliance can seem trivial. Case in point: OSHA's Hazard Communication Standard (HAZCOM, 29 CFR 1910.1200) is one of the most frequently cited regulations.

HAZCOM applies to any chemical that poses a physical or health hazard. An example of a physical hazard is a substance that is flammable or combustible. An example of a health hazard is something that is a known carcinogen. These are only examples, and by no means do they represent the full array of chemicals or hazards that may be covered by this Standard. On the other hand, most pesticides do not fall under this requirement because they are regulated by the EPA under FIFRA. Incidentally, OSHA doesn't maintain a list of hazardous chemicals—the burden of hazard determination is borne by the chemical manufacturer.

For most companies, gasoline is the compound that triggers this requirement. Thankfully, complying with HAZCOM is relatively simple and straightforward for most tree care operations. Recently, OSHA released CPL 2-2.38D, a checklist for complying with the standard. OSHA supports the use of checklists, and for safety professionals, any help complying with OSHA regulations is always welcome.

OSHA's Hazard Communication Checklist

Items 1 through 5 are recordkeeping requirements:
1. Has a list of all hazardous chemicals in the workplace been prepared?
2. Does the company have a method for updating the hazardous chemical list?
3. Has the company obtained a material safety data sheet (MSDS) for each hazardous chemical used?
4. Has a system been developed to ensure that all incoming hazardous chemicals have labels and MSDS's?
5. Are procedures in place to ensure labeling for containers of hazardous chemicals?

Items 6 through 15 are training requirements:
6. Are employees aware of the requirements of the Hazard Communication Standard and information specific to their workplace?
7. Are employees familiar with the hazards of the chemicals in their workplace?
8. Have employees been informed of the hazards associated with performing non-routine tasks?
9. Do employees understand how to detect the presence or release of hazardous chemicals in their workplace?
10. Are employees trained about proper work practices and personal protective equipment in relation to the hazardous chemicals in their work area?
11. Does the training program provide information on appropriate first aid, emergency procedures, and the likely symptoms of overexposure?
12. Does the training program include an explanation of labels and warnings that are used in each work area?
13. Does the training describe where employees obtain data sheets and how employees use them?
14. Is a system in place to ensure that new employees are trained before beginning work?
15. Is a system in place to identify new hazardous chemicals before they are introduced into the work area, and to inform employees of the hazards associated with newly introduced chemicals.

Peter Gerstenberger is director of safety & education for the National Arborist Association.
"Go Ahead—Ask Big Al"

By: Jeffrey Lee, Branch Management, Riverside, CA (909) 319-7003

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Dear Al,

I married my husband years ago when he was a sapling tree trimmer for a large company. At our recent 12th anniversary, my husband said, to our distinguished guests, that our marriage anniversary, my husband said, to our

1. **Taut Line Hitch**
   - This would probably be the most recognized and popular positioning knot in climbing. It can be used to secure a climber to the climbing line while using the body thrust method of ascending, as well as for moving about the tree and descending. Once in the tree, the rope can be adjusted for length. The downside feature accompanied with this knot is the high maintenance aspect. While doing longer climbs and just from normal use, it tends to "wiggle" its way out to the "tail" end of the rope. It is worth a little extra attention to maintain its integrity.

2. **Blake Knot** - This is a slightly more advanced version of the Taut Line Hitch. It is tied just a little differently, but behaves much differently. The greatest advantage is that it does not offer that "wiggle" phenomenon associated with the Taut Line Hitch. Beware, however: The Blake Knot tends to slide much faster on descent from a tree. Be careful with that one!

3. **Prusik Knot** - This is a knot used primarily when executing the secured foot-lock method of climbing. This is strictly a delay, or fall restraint, knot. The knot is created with an endless loop of rope, the Prusik loop, attached to the saddle and wrapped appropriately around the doubled up climbing line. Advanced along the climbing line during ascent, it will secure a climber from an unfortunate demise if fatigue should be overwhelming or some other unforeseen circumstance should occur. The "trade-off" with this knot is that it is only used for ascending and not for descending. Once in the tree, a taut line hitch or a Blake knot must be tied for working in the tree.

So you see, there may be many hidden characteristics to these friction knots. Much like your marriage, all knots serve a specific purpose. If tied correctly and properly applied (for the right reasons), and given the attention they deserve, these knots, like your marriage, will not come untied.

Signed,
All Tied Up and Confused

Dear Tied Up,

First, we must decide what "friction knot" he is referring to. There are three primary friction knots used in tree climbing.

"Big Al Fontaine"

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**For the Next Millennium—All Of Your Arborist Needs**

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Rustling Leaves

By John A. Stepp

In Northern California, the shorter winter days bring on an early evening chill. Bundled in a warm jacket, I wearily drove southward toward the Interstate, and home. A dull ache throbbed in my back and arms from pressing a Resistograph drill against the trunks of numerous old trees. My sole consolation was the satisfaction of discovering large areas of internal decay in three massive, 100-year-old Blue Gum eucalyptus trees.

I've never liked condemning trees, but the possibility of saving human lives from such falling monsters was forcing their removal. “At least we can replace them with new trees”, I thought disconsolately to myself. I wheeled off the Interstate and saw something which jolted me awake like a bolt of lightning. Two darkly dressed men were pilfering silver dollar eucalyptus leaves! I flipped on the rotating amber light of my orange state pickup. Grabbing the mike, I called for the California Highway Patrol.

As I pulled over to the curb, I recalled the shock of seeing 15 large silver dollar eucalyptus trees nearly denuded of leaves a couple of years earlier at this very interchange. At first it made no sense. Why would anyone be stripping trees of small branches and foliage?

Nearly every cut twig and leaf had simply disappeared. All that remained...
were neat piles of chopped branches and slash, carefully piled out of view at the base of several trees. I took numerous photographs and submitted a report to my boss.

Driving inland, a few weeks later, I attended a teachers' seminar in Sacramento, Calif., with my wife, Gloria. On our travels, we noticed dozens of similarly stripped trees.

Back in my own section, on the wooded peninsula of the San Francisco Bay area, I began to discover other denuded silver dollar trees. It occurred to me that people must be making money from the sale of these leaves, but I just couldn't figure out what value a bunch of eucalyptus leaves would have to anyone. Eucalyptus leaf thievery was apparently spreading, so I began an investigation and inspection of my own section. I canvassed other supervisors and surfed the Internet to discover how widespread the pilfering was.

I learned that similar incidents had occurred randomly throughout the state. Florist shops, it seems, use the leaves and flowers of several species of eucalyptus in flower arrangements and wreath making.

A friend Parker Kelly, deputy district attorney for Redwood City, Calif., suggested that some florists apparently are careless about their source of eucalyptus greens, "especially at bargain prices."

I spread the word to the Highway Patrol and California Department of Transportation (Caltrans), to be on the lookout for eucalyptus leaf rustlers. Almost two years passed as leaves continued to disappear, but the leaf thieves always got away.

"But this time they won't," I thought to myself as I jumped from my pickup, flipping off the amber light. Before the leaf thieves noticed, I had taken several pictures of them with a digital zoom camera.

Clambering back into my truck, I sped toward them. Pulling alongside the leaf rustlers, I activated the amber light and radio mike in hand.

The rustlers stopped their trimming as I approached. Stalling for time, I asked if they had their Encroachment Permit with them and engaged them in conversation. When another Caltrans supervisor who'd been listening in on his radio pulled up, I slipped him the camera.

At the rustler's feet were several large, neatly trimmed and bound bundles of flowery silver dollar eucalyptus leaves. Soon, the leaf thieves were onto me and began to get nervous. I already was.

"Hey man, he's just trying to keep us here until the cops come," one of them said. "Let's get out of here!"

"The CHP is coming any minute, and you can't outrun them," I cautioned. "If you run, you could be charged with resisting arrest."

The larger of the two looked me in the eye defiantly and said, "I'm getting outta here, and you're not gonna stop me."

Loudly booming a physical description of the two over the radio, I noticed a look of terror come over their faces.

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TREE CARE INDUSTRY - FEBRUARY 1999
Two men pilfering silver dollar eucalyptus trees.

White faced, they stood frozen in their place, looking past me at a rapidly approaching CHP squad car with red and blue lights flashing.

I wondered if the euc leaf thieves knew what was in store for them. In California, in addition to trespass, leaf thieves are in violation of Penal Code Section 384a. The law states that "... it is a misdemeanor to remove or injure a tree owned by a public entity." Those convicted of this misdemeanor face "... a fine of up to one thousand dollars ($1,000), imprisonment in a county jail, or both fine and imprisonment."

One of the officers made the suspects drop their shears and pole pruners and sit on the ground. The other collected information about what had happened. I explained that I caught the men in the act. The officers already knew about the widespread problem, and asked me to perform a citizen's arrest, since I had witnessed them in the act. The Highway

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In the presence of these two California Highway Patrol officers, I am placing you under arrest for violation of California Penal Code Section 384a."

As an officer pulled one rustler to his feet, the thief glowered at me saying, "Oh man, you gonna arrest us?"

The officer ordered the man to place his hands on his head, then reached up and cuffed one wrist, brought the hand and other arm down behind his back, and "click," snapped the handcuffs shut on the other wrist.

The officer read them their rights as he led them away.

As the CHP drove off with the two stunned men handcuffed in the back seat, I felt a little sorry for them. But as an arborist, I know that the defoliation of evergreen trees deprives them of the ability to manufacture food. Persistent defoliation can weaken a tree, leaving it open to attack from fungus and insects that could eventually kill the tree.

Penal Code section 384a applies not only to trees, but provides protection for "... shrubs, ferns, wild flowers, herbs, cactus, bulbs, huckleberry, redwood greens, or leaf mold growing upon public land or upon land not his or her own ..."

Though I felt compassion for the leaf rustlers, I knew I had done the right thing. Somebody has to protect the trees. Despite their remarkable survival mechanisms, trees cannot defend themselves against sharp pruning tools.

John A. Stepp is an arborist for the State of California, Department of Transportation.
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When the National Weather Service predicts trouble ahead, somewhere in the country tree care crews scramble on alert. With them are the mechanics and repair personnel who keep crews aloft, restoring power and clearing limbs from atop houses. The most experienced mechanics know, however, that they can’t wait until the storm hits to have crews and machinery operating at peak efficiency.

Donnie McWilliams, field service representative with Mobile Tool International, Inc., works primarily in Mississippi on Bell South equipment, but he responds to storm emergencies in nine southern states. When hurricane Georges hit last fall, he worked 16-hour days keeping the aerial devices in use. During storm cleanup operations, McWilliams sees increases in boom damage and scrapes to the underside as crews drive over and through downed trees. “Our trucks are pretty well equipped with small parts, and we go through a lot of switches and hydraulic hoses after storms,” says McWilliams. “After storms they tend to get into places where they normally wouldn’t go. They are apt to tear up more parts.”

During storm emergencies, McWilliams puts a premium on getting machinery back in operation, even if he has to make repairs in the field that would normally be done at a shop. “I had a couple of trucks that tried to get up into tight places. They got into a bind and the safety cams locked up. The boom wouldn’t go any higher. We had to replace several sets of those.”

McWilliams does comprehensive inspections every six months and a short inspection after each repair. “Even if we repair just one hose, we make sure everything else is working right,” he emphasizes.

Dan Bramble, equipment training supervisor with Asplundh Tree Expert Company, stresses that having well-maintained equipment is the most important factor in storm emergencies. “Our equipment is maintained at the highest level at all times, so if a storm does arrive, we are ready. An ongoing maintenance program keeps equipment up for any type of storm emergency.

“If we know a storm is going to hit, say a hurricane is headed for the coast of Florida, we have regions that are put on standby,” he explains. “They contact the crews and the equipment is ready when the crews are.”

The goal is not to have a separate emergency mode for inspections. “When you are running a lift three shifts a day, you will have more maintenance problems than running it once a day. The foreman may need to repair or replace something faster, but that’s because it’s operating more.”

During storm emergencies, each shift performs an inspection on the unit. Asplundh has weekly checklists, but there are items that they inspect daily, such as drive cables, critical welds and critical components.

“If the lift is running three shifts in one day during a storm versus its normal one shift, our maintenance schedule is stepped up to compensate,” says Bramble. “During storm emergencies, maintenance is stepped up for things such as lubrication. Each shift performs what would normally be a daily inspection.”

With more than 26 years of equipment experience, Bramble has become very familiar with the different lifts Asplundh uses. He has made available distinct inspection report checklists for each manufacturer’s lift. “I utilized information from equipment maintenance manuals to make up the checklist. We use so many different models of aerial devices: they are all unique in their own way.”

Asplundh stocks replacement parts lightly. They can get the same type of next-day-air delivery of parts from the manufacturer as from their own facility. If a piece of equipment breaks down, they contact their call-in service in Lynchburg, Va., who contacts the aerial lift manufacturer. In an emergency situation, the manufacturer can air freight parts to the lift. Asplundh keeps spare ropes and tools in their inventory, but not lift parts—at least not major components.

Asplundh doesn’t necessarily send a mechanic along to be on hand to make small repairs. “Some regions do, but generally if
something breaks down, they would get it to a repair facility," explains Bramble.

The company doesn’t need mobile repair facilities loaded with spares when manufacturers, among others, provide that service. One company that stays on the road providing repairs to tree crews is C.U.E.S., Inc. in Amherst, N.H. C.U.E.S. has three divisions in the Northeast that offer mobile repair services: four vehicles cover northern New England, three handle Connecticut and another three service upstate New York. The company also runs road service vehicles at night for Bell Atlantic.

"In total, we have 15 service trucks on the road constantly," says Bill Dowd, sales service coordinator for C.U.E.S. "We have been around long enough to know that when a storm approaches, we will have some problems ahead. We pull in our scheduled preventive maintenance program for a few days, so a customer doesn’t have to shut equipment down during a storm. Should there be a problem, I get on the pager, find the road service guy who is closest, and we are there as quick as we can be.”

What does he stock most during storms? Hoses. "We find that when people are working during emergencies, trees and limbs fall, brush the side of the boom, and rip the hoses off the truck," notes Dowd.

Dowd cautions that crews engaged in storm clean-up have to pay particular attention to the dielectric integrity of their units. They should always assume there is power running through the lines—even if the power company says the lines are dead. "The thing that is scary today is homeowners will turn on portable generators that they bought in case of a power outage," he warns. "If they plug in a generator without shutting off the circuit breaker, they feed power into the street.”

On roadside repairs the level of the safety inspection will vary with the type of repair needed. "If we go to a site where the customer simply has cut a hose with a chain saw, we splice that hose and get them back and running," says Dowd. "However, if a tree falls on top of a truck and breaks a hose, we fix the hose and check the rest of the truck for structural damage.”

In his years on the road ministering to broken and damaged pieces of machinery, Dowd has seen any number of unwise uses of an aerial devices. A fairly common one during and after storms is the use of the boom to attempt to straighten leaning poles, or even trees.

"No one should ever think there is enough strength in that hydraulic system to straighten a telephone pole," says Dowd. "There isn’t. Of course, they can break the boom, too.”

Nor should crews use their aerial device as a crane, stresses Dowd. While this advice may seem self-evident to experienced tree crews, Dowd has seen the results of more than one such attempt. "We had a fellow a couple of years ago who during a storm brought the bucket over a log, tied a rope to the log, and tried to lift it off a front porch. He did not have his body harness on. Unfortunately, the rope slipped and sent him about 35 feet to the neighbor’s front porch. I have been doing this for 30 years, and I see the same stupid stuff every single day.”

Dana Scudder, national sales manager for Time Manufacturing Company, which
makes Versalift units, explains a typical lift’s limits. “They only have a 400-pound bucket capacity. One person in the bucket with equipment pushes 300 pounds. If they put several hundred pounds of limb on there, the machine is severely overloaded. It causes so much wear, tear and abuse on the machine—not to mention the potential for an accident.”

According to Scudder, the biggest problem their service people face is chain saw cuts to the fiberglass boom. With that type of damage they have to determine if it can be repaired or needs to be replaced. “In order to decide,” explains Scudder, “we factor the overall length of the boom, the dimensions on where the platform pivot will be, and where the fiberglass inserts into the steel in the knuckle end. This data is input with how big the damaged area is and where it is to determine where the stresses will be. If that damaged area is going to be affected by those stresses, we tell them they need to replace the boom. There is no way to determine that in the field. If they hit the boom, or the bucket, with a chain saw, the unit should be grounded immediately,” he stresses.

In his three decades of repairing broken aerial devices and restoring equipment lost to bad choices, Dowd believes things have gotten better. The larger companies, especially, train their people and make them aware of the hazards and mechanical limitations. He is less confident that some of the smaller companies are following that lead.

“I do seminars all the time,” he says. “When I reference the manufacturer’s recommendations contained in the manuals, I get blank looks. It is scary.

“They must follow OSHA, ANSI and manufacturer’s rules, regulations and standards. During the winter, unfortunately, a lot of people put off the general preventive maintenance, inspections and dielectric testing. There’s no substitute for preventive maintenance, training and proper testing.”

That is a sentiment echoed by the manufacturers of aerial devices. Ernie DePiero, owner of Aerial Lift of Connecticut, Inc., warns that putting off maintenance is never a good idea. “Daily, weekly, monthly and yearly inspections are required to keep the aerial lift in safe operating condition,” he stresses. “Each day the operator must operate the lift from the remote or lower controls in all positions before climbing into the bucket. Since many of these lifts are not located at their own shop or garage, the operator or foreman is responsible for the inspection.”

To ensure that the inspection is comprehensive, even in the field during storm emergencies, Aerial Lift of Connecticut mounts an aluminum plate on the deck of its lifts near the access ladder listing all of the major items to be checked each day and month. “We school all companies at no charge on these very important areas,” says DePiero.
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continued on page 56

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Cynthia Mills New Executive Vice President

The board of directors of the National Arborist Association is pleased to announce that Cynthia Mills, CAE, has been selected as executive vice president.

She comes to the NAA with an impressive background in association management as the former executive director of Pilot International and Pilot International Foundation—a 24,000 member civic service organization that operates in six countries with approximately 800 chapters. Prior to this position, she served as assistant executive director for the National Association of College Auxiliary Services. She is also on the Alumni board of directors of her alma mater, Queens College in Charlotte, N.C. Her master's degree was received from the University of York, York, England.

Cynthia’s demonstrated expertise in managing national and international associations was the most important consideration in her selection. The board of directors is confident she will engage in learning about our industry with vigor and enthusiasm.

The NAA has grown rapidly in recent years, and now boasts an annual budget of more than $3 million. Along with this budget growth has come increased membership, educational programs and staff. Managing the challenges that growth and change bring to an association requires specific and different skills from those required of NAA members in managing their daily businesses.

As they grow, trade associations like the NAA have common challenges: membership development and retention; program creation and promotion; regional, national and international expansion; taxable versus non-taxable income; energizing the membership; government affairs; public relations and consumer education; attracting and motivating volunteers; and responding to member and board concerns.

Cynthia has successfully tackled all of these issues. She is a member of the American Society of Association Executives and earned the Certified Association Executive designation in 1996. She is president of Georgia Society of Association Executives and was recently named Southeastern Association Executive of the Year. The board is confident Cynthia is the person who can manage the association into the 21st century.

The board would like to thank the membership for their patience during this process. They would also like to thank the Search Committee for the time and effort they exerted in finding such an exceptional executive. The Search Committee sifted through hundreds of resumes and recommendations, devoting countless hours to ensure that they would hire the most qualified candidate in the nation. Finding someone of Cynthia’s caliber took an unwillingness to settle for second best.

Cynthia attended the Winter Management Conference in Cancun at the end of January and will come on board officially on March 15. Please don’t hesitate to introduce yourself. Cynthia wants to hear your thoughts and priorities for your association.
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When Roger Zimmerman, owner of MEDCO Tree Service in Elwell, Mich., was asked to bid on some tree work at a local library last year, he hit upon an innovative idea. He proposed to quote the job and donate the money back to the library. The only condition would be that the library must use the money to buy books on trees and tree care.

"In my town we have a little library," relates Zimmerman. "It doesn't have a lot of funds to buy books, let alone books on arboriculture. Few of the libraries up here in Michigan have books on arboriculture."

As a gesture of appreciation, the libraries stamp the books "Donated by Roger Zimmerman and Medco Tree Service," which helps market the MEDCO name in the region.

As an additional benefit, the contribution is tax deductible.

"It seemed like a win-win-win situation," says Zimmerman.
He isn't sure how many people have checked out the books so far, but he is hopeful those who do will learn a little bit about proper tree care practices.

"Around here, the only people who would take out those books are people who are likely to have that kind of work done in their yard," he notes. "The more that people can be educated on the way tree care is supposed to be done, the easier my job is going to get."

When Zimmerman hit on the idea, he called the National Arborist Association for a list of recommended books. He turns that list over to libraries that agree to his proposal. Thus far, three have taken advantage of the offer for a total of more than $2,200. One, Seville Township Library, purchased 18 books with his $250 donation, including titles from Burn, Luebbermann and Shigo.

Zimmerman doesn't actively promote the program, but if someone calls he mentions the idea.

"Right now we are trying to extend the idea to local schools. They might have nice Norway maples and ashes planted when they initiated their landscaping program, but they don't prune them," he says.

"One school has a 30 acre forest they use as a laboratory. We offered to do high pruning for them, which I think they will accept."

His primary goal is educating the public. It's also a way for Zimmerman, who has been in business for 18 years, to gain an edge over non-professionals with whom he competes.

"We have a lot of guys up here who run out and buy a chain saw, a rope and head out to trim trees," he says. "If we can make people more knowledgeable about tree care, it's a good situation for me because I don't have to fight the "fly-by-nighters."
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* Please circle this number on the Reader Service Card for more information.
I have been climbing for 23 years. This lengthy tenure does not include this past year, which I spent at home recovering. For the most part, I have been accident free for my entire career as an arborist. I have pruned and felled some pretty large trees in my years as a climber. I am writing to tell you not to say “It can’t happen to me.”

January 8, 1997 started out as all the rest. We gathered our tools and went to the job site. There was much work to be done—a total of seven trees to be felled. The only saving grace about this job was the fact that I work for the University of Maryland at College Park, Md., and six of the seven trees could be dropped on University property and left in the woods, so there would be no clean up.

The six trees were Virginia Pines that stood approximately 40 to 60 feet tall. Since these trees were located in the woods, I put a pull line on them so we could control the way they fell. I was using a bucket truck to save on time, so I would not have to climb each tree to put the pull line in the top to pull them in the desired direction. The first six came down without a single problem.

Then came the “Mother of all Oaks!!” It was a two-leadered red oak on which only one lead was dead. Due to this, we were instructed to remove the dead half and leave the other half standing. I had the driver back the bucket truck into position so I could get started.

My plan was to remove all of the limbs and then the top. The tree stood about 80 feet tall. I had the booms fully extended, so we were at about 50 to 60 feet. All that was left was to throw the top and chunk down the rest of the trunk. The top had what appeared to be a natural lean in the direction in which I wanted the top to go. I started the saw and cut my notch. I looked at it and it was perfect—not too deep on either cut and the wedge dropped right out. I started the back cut when all of a sudden the top was falling toward me. I threw the saw and put my hands up to try and push this enormous piece away from me, but it was too heavy. It measured 14 inches in diameter where I had made my cut, and the piece that I cut off was 33 feet long. Given the taper that all tops have and the limbs that were left in the top, I would guess that this thing weighed in the neighborhood of 1,500 to 2,000 pounds.

As it fell I was able to get it away from me just enough so it would not land on my chest and break my back. I can remember very clearly how it hit my hard hat, knocking it off, and continued to fall, slicing open my chin. Then came the worst part. (Remember that I am standing in a bucket.)

It landed on top of both my arms crushing them between the top and rim of the bucket. I have never felt so much pain!

For a split second I had to stand there and bear the weight while the upper boom flexed under the shock load. I can just imagine what the shock load weight must have been. The top had fallen about 3 to 4 feet before it had hit my arms and the bucket.

Whatever the load, I would like to salute the designers at Skyrider, the maker of the boom assembly. What if the boom had broken? I probably wouldn’t be alive today. There are so many “what ifs” in this story.

• What if I had not had a hard hat?
• What if I had climbed this day instead of using a bucket?
• What if I had put a pull line on the top?
• What if my crew had no aerial rescue training?

There are a number of ways this situation could have gone, but I thank God that it went the way it did. As it turned out, I crushed both of the large bones in my left forearm, and did major damage to the right hand along with the slices on my chin. Five operations and 13 months later I went back to work, but not as the same climber. It took a great deal of courage to return to the same line of work that almost took my life.

The moral of this story: There is no shortcut that is worth a piece of your body. There is no amount of time saved that is worth a crew member getting hurt or killed. To this day I cannot explain what happened that morning. Take it from one who has been there. Take the time to do everything within your power to do it right the first time, for you may not be as lucky as I was to be given the chance to ask, “What if?”.

I wish to take this opportunity to express my deepest thanks to the four people who allowed me to be able to share this story with you.

✓ Dr. Keith Segalman of Greater Chesapeake Hand Specialists. He is the man who put me back together and made sure I was able to continue with the career that I love.

✓ Ken Palmer of ArborMaster Training and Jeff Jepson, author of The Tree Climbers Companion. Together they assisted me in putting together a climbing rehab program that Dr. Segalman used to evaluate my condition before allowing me to return to climbing trees.

✓ Alea Dean, my wife, who helped me through what was the most trying time of my life. When I had no hands, she was my hands.

Lucien Dean is a tree climber with the University of Maryland in College Park, Maryland.
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