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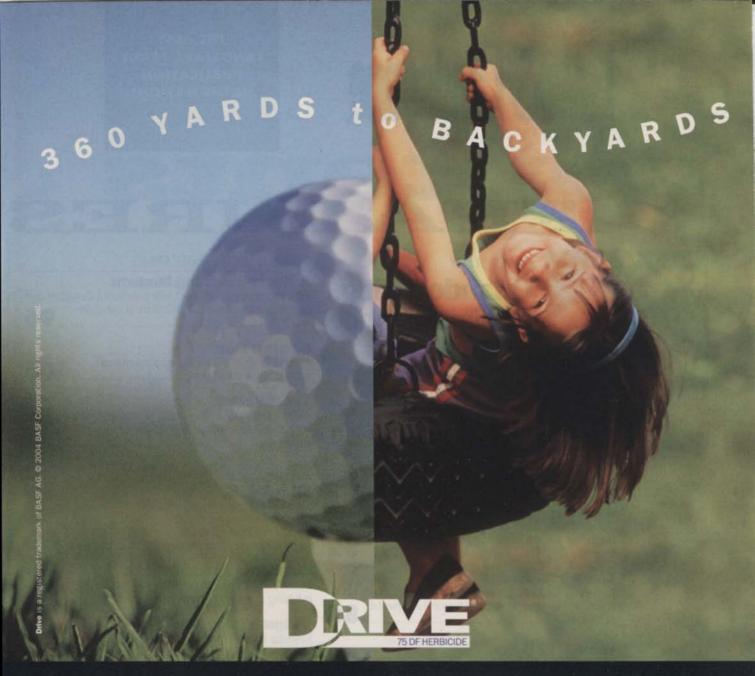
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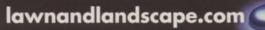
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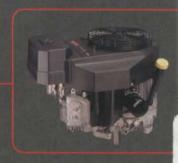


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Check out the "Best of the Web" section of Lawn & Landscape on page 52. This article, based on a recent Message Board discussion, examines a collection of tips to help new businesses avoid common pitfalls that can thwart profitability.



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Browse Lawn & Landscape Online for a collection of exclusive Web stories relative to this month's issue:

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- Check out the April Online Extras section for a list of drought-tolerant plants for use in xeriscape designs.
- Look online to find out how ND Landscaping balances its snow division's sales volume vs.
 staffing by working with subcontractors.
- Visit Lawn & Landscape Online to learn how to win a copy of this month's featured book.

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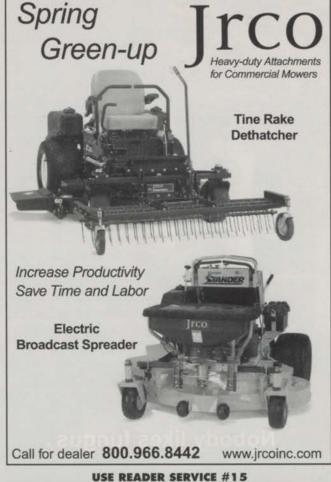
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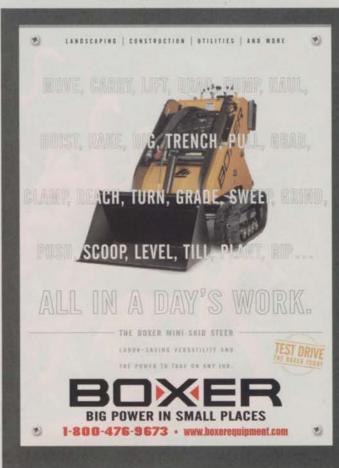
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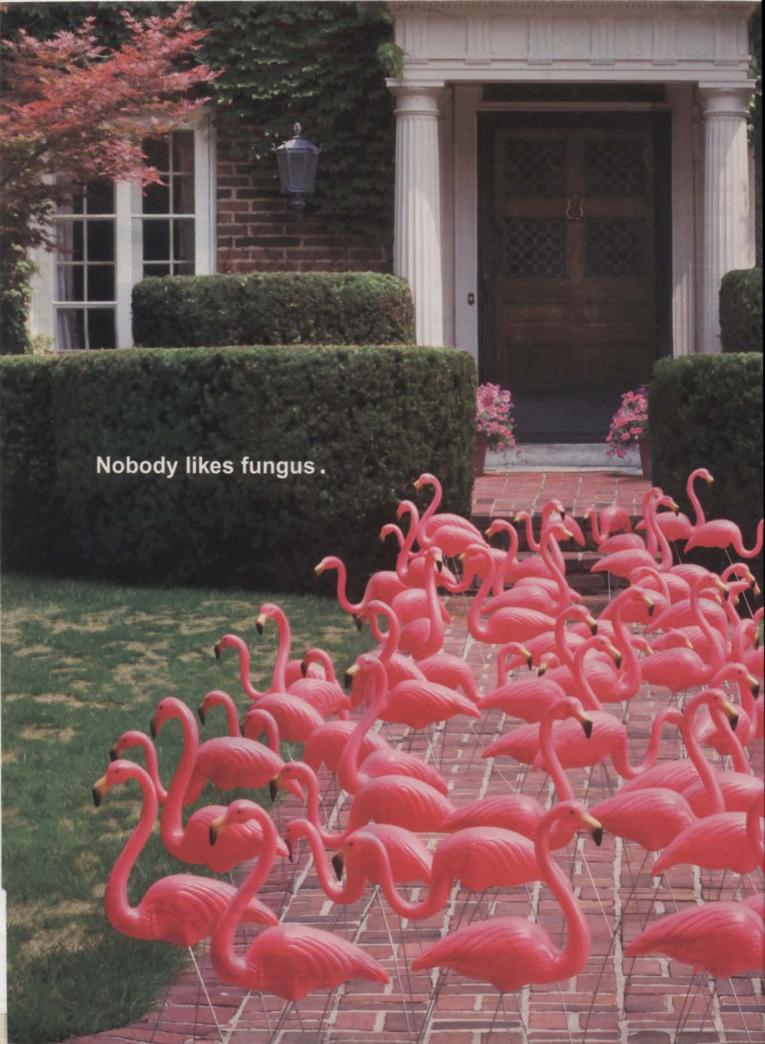
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Editor's Focus

Ask the Tough Questions

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"Anything worth doing is worth doing poorly."

Not exactly your typical business advice, but it was an opening statement made by Chip Eichelberger, a motivational trainer and the featured speaker at the Associated Landscape Contractors of America's (ALCA) annual Executive Forum held in February in San Diego, Calif.

Eichelberger was making the point that we all tend to keep doing the things we are already good at, rather than trying to do new things which might involve making mistakes or even failing. But real progress in life and in business comes from doing new things, he advised, even if it means risking doing them poorly.

"If you don't change the direction you're headed in," he commented, "then you're going to get there."

Eichelberger led more than 250 ALCA members through 1½ days of workshops on marketing, leadership, goal setting, inspiring employees and values. As is true of most motivational trainers, Eichelberger allowed too little time for the exercises, and too much time for rah-rah – he frequently had the group jump up, pump a fisted hand into the air and shout 'YES!'

What Eichelberger accomplished well was getting all of us to consider the big picture – where are you going in life and why, and what do you believe in and stand for? To do this he led the group through exercises about our goals, beliefs, values, visions, life priorities and more – that's a lot of work to do in less than two days.

Deciding what you want out of life and setting goals is far from motivational hype. Michael Gerber, author of the *E-Myth* and a top business consultant, uses goal setting as a foundation in his training programs. Most professional business coaches also emphasize planning. If you have never taken the time to think about and write down your business and professional goals, you should because the benefits are real.

One of Eichelberger's creative exercises addressed setting business goals. He asked everyone to imagine that it is the year 2009, and to write a one-paragraph "story of

you and your team as if it has already happened." Suggested details to include were, how your business has evolved, how your daily activities and role have changed, how your customer base and product mix have shifted, what recognition you and your company have received, and what you are doing now. This exercise may sound simplistic, but try it.

Another series of exercises asked each of us to consider our beliefs and convictions. The question posed was, "What must I believe to be a more effective leader?" In response, each of us wrote down six statements of our business beliefs. Then we tackled our business values and convictions, and wrote a code of business conduct.

Thinking about your goals, beliefs and values is not easy work, but that was the point of these exercises. It's too easy to do a day-to-day routine rather than think about what we could be doing differently or better.

I've interviewed hundreds of small business owners in my career, and my observation is that what makes most successful companies special is the owner – his or her goals, beliefs and values. Sadly, the story behind the story in too many news headlines today relates to greed as a business goal, and a lack of values and ethics in business, government, sports, entertainment and religion. What society can and will do about this is a huge question, but each of us gets to determine the answer in our own lives and in our companies every day. Personally, I believe that people and companies built on a foundation of service and ethical behavior do enjoy a strategic advantage.

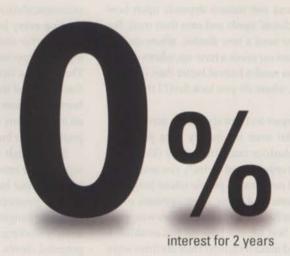
Eichelberger offers information on his Web site and two free forms to help accomplish personal goals: a "Gaining the Edge Scorecard," and a "Winners Workout Schedule" (www.getswitchedon.com). To learn more about ALCA and its annual Executive Forum and other programs, visit www.alca.org, or call 800-395-2522.

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Sales & Marketing

Yellow Page Ad Advice

Marty Grunder is a speaker, consultant, author and landscape contractor wth Grunder Landscaping Co. He can be reached at 937/847-9944 and via www.martygrunder.com.



Landscape contractors often ask me what I think of Yellow Page ads, and my blunt answer is usually, "They're a waste of money." I know this from personal experience. But research statistics show that a large amount is spent annually on Yellow Page ads. The Kelsey Group estimates that 46 percent of the \$22 billion small business owners spend on advertising this year will go toward Yellow Page ads. That's almost \$11 billion! Put simply, that's too much to invest in the phonebook.

When it comes to business, landscape contractors are like dentists, mechanics and hairdressers: We're all in the service industry, and our success depends upon how well we meet our clients' needs and earn their trust. For example, when you need a new dentist, where do you turn first? When your car needs a tune-up, whom do you call first? When you need a haircut better than the local barber can deliver, where do you look first? I think you get the point.

Dentistry, car repair and hair styling are services you want done well. But since the quality from person to person in these industries can differ wildly (Ever get a buzz-cut when you only wanted a trim?), you tend to ask family, friends and neighbors – people whose judgment you trust – for recommendations. Their opinions count more than the Yellow Pages. Or, to put it another way, your reputation is your best ad. But how do you establish a good reputation and make it known? Here are three ways that have worked for me:

1. Deliver exceptional service to every client – big or small. Several years ago I got a call out of the blue from a woman who said she had heard Grunder Landscaping had the best mulch in town and would we deliver her a load? Of course we would! We sent a driver out right away to deliver her our "special mulch," which he did with the same level of professionalism and courtesy we expect our employees to show all of our clients. Today that woman is our largest client, the kind of client you could only

dream about. Our mulch was no better than our competition's mulch, but our service was. Do a job well and years later you might find yourself still reaping the rewards.

2. Put your clients to work for you. When you complete a job, follow up in person with your clients to make sure they're pleased with your work. And if for some reason they're not, do what it takes to make them so and then turn the tables. Send them a letter offering them a gift certificate, cash or some other benefit for every client they refer to you who signs up. And if you've followed my first suggestion and delivered them exceptional service, you may find you don't even have to ask. On the strength of neighbor-to-neighbor recommendations alone, I've sometimes succeeded in landing every job on a street.

3. Practice smart-bomb marketing. Smart-bomb marketing is the opposite of Yellow Page ads because it's smart. The price of a Yellow Page ad is based on how many homes that edition of the phonebook is delivered to – the more homes, the more you pay for the ad. What it's not based on is how many of those homes are actually good prospects for your business, and often that's not many at all.

Smart-bomb marketing is marketing that is aimed right at your intended target or customer. To get a better bang for your buck, drop "bombs" of catchy and inexpensive promotional postcards, flyers, newsletters or even door hangers to those neighborhoods' homes you're already working at or to those you've identified as a good potential clients. You'll likely see a far better return on your investment. And if you see a lawn you think you could improve, knock on the door and tell the homeowner so. No one ever got anywhere in business without at least a little bit of gumption.

Don't get me wrong: Yellow Page ads sometimes have their place. They can be a good first step for a new company to announce its presence and establish its credibility, or for an older company looking to change or rejuvenate its image. But there's nothing smart about spending \$11 billion dollars on the phonebook.



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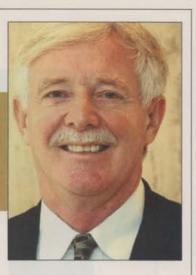


The miracles of science

The Operating Room

Managing by the Hours

Jack Mattingly is a green industry consultant with Mattingly Consulting. He can be reached via email at jkmattingly@comcast.net, through his Web site www.mattinglyconsulting.com or at 770/517-9476.



Landscape contractors are in the business of supplying labor to create and maintain landscapes. In fact, as the green industry's single largest expense, 35 to 40 percent of the dollars that contractors invoice comes from labor. Because of this, labor is the primary factor on which all contractors need to focus. It also is an item that is easily controlled with the proper management tools.

As I visit clients throughout the country, there is one area that is consistently difficult for contractors to recognize and control: Non-productive, indirect labor that costs companies money without producing revenue. These are the hours spent on travel time, equipment maintenance, loading, etc. In the February issue of Lawn & Landscape, Jeffery Johns, president of Coastal Greenery, Brunswick, Ga., outlined how he and I worked together to turn his business around by tracking hours and understanding the numbers. This is exactly where we started and where other contractors also have to start in order to understand the impact of non-productive hours.

The next step is to develop the management tools to track those numbers. In a maintenance environment, I recommend tracking daily indirect hours as the manhours spent from the end of the last job – travel time back to the yard, unloading, equipment service and "off-the-clock" time. All other hours should be charged to a job. Therefore, from the time a crew begins work, travels to and completes the first job, all man-hours are charged to that particular job.

Budgeting these hours is imperative and contractors should include travel time in their original estimates. In the case of a company that has foremen come in 15 to 30 minutes early to prepare for the day, those few minutes are charged to indirect costs, but that foreman's travel time to the first job site is always charged to that job.

In the construction environment, tracking hours becomes simpler by charging all hours worked that day, including loading, travel, on-the-job hours, unloading, etc., directly to that job. Of course, this assumes that all the work performed for the day was related to a single job. Again, including loading and travel time in your original estimate is necessary and contractors should clarify that with their estimators. Neglecting to account for these hours can add up in terms of lost profit.

All field employees must understand how hours are charged to certain jobs in order to keep everyone working toward the same goal of reducing lost time. One way to accomplish this is to enlarge your company's time sheet to poster size, fill it out as an example and hang it on the wall for your employees to view. Display one for the maintenance department and one for the construction department, as they will be slightly different.

With an understanding of how to track non-productive hours, contractors can begin budgeting for these hours on a daily basis. Without tracking these hours, many contractors see their crews beating budgeted hours on almost every job, but wonder why their bottom lines are not showing 10 to 15 percent profit. Perhaps their crews are accruing too many non-productive hours but are showing good job hours on their time sheets.

With both direct job hours and indirect hours budgeted, contractors must track these hours on a daily or weekly basis and report the results back to individual crews weekly. This can be done using a labor report listing all the jobs the crew was assigned to in the previous week. These reports show the total budgeted manhours for each job, including travel time, and also the budgeted indirect man-hours for each day. By recording actual hours in these areas as time sheets come to the office, contractors can report back to each crew with their labor efficiency and any procedural issues that need to be discussed in order to increase efficiency.

Sharing this information with crews on a weekly basis helps contractors create accountability for each employee and recognize and reward excellent performances. Having everyone in the organization focused on man-hours is crucial, and budgeting, monitoring and tracking all the hours accrued by the company on a weekly basis will improve any company's bottom line.



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In the Office

Personality Profiles

Jean L. Seawright is president of Seawright & Associates in Winter Park, Fla. She can be contacted at 407/645-2433 or jpileggi@seawright.com.



For years, business owners have questioned the value of conducting personality profiles. But an ever-growing number of employers, battered and bruised from the labor wars of the 1990s, have learned to appreciate the usefulness of a good personality profile.

In the past, most employer concerns were based on fears related to privacy (years ago it was not in vogue to reveal one's "true self"), trust (some people feared that the results would be used against them), the apparent value of experience (past work experience was once the "sacred cow" of hiring – now employers realize the importance of hiring for attitude and training for skill), and legal liabilities (many of the early personality profiles asked personal and non-job-related questions).

Because of the continued need to build consensus, developstrong leaders and hire people that fit a company's culture, employer attitudes toward personality profiles have changed. Many have found out what we already know – that a good personality profile helps reduce the costs and liabilities associated with placing a "square peg in a round hole."

The theory behind personality profiles is that people perform their best when they are in a position that allows them to draw on their natural strengths. When people are in a position that causes them to act unnaturally, it creates stress and lowers productivity. Profiles identify a person's natural tendencies, which helps determine what roles suit them best. An effective profile can save years of learning how to understand someone.

Of course, personality profiles are only one piece of the hiring puzzle. There are many traits that a personality profile cannot measure, such as experience, maturity, judgment, cultural tendencies, intellect and a sense of humor, among others. And although two people can score similarly on a personality profile, they are still distinct and different individuals. A good personality profile will not provide a complete picture of an individual, but it will define a "template" personality from which traits emanate.

Personality profiles should never be used as the sole determining factor in an employment decision (hire, promotion, demotion, etc.). They should be combined with other valuable hiring tools, including an in-depth and job-specific interview, a comprehensive and legally compliant application form, background checks (criminal, credit or motor vehicle, as needed), reference checks, job-related pre-employment testing tools, a drug screen and others. Results from all of these should be evaluated carefully and considered as a whole.

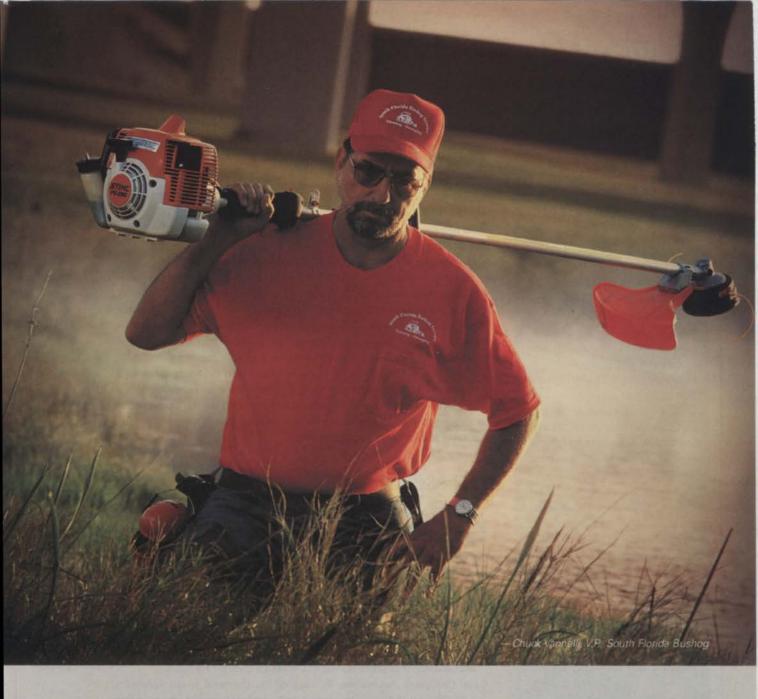
A good personality profile should measure "template" personality traits – it should not attempt to define attitudes or feelings. Also, I have found that a good profile that measures an individual's "rock bottom" personality is useful for any position. In other words, it is not always necessary to use position-specific profiles. A person's personality traits remain the same regardless of his or her position.

Personality profiles should be practical to administer, legally compliant, cost effective, easy to understand and job-related. Here are some important tips:

- Ensure that the criteria you use to select who takes the profile are non-discriminatory. Personality profiles or employment tests that weed out people based on age, sex, religion, disability or other protected categories are illegal.
- Complete the profile yourself before administering it to employees or candidates. This way, you will have a greater understanding of how it is interpreted.
- Provide people with a copy of the profile results (or the appropriate portion of results). People who take time to share personal information deserve to walk away with the results. Likewise, prior to hire, you may want to share a copy of your own results with a candidate whom you will supervise. After all, if you are interested in building relationships and enhancing communication, wouldn't it help if your employees understood you and your style better?

The right personality profile can provide invaluable insight into the person you are about to trust with your business, image, equipment and customers. As a pre-hire tool, personality profiles are one piece of the hiring puzzle that you shouldn't hire without.

APRIL 2004



"About the only thing that gets in our way is gators."

Chuck's crews tackle the toughest the South Florida landscape has to offer — all day, every day. Sawgrass, Bahia grass, even the occasional water moccasin. His trimmer of choice? The STIHL FS 250. With its compact design, increased torque and high power-to-weight ratio, Chuck's crews can run longer and faster with the FS 250 than with anything else. As Chuck says, "When you're waist-deep in swamp, cutting sawgrass and snakes, your trimmer better be the best there is." 1 800 GO STIHL • www.stihlusa.com





FRANCHISE FOCUS

Lawn Doctor Recognizes its Best

Holmdel, N.J. - Lawn Doctor recently recognized its most outstanding franchisees.

"Our two most valuable assets are our customers and our franchisees," says Russell Frith, president and CEO, Lawn Doctor. This corporate emphasis on satisfied customers and employees is emphasized each year with Lawn Doctor's Best of the Best Awards.

The annual awards are distributed based on commitment to Lawn Doctor's proven system for franchisee success – including employee development, safety smarts, strategic planning, customer-oriented service, professionalism and on-going participation in Lawn Doctor's initiatives. Also, eligible franchisees must have received Lawn Doctor's Outstanding Franchise Award for two consecutive years.

During Lawn Doctor's 2004 National Conference, Atlantic City, N.J., winners – selected from each of the seven cash flow categories based on their operating methods (continued on page 24)

Russell Frith, Lawn Doctor president & CEO



SERVICE SOLUTIONS

Add-Ons Add Up

Many contractors are adding services to their current mix to satisfy clients who want them to become one-stop shops. This way, they can get additional revenue

from their current clients instead of always seeking out new clients.

Snow removal tops the list of services that contractors consider the most viable with 30 percent of the votes. Many contractors (28 percent) are also selling landscape lighting as an add-on service. Clearing lawns of thatch and improving overall turf health is the main reason 18 percent of contractors are offering clients add-on aeration services. And another big add-on is holiday lighting – 15 percent of contractors are increasing clients' seasonal spirits with this service.

Two other add-on services that aren't being added as swiftly are mosquito and perimeter pest control, receiving 5 and 4 percent of the votes, respectively.

For more information on how you can add one of the top three most popular addon services to your business, as well as irrigation, turn to page 60 for our special report on add-on service opportunities.

RESEARCH REPORTS

The Michigan Green Industry

LANSING, Mich. - Michigan state's turf industry professionals are ready to turn that brown sod to green - both literally and figuratively.

A study by the state Department of Agriculture found that lawns and other grassy areas soak up \$1.8 billion a year in fertilizer, pesticides, seed and other costs. Residential lawns alone occupy nearly 1.6 million acres in the state, and homeowners spend \$1.3 billion keeping those lawns lush and green, according to the survey.

But according to Bruce Butterfield, research director for the National Gardening Association, Burlington, Vt., the trend is not isolated to

Michigan turf. "It's safe to say that *most* people are spending more on their lawns," Butterfield explains. "I think it's a feel-good kind of thing, especially after 9-11. They're saying, 'I can't control what happens in the big world, but I can at least control what happens in my back yard.""

Approximately 59 million U.S. households do their own lawn care, and nearly 20 million hire lawn care companies. Nationally, the "do-it-your-self" portion of lawn care costs \$39.6 billion. But, overall, landscaping and lawn care is a \$69 billion industry.

"Landscaping enhances people's investment in their property, makes it more livable, and gives them something to talk about with the neighbors," Butterfield observes, stating that according to the Michigan Agricultural Department study, the state's homeowners spent \$226 million in contracted services.

The report, titled the Michigan Turfgrass Survey, was compiled for the first time last year. It will be repeated every fifth year as part of a rotating series of surveys, explained Vince Matthews, deputy director of the Michigan Agricultural Statistics Service. *Source*: The Lansing Bureau

SERVICE	% OF CONTRACTORS
Snow Removal	30%
Landscape Lighting	28%
Aeration	18%
Holiday Lighting	15%
Mosquito Control	5%
Perimeter Pest Control	4%

Source: www.lawnandlandscape.co

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*Source: Kline & Company, 2001

"See web site for guarantee details.







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GMC | SIERRA

(continued from page 20)

and level of excellence from last year – were recognized.

The following franchisees were the recipients of Lawn Doctor's Best of the Best Awards:

- · Charles & Regina Milks, New Mexico
- · Norm & Chervl Diehl, Illinois
- · Dennis Faust, Delaware
- · Ed & Linda Lennon, Rhode Island
- · Dave & Dawn Mlotkiewicz, New Jersey
- Frank & Stephanie Richardson, arvland
- · Steve & Marietta Madden, Virginia

SUPPLIER STATS

Toro Profits Climb with Early Contractor Orders

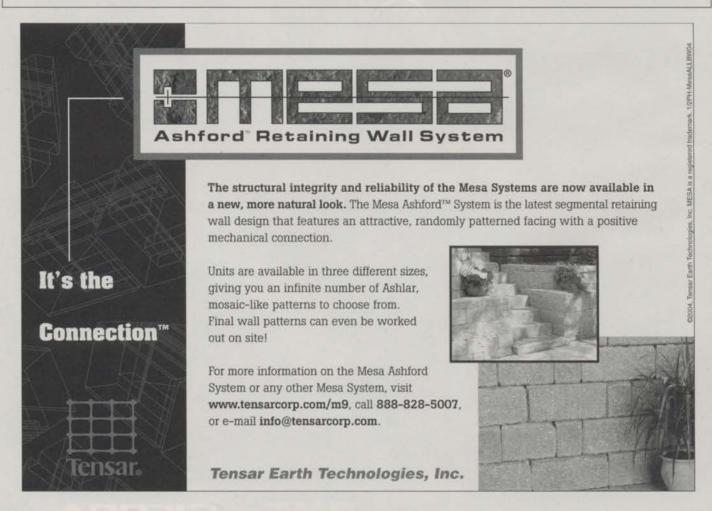
BLOOMINGTON, Minn. – The Toro Co. announced that its quarterly net income climbed due to improved demand and the (continued on page 26)

Association

The Association of Professional Landscape Designers (APLD) announced their leadership for 2004. Officers include: Patricia Ouderkirk, president; Bobbie Schwartz, president-elect; Judy DePue, secretary; Rosalind Reed, treasurer; and Linda Engstrom, past president. APLD also announced the formation of a new chapter in Illinois that will serve APLD members in the Midwestern United States.

Since launching the Founders Club in December 2003, the **Ohio Turfgrass Foundation's** new fundraising effort is off to a great start. On its day of introduction, the Founders Club received \$52,250 in sponsoring commitments and has a goal of raising more than \$500,000 through multiple levels of sponsorship – Platinum, Gold, Silver and Bronze. Donations to the Founders Club establish a funding vehicle in which only the interested income generated from the principle will be earmarked for scientific support. For information on how to donate, contact OTF Executive Director Kevin Thompson at 888/683-3445 or visit www.ohioturfgrass.org.

The American Landscape Contractors Association and the Occupational Safety and Health Administration teamed up to promote safety in landscape businesses. The ALCA-OSHA alliance provides green industry workers with education to help them enjoy safer work environments. Specifically, the alliance will center on the reduction of injuries related to manual material handling, amputations, motor vehicle crashes, and slip-and-trip injuries. For more information, call 800/395-2522.



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- · No daily lube points...all this and a spoiler!





HUSTLER
Turf Equipment

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(continued from page 24) weaker dollar.

Toro says snowthrower shipments, which increased because of snowy weather in the eastern United States, and strong early orders for landscape contractor products helped boost earnings in the first quarter of 2004, which is typically a slower period.

Toro's net income in the first quarter ending Jan. 30 jumped to \$9.3 million, or 36 cents a share, from \$7.0 million, or 27 cents a share, in 2003.

In February, the company raised its firstquarter earnings outlook to a range of 34 to 36 cents a share from its prior guidance of 15 to 20 cents a share.

Sales in the first quarter of 2004 climbed to \$313.6 million from \$296 million. The company says it expects its full-year pershare profit to rise 14 to 18 percent over 2003's \$3.12 a share, on an expected 7- to 9percent rise in revenue.

For the second quarter, Toro projects earnings of \$1.80 to \$1.90 a share.

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MAY 26-28 Grandy & Associate's 2004 Basic Business Boot Camp, Owensboro, Ky. Contact: 800/432-7963 or www.grandyassociates.com

AUG. 18-20 Lawn & Landscape Weed & Insect Management Summit, Chicago, Ill. Contact: 800/456-0707

AUG. 26 18th Annual Indiana Professional Lawn & Landscape Association Summer Field Day, Carmel, Ind. Contact: 317/575-9010

SEPT. 24-26 International Lawn, Garden & Power Equipment Expo. Louisville, Ky. Contact: 800/558-8767 or www.expo.mow.org

OCT. 1-2 Middle Tennessee Nursery Association Trade Show. McMinnville, Tenn. Contact: 931/668-7322 or www.mtna.com

NOV. 4-6 28th Annual Turf & Grounds Exposition, Rochester, N.Y. Contact: 800/873-8873 or www.nysta.org

NOV. 4-7 Green Industry Expo. Charlotte, N.C. Contact: 888/303-3685 or www.gieonline.com

NOV. 14-16 International Irrigation Conference & Show, Tampa, Fla. Contact: 703/536-7080 or www.irrigation.org

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SALES SECRETS

6 Sales **Success Pointers** To Use On The Job

According to Ken Furst and Scott Farland, The Momentum Group, landscape contractors should remember the following six key elements of a successful sales strategy when trying to sell their services to prospective clients.

1. Sharpen your saw. Remember the old story about the woodsman who was struggling to cut down a tree with a dull saw? He was "too busy" to stop and prepare his tools properly, so he wasted enormous hours doing the job badly. Don't get so caught up in the minutia of your day that you skip the time to step back and look at the big picture.

2. Manage your time and turf. We all have the same number of hours in a day. How well we use them makes all the difference. Categorize tasks as directly generating rev-

On the

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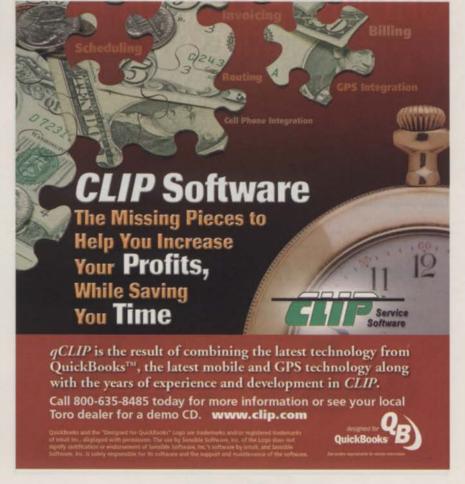
To announce a new Web site, e-mail nwisniewski@lawnandlandscape.com.

enue, indirectly generating revenue or nonrevenue producing. And spend more time in the first category. Even the highest achievers in sales typically only spend one-third of their time on direct revenue generation - so think what you can achieve if you can move that up a few percentage points. Quantify it; if you pay a rep \$60,000 per year, that means each hour is worth \$30.

3. Be a pro, not a sales jockey. Put yourself in your customers' shoes, and approach them as they would like to be approached. Listen a lot and understand the objections - understand that in order to become a customer, your prospect must internalize the benefits of your solutions. Ask your best customers, who are also being wooed by other vendors, why they've chosen to stay with you.

4. Focus on the meaning of life. Why are you really in business? While you want to switch as many hours of your business time into the most productive areas, keep





in perspective the things that really matter: time, community, loyalty and love.

5. Slice the bologna backwards. Figure out where you want to be and reverse engineer the goal into a series of steps. If you know what you want as a profit, you can create a sales target based on that goal. It's not about working hard, but about meeting those goals effectively. You can "create your own W-2" by visualizing the number you want on the income line of your tax return.

6. Follow the principle of demeanor. A good sales representative understands the goals and purposes of the organization, builds customer relationships based on empathy, worthwhile conversation and, of course, meeting the client's needs. A good sales representative also knows how to support his or her people, never gossips or moves an appointment and understands the importance of profit without being greedy. Source: Umass Amherst Family Business Center

Ron Tremper was appointed manager of sales operations for TrynEx International

At Massey Ferguson, Lynne Frederick was named vice president and director of marketing

Stellar Industries hired Matt Schroeder as a new engineer who will focus on designing hydraulic systems

Susan Cronin-Haines joined Hunter Industries as accounts sales manager for Southern California.

In several personnel changes at LESCO, Bob West was hired as marketing director; Chris Paczak and Dave Woznicki are category director and product manager, respectively, of combination and control products: Tom Newbould is merchandising manager; and Adam Shaw and Jeanne Hui are product analysts for equipment and fertilizer/seed, respectively.

Vista Professional Outdoor Lighting also made several personnel announcements. Tom Petrush is the new regional sales manager for the northeastern United States. Also, Jerry Ewing is the company's new regional field technical specialist for Southern California. Sandra Perez is the new marketing project manager and Aaron Krakora was named district trainer for Orange and San Diego counties in California.



Lawn & Landscape wants to know who's who at

Ave., Cleveland, Ohio, 44113

ur company, "People" and "Association News" ss releases, including photos or digital images at 300 dpi can be sent to Lauren Spiers at





From top Sandra Perez, Aaron Krakora. Susan Cronin-Haines



USE READER SERVICE #29



USE READER SERVICE #28

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Nursery Market Report

LANDSCAPE TRENDS

Romantic Blooms

Romantic Tulipa
'Queen of Night'
(below) is a
classic tulip in
maroon. Pink
'Angelique'
(above) grows 18
inches tall.
Photos:
Netherlands
Flower Bulb
Center

This spring, romance rules in the landscape, according to experts with the International Flower Bulb Center. The Hillegom, Netherlandsbased organization reports that this soft look has perennial appeal.

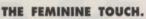
Flowers are naturally romantic, according to Mieke Stap, trend expert for the International Flower Bulb Center. "What's fun about the romantic look is how varied it can be in its interpretation," Stap says.

Creating a romantic mood outdoors is similar to making one indoors, Stap says. Focus on the scale of intimate spaces. Use layers of color, texture, shape and

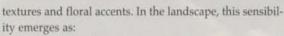
detail to create atmosphere, she adds.

Stap says these are the common refrains shared by all romantic plantings: fragrant flowers like roses and lilies; translucent, light-catching flowers like tulips; the sound of splashing water; vertical, vine-clad elements like arbors; and the mystery achieved by winding paths and shaded, secluded places.

Stap has identified three romantic themes, each with distinctive elements. Try incorporating one of these themes into your next landscape design.



Picturing this touch indoors is easy – soft colors, layered



- Delicate pastel plantings with pink, blue, mauve and white blooms;
 - · English-style border gardens;
 - · Accent plants in grays, silver and pewter;
 - · Fountains with elevated center urns;
 - · Stone and cobblestone paths;
 - · Airy, decorative arbors, gazebos or pergolas;
- Decorative statuary, especially large, classical figures; and
 - · Soft lighting along paved paths.

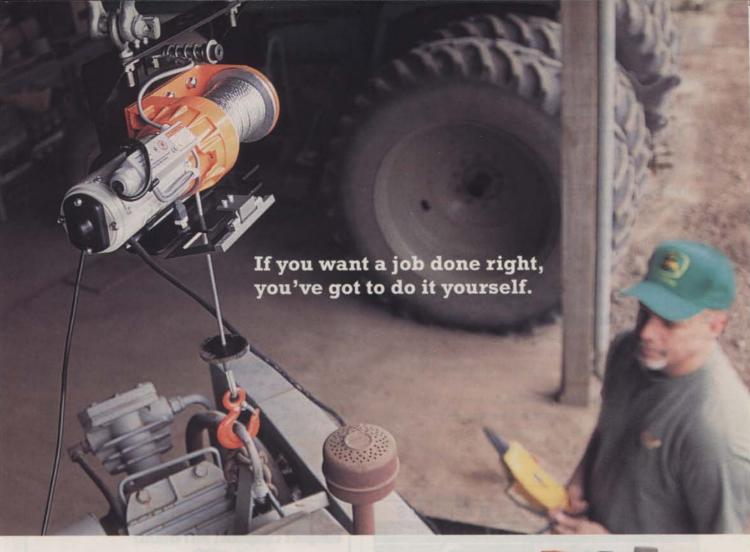
A MARRAKECH EFFECT. The look should be aged and exotic – romantic, with a decidedly spicy foreign flavor, Stap says. An exotic mood may be achieved in the land-scape by using:

- Rich, color-saturated landscape plantings with depth and layers;
 - · Jumbles of sun-dappled, oversized foliage;
 - · Abundant exotic flowers in jewel-tone colors;
- Intricate stonework, mosaic or tiling, including tiled water gardens or reflective pools; and
- Mixes of container plantings with large glazed or earthen pots as architectural accents.

HOBBITY HABITATS. Here, the romance of nature and folklore are co-mingled to create small "otherworlds" in the landscape. The trend is toward a small, self-contained "world" where life is charming, secure and eccentric.

(continued on page 32)







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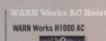


WARN Works Product Line:











Nursery Market Report

(continued from page 30)

BULB BEAUTIES

10 Blooms for Spring Romance

Following are 10 spring bloomers deemed "most romantic" by the Netherlands Flower Bulb Center, Brooklyn, N.Y.

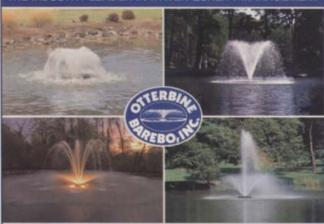
- 1. HYACINTHUS 'SPLENDID CORNELIA.' H. Splendid is often described as mauve, but that's only the beginning of this hyacinth's unusual coloration. Its flared florets also are enriched with deep blue veins and its stem is not green, but burgundy. Hyacinths require well-drained soil and will flower longer in somewhat shady areas. Hyacinth 'Splendid Cornelia' is hardy to U.S. Department of Agriculture zones 4 to 8 and offers a fresh, sweet scent, especially effective when grouped in beds and borders.
- 2. TULIPA 'PASSIONALE.' T. 'Passionale' is a midseason bloomer, producing sturdy stems and large flowers. Flowers have purple petals with darker purple flames on the exterior and a red-purple wash on the interior. Plant in containers or flower beds in zones 3 to 7 and provide full sun.
- 3. NARCISSUS 'BRIDAL CROWN.' Award-winning N. 'Bridal Crown' has double flowers with creamy-white petals interspersed with saffron-yellow cup segments. The flowers are hardy in zones 4 to 9, highly fragrant, flower in midseason and tolerate full sun to full shade.

- **4. HYACINTHUS 'LADY DERBY.'** H. 'Lady Derby' is a distinctive pink underplant with Anemone blanda 'Blue Shades,' a mix of light to dark blue daisy-like flowers only 4 inches tall. Provide well-drained soil and partial shade, where they will flower longer. This hyacinth is hardy in zones 4 to 8 and is ideal for planting in beds and borders in groups of three or more and for larger geometric plantings.
- **5. NARCISSUS CYCLAMINEUS 'JETFIRE.'** N. 'Jetfire' is a spring early bird that tolerates heavy shade, wet soil and often produces more than one flower per bulb. 'Jetfire' is hardy in zones 4 to 9 and has yellow petals with a red-orange trumpet. Use in beds, borders and rock gardens.
- 6. CROCUS CHRYSANTHUS 'ROMANCE.' For maximum impact, plant in bunches of 10 or more and in combination with crocuses in pastel or bright colors. Tight, cup-shaped flowers have a warm yellow interior and buff yellow exterior. Provide well-drained soil and full sun to partial shade.
- 7. TULIPA 'QUEEN OF THE NIGHT.' With the classic tulip shape and a deep maroon color, plant in groups of 25 to 50 in combination with pastel tulips. Late bloomer 'Queen of the Night' is hardy in zones 3 to 8, prefers full sun and is best used in borders, containers and perennial beds.

(continued on page 34)

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USE READER SERVICE #33



Primo MAXX™ Helps Lawn Care Operators Maintain and Grow their Business

Use of Primo MAXX Leads to Enhanced Customer Satisfaction and Increased Revenue Potential

What do you, as a lawn care operator, have in common with other industry professionals? Goals for success—and your primary goals are to satisfy your customers and to increase revenue. Lawn care and grounds maintenance professionals across the nation are discovering that one of the best ways to meet these goals is with Primo MAXX, the leading plant growth regulator in the industry, manufactured by Syngenta Professional Products.

Over the years, progressive lawn care operators have relied on Primo MAXX to build customer satisfaction by enhancing the appearance of their customers' lawns. A proven ability to make turf more lush and thick, as well as manage clippings, means that Primo MAXX is not just a product, but also an investment. Selling Primo MAXX applications to current and potential customers as an add-on service has created an additional revenue stream for many lawn care and grounds maintenance operations.

Incorporating Primo MAXX into your business allows you to:

- Enhance turf with a richer color
- Increase tillering and root mass development
- Provide a healthy, more durable turf surface
- Reduce clippings by 50% so less bagging and green waste is generated
- Decrease the amount of time needed to maintain treated areas, freeing up time for crews to focus on weeding, leaf and debris removal, etc.
- Trim and edge hard-to-mow areas
- Achieve pre-stress conditioning against heat, drought, disease, and traffic
- Decrease water consumption

To learn more about how Primo MAXX can build your lawn care business, please contact your local Syngenta sales representative, visit www.syngenta professionalproducts.com or call 1-800-395-8873.

Primo MAXX™ Grows Business, Slows Turf Growth

Over the years, Carl Clifton has grown his business, Lawnscape Systems, Inc., into one of the premier lawn care service providers in Southern California. The addition of Riverside National Cemetery, the largest memorial park managed by the National Cemetery Administration, to his client list in 2002 helped to advance the scope of services offered by the company.

Maintaining the 300-acre Riverside National Cemetery is a rather large task for any landscape company. Lawnscape Systems recognized that the meticulous attention required for the cemetery, especially around the markers, could mean additional costs. Cemeteries everywhere have the universal problem of keeping the markers clean, usually relying on string trimmers to get the job done. Depending on growing conditions, this task must be repeated in three- to four-week cycles.

The tremendous amount of manpower, equipment, and the cost associated with this task led Clifton and his associates to seek a more efficient alternative. Lawnscape Systems turned to Primo MAXX, a key component of its lawn care operations for eight years.

Primo MAXX applications help to keep the cemetery markers clean and the surrounding turf green and healthy. According to Clifton, using Primo MAXX to slow the growth and enhance the appearance of the turf around the cemetery markers has provided immediate benefits to his business.

Clifton also uses Primo MAXX with home lawn care customers. "It's important that landscape maintenance people sell the product's benefits correctly to customers," said Clifton. "They may think that their customers won't be happy since they are on the lawn less, but Primo MAXX delivers a better lawn with less effort."

"The Primo MAXX applications are 'manpower' that always shows up for work. By using Primo MAXX, you are trading the issues and costs attached to traditional manpower, as well as gaining savings in water, gas, and equipment maintenance," said Clifton.



Nursery Market Report

(continued from page 32)

Among the romantic landscape elements with a naturalistic bent are:

 Interplays of wood, moss, stone, water and sound;



- · Small-scale plantings and artifacts;
- · Mossy stone or dirt paths;
- Pint-sized woodland huts or cottages with interesting doorways;
- Vast sweeps of wild flowers like muscari and dainty botanical or towering lily-flowered tulips; and
- Berms and embankments with groundhugging plants.

Plantings designed with an eye to romance can provide high impact and a fresh look for spring. Put your own personal touch and name to each style and easily wow your clients (see page 32 and right for suggested plants). – Ali Cybulski

The author is contributing editor to Lawn & Landscape magazine and can be reached at acybulski@lawnandlandscape.com.

Double daffodils and violas in soft, pastel colors illustrate the feminine theme in the romantic landscape trend. Photo: Netherlands Flower Bulb Center

10 Blooms (continued from page 32)

8. TULIPA 'ANGELIQUE.' The peony-flowered 'Angelique' is blush-pink, grows 18 inches tall and blooms late in the season. It combines well with the deep

season. It combines well with the deep green or purple foliage of Heuchera and complements the dark shade of 'Queen of the Night.' Tulip 'Angelique' is hardy in zones 3 to 7, prefers full sun to partial shade and is a good selection for landscape beds and borders.

9. TULIPA 'BALLERINA.' With a slim, elegant flower and a luminous tangerine orange color, these tulips are remarkably tall with long, willowy stems. 'Ballerina' is hardy in zones 3 to 8 and prefers full sun and wind-sheltered areas.

10. TULIPA 'PURISSIMA.' T

'Purissima' is tall, averaging 18 inches and has a large, elongated flower shape and broad leaves. For best effect, plant in large drifts for early spring color. The pure milky-white 'Purissima' is hardy in zones 3 to 8 and is an early-season bloomer. Provide full sun and try in beds, borders and rock gardens: – Ali Cybulski





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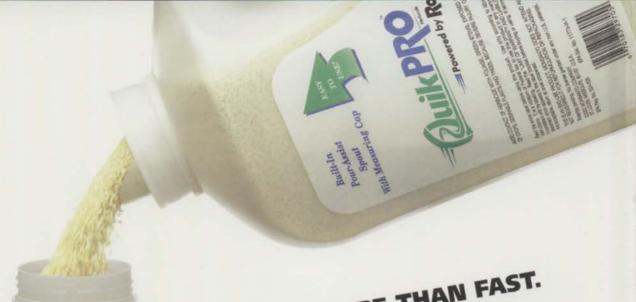
after treatment



5 days

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Book Report

ROB SHAUGER RECOMMENDS...

Nuts! Southwest Airlines' Recipe for Business and Personal Success

by Kevin and Jackie Frieberg

What do you call a company that asks prospective employees to interview in Bermuda shorts and is run by a CEO who dresses up as Elvis for company functions? Those who follow innovative business practices know this company as Southwest airlines, but there are still plenty of people who would simply call it "Nuts."

Thus, the title of the inspirational story of Southwest Airlines, its Owner Herb Kellaher, his unconventional approach to management and his company's unparalleled rise to greatness. Nuts! Southwest Airlines' Crazy Recipe for Business and Personal Success, co-authored by Kevin and Jackie Freidberg, tracks the history of the airline from its darker days as a fourplane, three-city-serving airline to its current status as one of the most successful low-cost carriers in the annals of airline history.

"They started out with everything against them," says Rob Shauger, owner, Advanced Applications, Deerfield, N.Y., adding that the original mission of Kellaher was to build an airline that would fly for dirt cheap, offer low prices and make up the profit in sheer volume. "But they created a family-oriented work environment where some of the employees have been with the company for 20 to 25 years. They all work together to be the company to beat."

Shauger recommends the book as an intimate look into the inner-workings of a company that extracts its success from its family-based management style, where employees are top priority - even ranking above customers. "It's about doing things differently and being unique," he says. "They want their employees to take their

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Give us your best book recommendation and we'll enter your name in a drawing to win a copy of Nuts! Southwest Airlines' Crazy Recipe for Business and Personal Success. Simply e-mail your book suggestion (include the title, author, your personal contact information and your reason for suggesting it to our readers) to Will Nepper at wnepper@lawnandlandscape.com or call him at 800/456-0707 with the information. The deadline for entries is May 1.

jobs seriously without taking themselves too seriously."

Hence, the aforementioned anecdote about employee interviews, in which they asked a group of prospective pilots to switch their business slacks with Bermuda shorts.

"They asked them to spend a day-long interview in a button-up shirt, tie and these shorts," Shauger relates. "Those who stayed behind - many of them ended up getting the job. Those who said, 'This is ridiculous. I'm not doing this,' - they didn't want that type of person working for the company."

Shauger says that Nuts also goes into detail recounting the development of Southwest's company character. "They give employees the flexibility to make important decisions on their own without having to check with the corporate office or follow the chain of command."

The book also points out that the lines of division across the airline's chain of command are blurred by

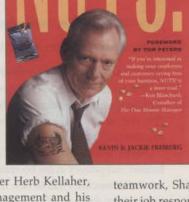
teamwork, Shauger explains. "The employees all mix their job responsibilities," he says. "There is mention of how you'll see a pilot get out of the plane to help out the guys working on the runway. They all intermingle like that because they're all tied to the bottom line of the company through profit sharing. Anything they can do to save the company money comes back to them 10 times over."

Nuts also details how this kind of fiscal conservatism extends to all areas of Southwest's structure. Instead of serving in-flight meals, the airline opts for serving more than 60 million bags of peanuts a year. "They do as much as they can to keep their overhead down and increase their volume," Shauger says. "They know how to do things inexpensively and efficiently because they've done the research and the studies. They know how to implement systems that keep everything flowing smoothly."

Shauger says that Nuts has helped him retain an open mind about his business practices. "I was too close-minded on some issues before and now my outlook on life in general, in addition to business, is very different," he says.

"The book really focuses on employee loyalty and retention while still providing the client with impeccable service," Shauger says. "I think those two things go hand in hand." - Will Nepper

The author is assistant editor of Lawn & Landscape magazine and can be reached at wnepper@lawnandlandscape.com. Purchase this book by calling Megan Erickson at 800/456-0707 or visiting www.lawnandlandscape.com/store.



CAROL KING LANDSCAPE MAINTENANCE

HEADQUARTERS: Orlando, Fla.
FOUNDED: Jerry Bachand purchased Carol King Landscape
Maintenance from its original owner
Bill King in 1975. Bill King started
the company in 1960.

1993 REVENUE: \$3.1 million 2003 REVENUE: \$6.75 million PROJECTED 2004 REVENUE:

\$7.1 million

AVERAGE GROWTH

ANNUALLY: 5 to 8 percent CLIENT MIX: 85 percent commercial/industrial/governmental and 15 percent residential

SERVICE MIX: 65 percent maintenance, 20 percent construction, 6 percent irrigation, 5 percent chemical lawn care and 4 percent arbor care

NUMBER OF COMMERCIAL
MAINTENANCE CLIENTS: 300
EMPLOYEES: 150 during peak
season, 105 during slower months
NUMBER OF H-2B WORKERS:
40 in 2004

pieces of Stihl two-cycle equipment, 20 GMC 34-ton vans – other trucks include Ford F700 and F800 dump body trucks, Chevy 3500 quad-cab pickup trucks, and GMC 1500 regular pickup trucks. All mowers in its fleet are made up of 48- and 54-inch deck John Deere stand-on mowers, 72-inch deck John Deere and Exmark mowers, 21-inch deck Lawn Boy self-propelled mowers and LESCO sprayers and spreaders.

Nuts Bolts

Cover Story

by Nicole Wisniewski

Carol King Landscape Maintenance is a zero-debt company that measures success by client retention vs. sales augmentation.

In the mid- to late 1970s, most landscape companies considered maintenance as installation's poor stepchild, shares Bruce Bachand, vice president and COO, Carol King Landscape Maintenance, Orlando, Fla.,

But Bruce's father, Jerry, believed maintenance was crucial to a landscape business because of the recurring revenue it provides.

"He always liked maintenance because of its stability, as opposed to the ups and downs of installation," Bachand explains.

Hence, maintenance became Carol King's main niche, distinguishing it from its installationfocused competitors in the booming Orlando market. In fact, today 65 percent of the company's
revenue comes from this service. Even where marketing is concerned, money is spent to promote
maintenance above all other services. Other work, such as lawn care, irrigation and arbor care, are
generated from the company's maintenance clients. "In our business, the bread is always buttered
on the maintenance side," Bachand says.

Since Jerry, Bruce and Bruce's brother, Randy, had many years to perfect maintenance, they were able to develop best practices and then focus on other key business areas. The result is a company that doesn't push growth beyond comfortable limits; maintains zero debt by using profits vs. bank funding to grow internally; and dictates success by what percent of clients they retain vs. how much work they sell.

BONUS BASICS. In the early days of Carol King

Landscape Maintenance when it was called King Landscaping of Orlando, design/build and installation were its main service offerings. Of course, this was at a time in Orlando's history where the area was still small before Walt Disney World entered the picture in 1971. Then, once Orlando became a tourist attraction, commercial clients who wanted to cash in on the theme park's success not only required landscape installation in the area, but also regular, detailed maintenance.

Since there were plenty of clients to go around, finding them was easy. And developing a maintenance niche in the area while competitors continued to focus on installation was smart thinking on Carol King Landscape Maintenance's part. Hence, the reason the business has no sales force and spends less than 1 percent of its gross sales on marketing is because its focus is on maintaining its current customers – the customers it obtained when Orlando's commercial clients required a maintenance-focused company and were comfortable with the King name, which was already known and respected in the area.

To maintain existing customer relationships, Carol King employs account managers who each handle \$600,000 to \$750,000 worth of work, focusing on client interaction, quality control and crew management and productivity. In its commercial maintenance division, the company employs five account managers who handle about 300 maintenance clients.

To ensure account managers focus on client retention, the company ties its account manager (continued on page 44)

MI

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(continued from page 40)

bonus program to its client retention rate. Currently, Carol King's commercial client retention goal is 97 percent. If the company reaches that, all of its account managers receive a fixed bonus that was agreed upon at the beginning of the year based on years of experience, their existing salary and the size of their portfolio. "Each of their bonuses is usually

around 8 to 10 percent of their salary," Bachand explains, adding that new account managers start with a salary of \$37,000 and experienced account managers can make up to \$42,000, before bonuses.

While account managers are focused on client retention, other employees are focused on safety. For every month of no lost time Bruce started at the company in 1977 as a maintenance department supervisor. Before that, he learned about the company from his dad, Jerry, at the dinner table growing up. That peaked his interest in the topic so much that he attended Orlando's Valencia Community College to obtain his associate's degree in horticulture and then Florida State University after that to major in business management. He rose from maintenance department supervisor to operations manager in 1981, and by 1986, he became vice president.

ruce Bachand didn't have an active

role in the decision making or

direction of Carol King Landscape Mainte-

nance, Orlando, Fla., until 1991.

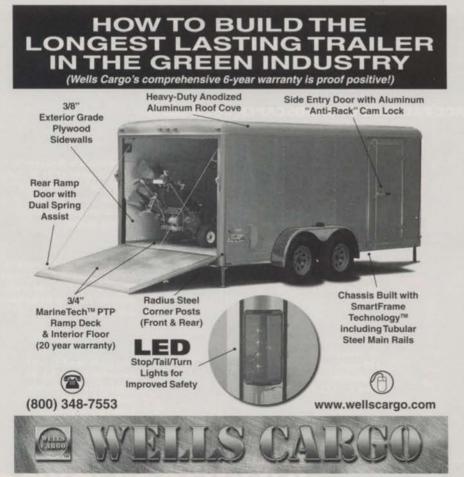
Jerry, 70, has a minimal role in the business today, functioning as a chairman who focuses on strategic planning. Bruce and his brother, Randy, each own a percentage of the business. When Jerry eventually retires, the balance of his ownership will be divided between them. with Bruce retaining a larger management role than Randy who is happier working in field operations. Operating a family business is a challenge every day, but Bruce says they've been able to separate family issues from work issues because "my dad included us from the beginning, defined our roles and told us we had to stick by them.

Bruce's current challenge is taking over his father's responsibilities and modernizing the business via information systems – tasks he has a hard time balancing with doing what he loves, which is dealing with clients. "Account managers are taking a more active role with customers," he says. "This is challenging since I don't want to upset clients by removing myself from the day-to-day contact with them. The tricks to making it work include transitioning clients slowly to the account managers and giving the account managers my support throughout the process."

Other succession planning tips Bruce offers: Retain a good attorney, create a well-conceived estate plan and clearly define the roles of the family members in the business and make sure they are on board from the beginning. – Nicole Wisniewski







USE READER SERVICE #40

injuries, the company puts money into a pool. Then, this money is divided up evenly among crewmembers and foremen twice annually.

To receive the bonus, employees must have been with the company 100 days out of the six-month period.

To determine the amount of contribution the company will make to the pool, Bachand says he looks at what workers' compensation insurance is costing the company and studies its experience modification rate and how the past year has affected or not affected it. A company's experience modification rate is a factor that the insurance company uses to arrive at a business' insurance cost. "Basically, they look at our injuries during the past five years, three years and year and then come up with our rate," Bachand explains. "Most people want this rate to be below 1.25 – our is .89."

"For the last two years, our insurance costs have gone up - last year it was 13 percent, this year it is estimated to be about 18 percent on the front side," Bachand continues, explaining how the program works. "On the back side, we can get a dividend if we keep the percentage of our losses down. Our insurance quote is based on our data for a five-year period. So, after the next year if our losses were reduced, then we get a dividend back about 18 months after a 12month period. For instance, this year we'll get a check back for what happened in 2002. So, since everyone in the company helps to reduce our workers' compensation losses, we decided to share in the savings they help create with this bonus."

The company contributes a percentage of their savings that are realized for efficiency and no lost-time injuries. "This past year we didn't do so well, so we handed out only \$8,000," he says, adding that typically, during each payout, each employee receives about \$60 to \$70 on average.

The company's goal for this year is \$12,000, which is a \$1,000 monthly contribution. They arrived at this number by looking at their potential dividend for 2003 and 2004, which is \$30,000. This is the money they get back if their loss rates come in lower than projected. And to arrive at the bonus goal, Bachand takes about one-third of the expected dividend. The other two-thirds of those funds go back to reducing current year insurance expenses. During months where there is a lost time injury, no money goes into the pool, reducing the employees' total number of payouts.

To remind employees of safety regularly, Carol King Landscape Maintenance has weekly safety meetings requiring mandatory attendance. Each employee must sign their name to a sheet when attending to prove they were there. Safety topics, which are presented in English and Spanish for all employees, include driving a truck with a trailer, bending and stooping properly to avoid back injury, how to mix gasoline and oil for two-cycle equipment, where to smoke and not smoke on the job, the importance of safety gear, what is required and how to wear it properly, etc. The company's Lawn Care Manager Gary Monge, who has been with Carol King for 13 years, manages these safety meetings weekly.



H-2B HOW-TO. The reason Carol King presents its safety talks in English and Spanish is because of its high percentage of Hispanic employees. This year, Carol King Landscape Maintenance is supplementing its labor force with 40 H-2B workers. They use an outside H-2B provider to help them with this process.

Twenty of the workers join the company

on March 15 each year and then the second group of 20 arrives by April 1. They stay until the first week of December. "It's perfect for us because we don't have to layoff employees when the slow season arrives, and we typically get the same people each year so they are familiar with our company and its policies and procedures," Bachand explains.

To use an outside company to handle the paperwork, get work visas for the employees and get workers to the company office on time costs the company \$150 per person plus a \$5,000 consulting fee. This is the company's fifth year of using H-2B workers, and Bachand thinks the fees he pays his H-2B provider are well worth it to reduce the hassles of filling out the proper paperwork on time and dealing with immigration and labor lawyers.

As far as communication is concerned, Carol King attempted to offer English courses two years ago to educate its H-2B workers. "We hired a teacher and held free classes two nights a week, but we had modest success at best," Bachand explains. "A few of our more motivated Hispanic workers learned English and are now foreman here, but the rest weren't interested."

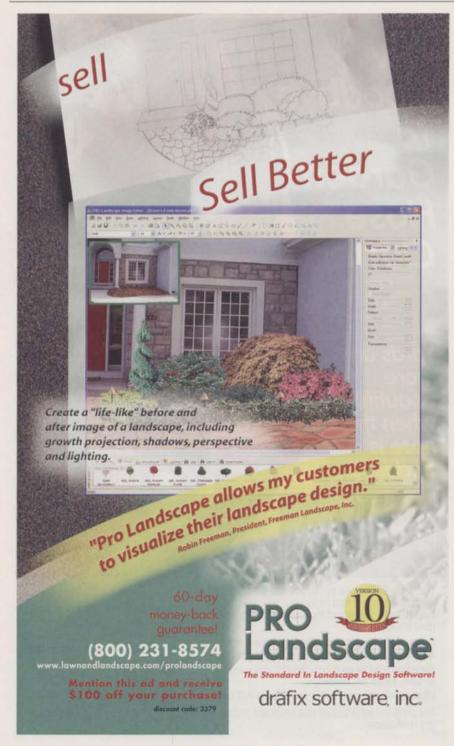
(continued on page 48)

arol King Landscape Maintenance currently offers one- and three-year commercial client maintenance contracts. About 60 to 70 percent of the company's clients have one-year contracts and the rest have three-year contracts.

Since the company's competitors don't offer three-year contracts, Carol King struggles with getting clients interested in them. What helps is sharing the many benefits to multipleyear contracts, explains Vice President Bruce Bachand. "These include the money-saving aspects, such as having a fixed budget for three years and being able to lock in a price, saving about 5 to 6 percent of the cost, and even up to 10 percent when fuel and insurance cost increases force us to raise one-year contract renewal prices," he says. "It's also a client retention tool that helps us gain efficiencies on properties the longer we maintain them."

The company's account managers currently handle contract renewals annually. – Nicole Wisniewski









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(continued from page 46)

So, instead, Bachand reversed this and started offering Spanish to its American employees to increase communication. "We are teaching them phrases related to the job so they can communicate with our Hispanic workers," Bachand says, adding that Hispanic workers who return every year are naturally picking up English and improving their skills.

When it comes to work hours, Carol King employees work five, eight-hour days each week – 7 a.m. to 3:30 p.m. Mondays through Fridays. Overtime isn't a problem until Florida's rainy season, which is mainly June through September. When rains affect job completion, employees work on Saturdays to catch up. "I don't staff to add a lot of overtime," Bachand explains. "When we need to, we add trucks from our reserve fleet and use hours we save from rain days to make up work. What overtime we do budget is for on-site jobs because clients pay for a defined set of hours, regardless of weather, and they expect us to be there in case of any





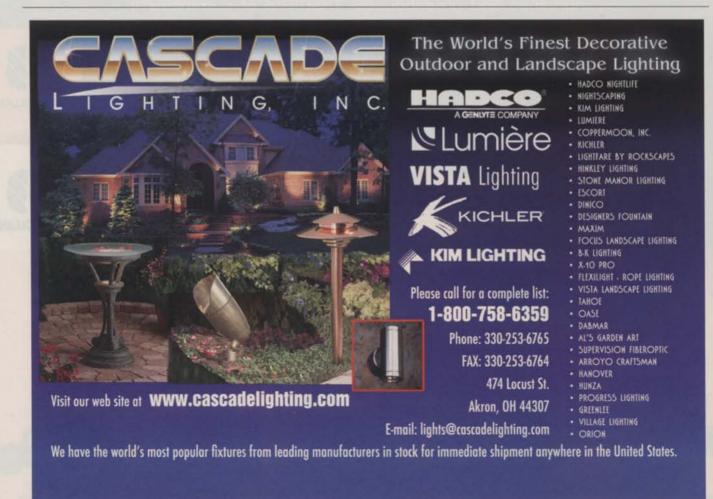
Foreman James McCullough (left) used a reel mower to maintain the turf and Crewmembers Javier Ortiz and Fortune Profil (right) rake a plant bed at the Windham Orlando Resort. Photos: Art Beaulieu

emergencies. And even for these jobs, I budget less than 5 percent of total company payroll for overtime."

To reward employees who work hard, Carol King Landscape Maintenance gives away an Employee of the Month award. Each account manager nominates employees who work for them – they are free to nominate as many as five of their workers. At the end of the month, managers sit down in a staff meeting and review all of the nominations, their qualifications and what sets them apart from the others. Each monthly winner receives a plaque to take home, a \$30 cash gift and recognition at the monthly company meeting and on a plaque in the main office area. They are also entered

into the Employee of the Year award pool. The winner of this award receives the same awards and a \$500 instead of \$30 cash gift. "An employee of the month might easily win employee of the year if they were nominated in six out of 12 months – the more times they were nominated the better chance they have," Bachand explains. Since 1996. opp to recog workers in front of peers and show gratitude and appreciation for what they've done. my opiono that any time a worker can take home tangible proof that they've accom something in workplace, they get to share success with family. improves morale and makes workers happier and shows co appreciates efforts.

(continued on page 50)



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Cover Story

(continued from page 48)

GROWTH GOALS. Though clients and employees are two key pieces of the business puzzle, nothing would run smoothly without a good structure in place that is strictly implemented and followed.

For Carol King Landscape Maintenance, part of this structure is its zero-debt philosophy. The company uses its own profits to fund its growth – no exceptions. "We are a zero-debt company," Bachand explains. "We don't want to pay interest, despite the recent lower rates that are available, and we never want to have to worry about having to pay off debts in the event of a downturn in the economy."

So, the company takes its time to grow internally. For instance, each year the company buys five to six trucks and pays cash for them. They also own their facility. "The only debt we have is our monthly revolving debt from nurseries or suppliers for plant materials or chemicals," Bachand says. "We pay most of our bills on time by the 10th of every month."

In the early years, this was possible by being conservative. "My father maximized every piece of equipment and we bought a lot of used trucks because we could get them cheaper," Bachand says. "Today, we rotate our trucks on a seven-to 10-year pro-



Carol King Landscape Maintenance has 67 total trucks in its equipment fleet. Photo: Art Beaulieu

gram. But if we are maintaining our equipment and it's still in good shape, we will keep it longer."

To keep equipment in tip-top shape, the company employs five mechanics, who are managed by Maintenance Manager Randy Bachand, who has been with the company for 20 years. He supervises the shop foremen and prioritizes the mechanics' workload, ensuring spare equipment is always ready to go so the company's work isn't stalled by broken down equipment. Randy also runs the arbor care division.

Another reason the company embraces its zero-debt philosophy is because is keeps its overhead low, enabling it to focus on client retention vs. increasing sales. "If you have high overhead, you have to go out and sell work, and if you have to sell to make ends meet, the market dictates the price you sell your work at," Bachand says. "When the market dictates your prices, this affects your bottom line. We prefer to pick the clients we work with and not have to do anything just to make ends meet."

Carol King Landscape Maintenance adopts a different philosophy from many other companies in its market, and this is OK, according to Bachand. "We have a different philosophy, and it works for us," Bachand says. "My idea is to have consistently high quality work, retain customers, keep key employees and allow them to have a well-rounded life and make good money. But this doesn't mean that I have to sell \$20 million worth of work to accomplish this goal. We can grow or stagnate, but we don't have to shoot for the stars from a dollar volume standpoint to be successful. We already are successful."

The author is Managing Editor of Lawn & Landscape magazine and can be reached at nwisniewski@lawnandlandscape.com.

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by Ali Anderson

In the first segment of this two-part article, Lawn & Landscape

Online Message Board users share valuable advice and detailed suggestions for companies

struggling to post profitable financials.



PROFITABLILTY POINTERS

Breaking EVEN

A recent thread on the Lawn & Landscape Online Message Board examined various pitfalls that can damage a fledgling company's attempts to post solid profits. And while the discussion hit on a few specifics, forum participants have more advice to share.

"Does anybody else feel like they are always just paying their bills – no matter how hard or how little you work?" writes Joel Swisher, owner, All in One Lawn and

BEST OF THE WEB

The Lawn & Landscape Message Board is a hotbed of green industry chatter and professional dialogue. Playing host to a diverse collection of opinions and ideas, the online forum often bounces between detailed discussion and dynamic debate.

To better educate readers, Lawn & Landscape will expand upon a Message Board discussion each month and offer forum-related insights from professionals in this "Best of the Web" section.

Landscape, Plymouth, Mich.

Swisher and his partner started in the lawn business about eight years ago and have grown significantly – but, as he puts it, they are always just "getting by."

"We have great equipment and do have the money to play around a little, but can never get any in the bank," Swisher notes. "No matter how hard we work, or even when we charge high amounts and run into great accounts, it is like we are always in the same boat."

Swisher's request for help on the Message Board prompted a wealth of detailed advice from other green industry professionals familiar with the struggles of making a living in the lawn care business.

MANAGE MOOLAH. One cash-consuming business concern is the improper handling of money, notes Ken Reis, owner, Turf & Shrub Management, Dartmouth, Mass. "It could be that you are good at doing your work but poor at managing money," he points out.

Often, those who do exceptional landscape work do not necessarily have the skills needed to keep monetary matters in order, he comments. Thus, hiring an operations manager could be the ticket to turning things around.

Contractors should appoint finance managers who are frugal with revenue and can allocate expenses wisely, Reis continues. "Putting the responsibility on a non-owner to manage your company's money makes very good sense if you lack the skill to manage it yourself," he comments. "A non-owner will look at the spending habits of a company without the emotion that an owner may have. An owner may feel the need to spend money on the latest equipment fad, while the non-owner operations manager may see how the existing equipment

(continued on page 54)

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Best of the Web

(continued from page 52)

gets the job done at a higher profit margin. A non-owner may actually be more frugal with the company's money than an owner would be and might see more clearly the inefficiencies in the operation of the company."

Bringing someone aboard who has extensive accounting expertise also may be a smart approach, advises Bob Borden, B&W Landscaping, New Hamburg, N.Y. "Look closely at your numbers and don't be afraid to ask for help," he asserts. "If you don't have a good accountant, get one. We are getting our accountant more involved in our operation and feel it is well worth the money."

When hiring an accountant, Reis recommends getting referrals from other industry professionals. He also encourages contractors to employ accountants with lawn carerelated experience – to accelerate the learning curve and perpetuate a mutual understanding from the get-go.

Once a contractor has a few potentially solid candidates to choose from, calling refGuy Dougherty, Dougherty Fine Quality Landscaping, Chino, Calif., can relate to the concerns Swisher expresses about business finances. "It has been a huge challenge to stay on top of the accounting, tracking, job costing and crews," Dougherty explains, adding that without a handle on these basic business figures, profits are difficult to quantify and control.

To resolve the problem, Dougherty set up systems for gauging profit. "It is a must to have a system to track the money and see where it is and where it is going," he acknowledges.

Dougherty's money-management method looks at man-hours of income vs. investments. While this may seem elementary, the West Coast company has seen success with the cost-tracking strategy. The system helps Dougherty see which employees are slowing profitability and which purchases are not earning their keep. From these fundamental figures, he makes adjustments nec-

"We have great equipment and do have the money to play around a little, but can never get any in the bank. No matter how hard we work, or even when we charge high amounts and run into great accounts, it is like we are always in the same boat." — Joel Swisher

erences is crucial, Reis says.

"When you call, ask probing questions," he urges, outlining a few examples. "'Have you had any bad experiences with this person or firm? Do they make themselves available to you? Do they return your calls promptly? What do you like most about this accounting professional or firm?'"

Beyond financial expertise and numeric know-how, a good accountant is one who listens well, Reis says. "I want to be able to discuss my business with my accountant for as long as I feel necessary," he explains. "If I'm being interrupted, that makes me feel they don't want to listen to me. They need to make me feel that they truly do care about my business, and part of that understanding is that they are aware that they work for me."

ON TRACK WITH TECHNOLOGY. With just four years of experience as an owner,

essary to boost revenue.

To implement and operate a cash-sensitive system, Dougherty suggests looking into software programs. His company invested in basic business management software upon entering the green business and has never regretted the purchase.

"I talked to a lot of people about software and did a lot of investigating on my own because I wanted to get the best system for my money," he recalls. "Some people I talked with admitted that they only utilize about 15 percent of their software investment. I didn't want to waste my money like that."

So Dougherty found a \$1,300 program that he says handles about 85 percent of his company's paperwork and number crunching. Based on his experience, he says companies who are struggling to pull their bottom lines out of the red not only should consider buying a software package, they also should

(continued on page 56)



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Best of the Web

(continued from page 54)

that he says handles about 85 percent of his company's paperwork and number crunching. Based on his experience, he says companies who are struggling to pull their bottom lines out of the red not only should consider buying a software package, they also should consider the return they're getting on their investments. "Get in and learn the capabilities of the programs you have," Dougherty urges. "Don't waste the money you've put into business management tools. Save some of your profits by letting the computer do its job. Let that investment work for you, not against you."

When buying business software, contractors should look for packages that suit their unique business needs, Dougherty says. Rather than paying for the extravagant bells and whistles, invest in only what will be useful. "Don't pay for all the extras that you'll never use or the regional plant lists and obscure offerings that don't apply to your company."

Since Dougherty generally handles his company's finances, he tries to maximize his

investment by using the software program for everything it offers – including proposals, payroll, taxes, purchase orders and invoices. By exploiting the software's full potential, he saves time and money. This way, Dougherty and other

contractors can see smart returns on their business software investments.

BE THE BOSS. Another weakness Swisher says negatively affects his profitability is the personal connection he feels to employees. "We have become friends with our workers," he says. "They walk all over us, want more hours when we are slow and cry about working when we are busy. However, I have to keep them because I have invested too much training in them."

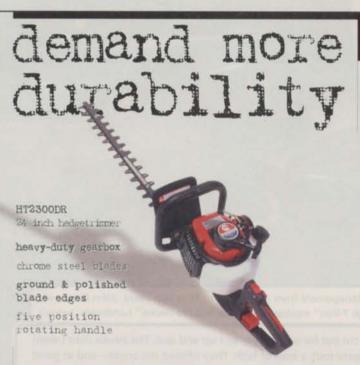
To remedy this employee-owner relationship struggle, Matthew Morgan, owner, Emerald Landscape Management, Danville, Ill., advises creating an employee handbook. Having a company handbook with strict policies and procedures could help Swisher and others de-

mand more from manipulative employees and impose effective guidelines.

"A handbook is a must," Reis agrees, noting that printing costs for a basic company manual may total only a few dollars per employee. "Ours outlines the company rules and regulations and explains company-paid benefits. We review its contents annually and make changes where needed."

When Turf & Shrub Management reviews its manual, all employees are invited to join the discussion. This allows for companywide feedback about the policies governing their daily work. The gathering also includes

(continued on page 58)



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Best of the Web

(continued from page 56)

posing a handbook makes enforcement simple," Reis shares. "Not every rule is open for discussion, and there is no discussion on issues like company-paid benefits. In essence, the handbook is the company law."

However, owners must be willing to do more than distribute a handbook and hope employees fall into line with the prescribed regulations. Enforcement, even if that means firing a rebellious crewmember, is necessary for results. "You are the boss and you must be the boss on the job," Morgan says. "If they don't play by your rules, they should be disciplined."

To ensure employees understand the consequences of misbehavior, each should be asked to read and sign the company manual before beginning day No. 1 on the job, Reis asserts. Also, any revisions to the handbook should be acknowledged and initialed by every employee as well.

A company's management also should ensure that business goals and standards are communicated clearly on a regular basis. This can be accomplished through staff meetings and candid, one-on-one discussions with employees.

Erich Heinrich, Avalawn Landscaping, Cincinnati, Ohio, acknowledges that contractors should strike a balance between befriending their employees and maintaining authority. "I'm not best friends with every employee, but good friends with a couple of them," he mentions. "But if they can't differentiate between work time and play time, you need to lay down the law."

Read part two of this Best of the Web feature, covering niche development and equipment purchasing and money saving tips, in the May 2004 issue of Lawn & Landscape magazine.

The author is assistant editor-Internet of Lawn & Landscape magazine and can be reached at aanderson@lawnandlandscape.com. Join the ongoing Message Board dialogue by logging onto www.lawnandlandscape.com/ messageboard/.

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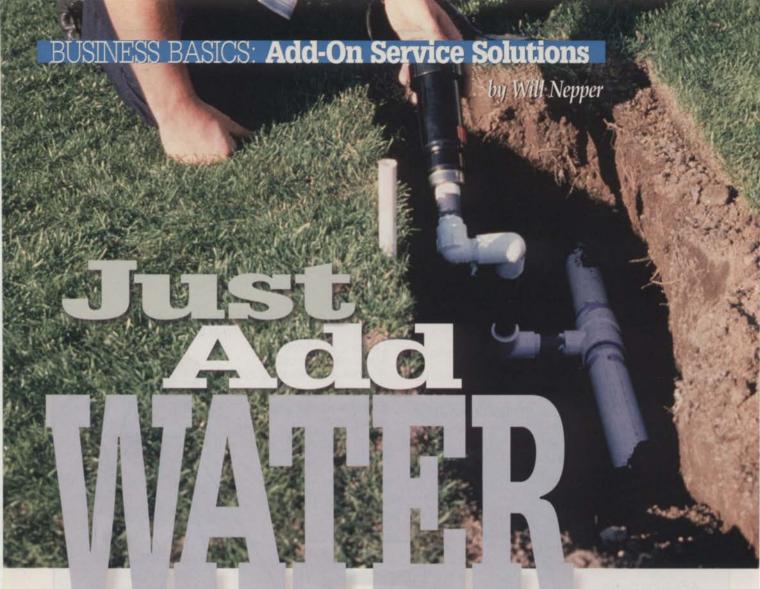


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A little water always creates a potential for growth, but when adding an irrigation service, Valley Green explains why contractors should be mindful of all factors.

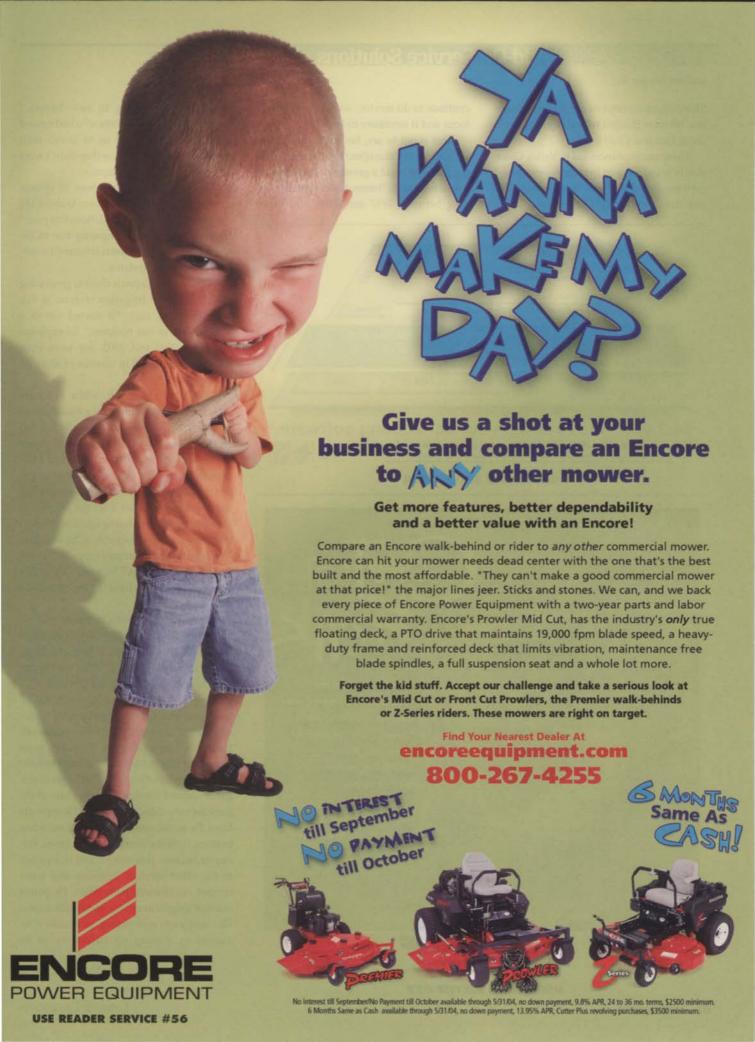
In business, time and place can be everything. However, circumstantial factors don't always create favorable conditions. At least not as favorable as the conditions Michael Hornung, president, Valley Green, St. Cloud, Minn., experienced when he ventured to add irrigation to his company's service menu in 1997. In fact, rather than say that Valley Green found its niche in irrigation, it may be more accurate to explain how the niche found Valley Green.

"In spring of 1997 it was really dry here, to the point where people wouldn't let us do their first lawn application until they had their sprinkler systems turned on," Hornung says, explaining that, Valley Green had not yet delved into irrigation at that point. But there was a void in the irrigation market – left by, of all things, irrigation-only contractors.

"Because it was so dry, many people were having irrigation systems installed," Hornung explains. And because there was such a demand, irrigation contractors were faced with the dilemma of how to prioritize between new installations and servicing current accounts. "Most chose to put in new systems," Hornung says, explaining that this created the opportunity for Valley Green to step in and service those existing accounts. "We sent out a postcard saying that we were able to do start-ups, maintenance and repairs on sprinkler systems for those who were having trouble getting

(continued on page 62)

Irrigation
installation and
maintenance can
provide
landscape
contractors with
a lucrative
addition to their
basic services.
Photo: Toro



BUSINESS BASICS: Add-On Service Solutions

(continued from page 60)

their current contractors out to their properties. We were flooded with about 250 calls in about two and a half weeks."

These circumstances led to Valley Green slowly integrating an irrigation service and maintenance supplement into their service mix. "Our thought process was, 'Let's continue to do service,' so that became our focus and it continues to be today."

This is not to say, however, that Valley Green does not also offer installation. Booming real estate and a growing client base led to that evolution. "Interest rates started dropping between 1997 and 1999, and many people were moving to new homes," Hornung says. "Customers who had moved came to us and asked us to install their irrigation systems because they didn't want to deal with another company.

"We started out with about 50 system installations and that has grown to about 145 residential irrigation installations this year," Hornung continues, comparing that to the 650 accounts Valley Green acquired for servicing irrigation systems.

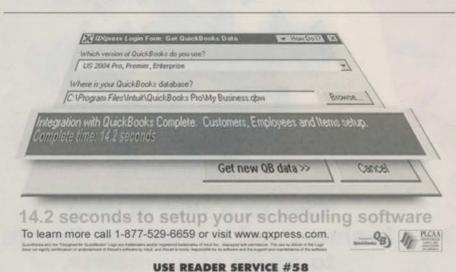
Now, Valley Green is close to generating \$500,000 in total irrigation revenue in this year, Hornung says. "It started out as a \$10,000-part of our business," he explains. "Between 2002 and 2003, we went from \$380,000 to \$480,000 in revenue at about 26 percent growth."

That kind of growth, while generally welcome, can sometimes put a business on a fast track that it may not be ready for, but Hornung is quick to point out that Valley Green kept up with their exceptional early growth by moving slowly and investing in the irrigation side of business as work became available, rather than the other way around. This meant hiring labor only when the work was there to justify it, he explains. "You don't want to prepare for growth that's not going to happen," he adds. "I'd rather take baby steps than have the rug ripped out from under me."

Furthermore, Hornung is realistic with regard to the growth of Valley Green's irrigation service. "You can't sustain 26-percent growth, nor do I want to," he says. "I'll be very happy if we have 10 percent growth this year."

Despite that Valley Green came to irrigation somewhat organically Hornung is specific about some pitfalls of serving an entirely new market. For one, he points to an important distinction to be made between irrigation installation and other kinds of irrigation-related services. He says, one of the most important decisions Valley Green made from the outset was deciding that servicing existing systems would be their focus. Primarily because it is comparable in logistics to the other services (fertilizer and weed control, etc.) the company offers. He points out that irrigation service and maintenance, like landscape contracting, is usually conducted by signing up customers on an







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BUSINESS BASICS: Add-On Service Solutions

(continued from page 62)

annual basis and providing service on a predetermined schedule. "The irrigation installation side of the business is a whole different animal," Hornung says. "It's construction – period."

Hornung says that the expenses incurred for adding irrigation was relative to the growth of that business. "We invested in all of the necessary tools the first year, which cost us between \$600 and \$800 initially," he says, adding that this includes items as simple as shovels and boring tools. "During the second year we stepped it up a bit and went to remote control units and locating

equipment, which cost us about \$2,000 combined." The third year Hornung added a dedicated vehicle to the list of overhead investments for his new service.

Though the bite of equipment cost was of less consequence for Valley Green because of their immediate growth, Hornung is careful to explain the danger in not considering it. "If you're going to be playing the game, you need the equipment," he says. "Some people get into this and truly don't know what the costs are, and they can get themselves into a bind very fast.

"If you have paid-for equipment that you can utilize from the start, it's a very profitable business," Homung adds. "But if you need to go out and purchase it, it may not be as profitable as you'd expect." He adds that Valley Green's irrigation service generally fluctuates between a 10-percent and 15-percent profit margin. This creates equilibrium between Hornung's irrigation service and the other services Valley Green offers. He says that the balance is important, but it also makes irrigation an integral part of Valley Green's business in that every service offered is bound to another's profit, budget and shared labor.

"We try to grow each side of the business equally because if we, for example, bring on an extra person in irrigation, we want to make sure that we have enough work for that person for as long as we possibly can. We facilitate that by marketing more in the Christmas side of our business," Hornung adds, pointing out that profit margins for Valley Green's Christmas decorating service (about 18 to 20 percent) are slightly higher than the company's other services because their budget is structured so that irrigation and lawn care pay for the company's equipment costs.

Hornung says Valley Green's irrigation service has grown in six years from the smallest irrigation contractor in its area to the largest. "It grew from an add-on business to a good portion of our entire business, out of customer need and relationships we'd already established with them," he says. "And the real estate boom over the past two years sure hasn't hurt our residential irrigation business either."

The author is assistant editor of Lawn & Landscape magazine and can be reached at wnepper@lawnandlandscape.com. Michael Hornung can be reached at 320/259-5959.





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Snow storms rarely happen during busine hours, so contractors must prepare themselve and their crews to work through long snow

Through

When the snow piles on, ND Landscaping's snow removal division can pile on the profits.

Few things are guaranteed in life, but folks in New England can always count on great seafood, beautiful fall foliage and wicked snowy winters. Coming from Massachusetts, Nick DiBenedetto was given the opportunity to ride along on snow removal routes as early as age 15. And when he opened his own landscape company at the age of 18, adding on a snow removal division only made sense.

"The snowplowing industry just has a natural marriage with the construction industry due to the fact that there's a lot of snow work in the winter and construction equipment transfers to snow removal very well," comments DiBenedetto, president, ND Landscaping, Georgetown, Mass. "The problem I found was that I really enjoyed doing the work when I was 18 and then I went through a period where I dreaded doing it. A few years ago we finally made the decision to make snowplowing a solid, profitable company discipline."

While DiBenedetto notes that adding snow removal to a company's service menu makes a lot of sense in certain regions, it also requires more than

just the truck and plow he started out with. For instance, contractors who must invest in new equipment can expect to spend \$1,000 to upwards of \$10,000 for a new snowplow, and larger machines like loaders can rent for as much as \$3,000 a month. Also, a great deal of planning and preparedness is necessary, as well as an understanding that some winters will be more profitable than others.

"When we started out, we owned a customer list and we owned a snowplow and a truck, but at the time it was just something we decided to do without a lot of planning," DiBenedetto says. "Eight years ago, my partner and I finally took the time to systemize the service, which allowed us to give the division the attention it deserved and do the forecasting and budgeting we needed to create the profit we wanted. It gave us the opportunity to make snow removal a full-fledged profit center vs. just a tie-in service."

After reading the book The E-Myth by Michael Gerber, which advocates creating business systems to help company operations run more smoothly, DiBenedetto and his partner spent 200 hours analyzing their business and putting sys-

(continued on page 70)

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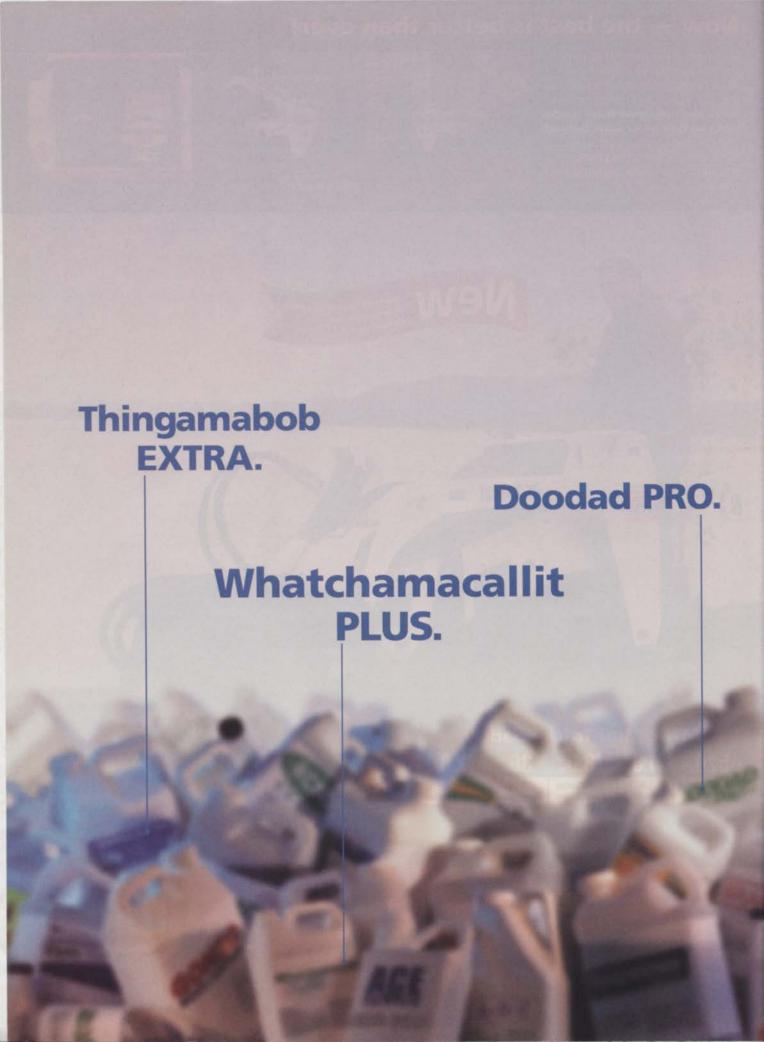
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BUSINESS BASICS: Add-On Service Solutions

(continued from page 66)

tems in writing. This helped all employees understand how the snow division in particular would run.

"Our systems provide us with a production process, a staffing process, an equipment process and a step-by-step systemization of how the snow division will work," DiBenedetto says. "We include job requirements, a chain of command, communication for who's on call, checklists on servicing trucks and what to carry in the trucks while drivers are out on calls."

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first started, we were seeing revenue of \$50,000 and when we implemented systems, our revenue grew and has been more easy to manage," he says. "But another thing we had to realize to make snow removal profitable was that you have to charge different fees for snow removal than you do for regular landscaping."

DiBenidetto says that, early on, he had a simplified view of how to charge for snow removal. Morover, he knows that many contractors who add the service have the same struggle. "A lot of people make the mistake of thinking, 'I make \$50 an hour with my Bobcat during the summer - if I could do that during the winter, that would be great,"" he says. "If you really approach it from a professional standpoint, which means you and your staff have to be available 24/7 for three months, equipment has to be ready and registered, and you have to keep up communication with customers, you have to cover all of the associated expenses by charging appropriately for the service."

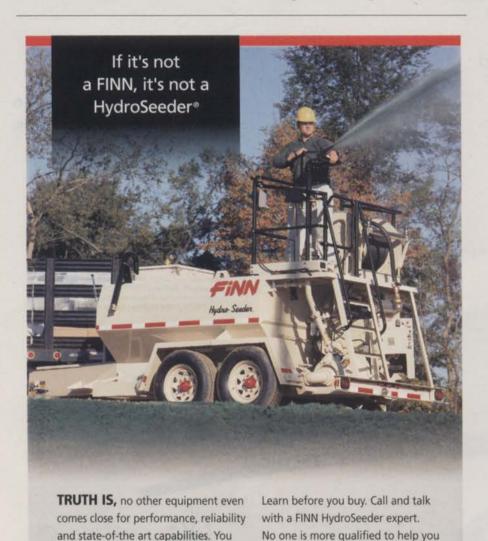
Currently, ND Landscaping tries to get \$100 to \$125 per hour for a plow truck or a small hydraulic machine on a given account. "If we put 100 hours into that account, we should be receiving \$10,000 for the season," DiBenedetto says. "Compared to our Classic Care and maintenance divisions, that's a much higher profit – about 25 to 30 percent."

Though profitable, DiBenedetto notes that snow removal also is a volatile service in terms of its dependence on winter weather. In the last four years, the division has seen ups and downs in its snow removal revenue as a result of good and bad winters.

"In 2000, our snow revenue was \$142,000, then \$192,000 in 2001, \$470,000 in 2002 and \$870,000 in our 2003 season ended Feb. 29," DiBenedetto says. "But for 2004, we're far behind our budget because we've had a horrible snow season, and there's nothing we can do about it. We have been fortunate enough to fill a pipeline of work for the landscaping side of the business, but whereas last year we started the spring with a surplus, this year we'll be going to the bank for some spring start-up money.

"Because of the weather, our snow division revenue can make a good year fantastic or just average," DiBenedetto continues. "I've learned that this is all part of the game.

(continued on page 72)



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BUSINESS BASICS: Add-On Service Solutions

(continued from page 70)

I don't get overly upset by a bad year and I don't get overly excited in a good year because I know it will ultimately average out."

One business approach DiBenedetto is considering implementing is diversifying the types of contracts his customers sign. "In terms of the contracts we set up, we've been directed by the market," he says. "If the customer wants an hourly contract, we'll go in that direction, but we're also aware of perpush pricing and per-season pricing." This year, the company has a \$38,000 seasonal contract, which guarantees that revenue despite the small number of snow events. Though 60 percent of ND Landscaping's snow clients prefer per-push pricing, DiBenedetto recognizes that an even split between per-push, hourly and seasonal contracts would provide the best of all worlds. He expects more diligent sales efforts and client communication will move the company to that structure in coming years.

Indeed, client communication is an impor-

tant part of having a profitable snow removal division, even if it means sending faxes and emails after working through a middle-of-thenight storm. "Communication is crucial in snow removal because it's in the moment," DiBenedetto says. "Even if we're out until 4 a.m. on Saturday morning, we have to get some type of acknowledgement to the property manager's desk because he wants to know what's going on. This is great for solidifying relationships on accounts because it shows them we're prepared to take care of their property."

In 1995, ND Landscape's snow division moved to a clientele of mostly commercial clients, which makes communication easier in many respects. "If you have 100 residential accounts, you could have 100 husbands and 100 wives – 200 potential contacts and decision makers – which makes the administrative side of the business very complicated," DiBenedetto says. Starting the division with several residential accounts is a

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business decision he believes caused some frustration early on. "With residential work, there's a lot of opportunity to damage the property because it's a tight area of pavement and the cost of fixing any damage can eat into profit," he says. "Also, we've found that the need for snowplowing demand on residential properties is about 20 percent less than on commercial properties because homeowners can live with 2 or 3 inches of snow and very few of them request sanding, which is a big portion of the business."

As it stands, ND Landscaping has 12 commercial snow clients, and 6 residential clients – the company's best high-end landscaping customers. To keep in contact with these accounts, DiBenedetto notes that the snow division calls for one account manager per \$400,000 of revenue. When the division neared \$900,000 in 2003, this required three

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account managers, but the company only needed one account manager this year due to lower income. To accomodate this, the company implemented a one-on-two-off account manager rotation so everyone was able to work during the season.

In terms of staffing a snow removal division, DiBenedetto knows that his 16 fulltime winter employees appreciate the winter work but also recognizes that having to stay on call all winter long is tough. "We made a decision that our company was going to offer snow removal, but we also recognized that this is very taxing from a human resources standpoint," he comments. "Some business owners feel that they're doing a great thing for their employees with a snow division, but the employees are rolling their eyes saying, 'This is horrible.' We want to make this a professional service that's

minimally taxing on our employees even though it is so big."

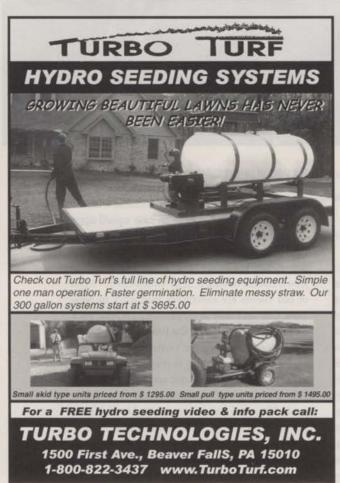
To maintain employee morale and keep stress-related turnover down, DiBenedetto guarantees work to his snow employees and does not do a blanket

Some companies may have to invest several thousand dollars in equipment before beginning a snow division. Photo: Western layoff like many other landscape companies do in the winter. "We make these commitments and then cross our fingers that we'll get enough snow to cover the costs," DiBenedetto says. "But we also have some systems in place that help us keep our costs in line in the case of a low-snow winter." This year, for instance, ND Landscaping kept all their snow repairs in-house, sold a good deal of spring construction work and coordinated training efforts, which kept employees occupied.

Because having snow removal as an addon service is a staple in the Northeast, DiBenedetto is committed to keeping the division profitable and is pleased with the company's ability to work through the more trying seasons.

The author is associate editor of Lawn & Landscape magazine and can be reached at Ispiers@lawnandlandscape.com. Nick DiBenedetto can be reached at 978/352-5400.







JSINESS BASICS: Add-On Service Solutions

by Will Nepper

Eight years ago, Green Earth Landscaping flipped the switch on what was to become their most lucrative add-on service. The details are illuminating.

> Green Earth Landscaping, Hackensack, N.J., is not the type of company to keep pushing an add-on service if it isn't working out. Mark Moore, president of the company, says Green Earth recently sold its residential maintenance division because it wasn't performing the way

it had initially hoped. "It was cheaper to sell it off and focus on other things that were working," he explains.

Among those "working" services is Green Earth's night-lighting division.

Moore says that Green Earth began to offer lighting as an add-on service eight years ago, spurred by the frustration of watching other companies show up to add lighting to landscape jobs that Green Earth had completed. "Sometimes customers would

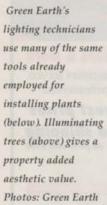
request it and at that time we didn't doit," he says. "So we'd see electricians and sometimes even other landscape contractors come in to install lighting in our landscape designs in a way we didn't like. We wanted to shut the door on that and increase our sales, so we started offering the service gradually, and now

it's part of our regular make-up."

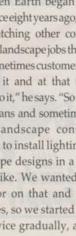
From the outset, Moore was confident that his company had made a prudent decision with the bright idea. "It was always an easy upsell upon completing either the hardscape or planting work," he says, adding that many of his customers would never even get to see their \$30,000 landscaping jobs if not for having it lit by Green Earth. "Most of our clients are executives that work in New York City and they're commuting an hour back and forth every day. By the time they get home, it's dark out and they can't enjoy it."

Beginning a lighting service was relatively uncomplicated, Moore says, adding that the first step to getting it off the ground was a marketing push. "Once we decided we wanted to add it, we did some promotional pieces and added them to our regular handouts to customers," he explains. "Next, we actually automatically began to do a landscape lighting design for our plant jobs, of-

(continued on page 76)







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BUSINESS BASICS: Add-On Service Solutions

(continued from page 74)

fering proposals to do it while meeting with clients during regular landscape design meetings."

Rendering a lighting design with every job is now standard procedure, even if the client doesn't ask for it, he says. "We price the lighting while pricing the rest of the job and 50 percent of the time we'll end up selling it."

In addition to being an easy sell, Moore says that the overhead for beginning a night lighting service was negligible. One incurred overhead investment was the development of a \$1,200 demonstration kit that Green Earth uses to show current customers what lighting could add to their properties. "Often, we'll explain to clients on larger jobs that we do free demonstrations. We bring out the lighting and set it up without telling them how long we'll leave it there," he explains. "We'll usually leave it there for three or four days and then send someone out to pick it up without telling the customer. Usually our phone will ring before we can even

Green Earth technicians can quickly set up lighting demonstrations on a property, which usually lead to lighting sales. Photo: Green Earth

call them back for follow-up."

Moore says he estimates that Green Earth has a 90 percent success rate at selling jobs this way and that the cost of putting together the demonstration kit was paid for after two jobs.

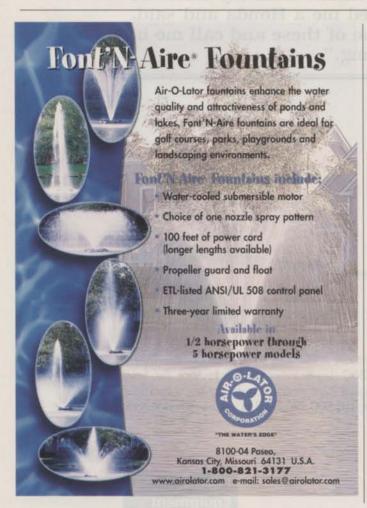
In fact, the overhead of adding lighting to Green Earth's arsenal of services practically begins and ends with marketing. "There's really no special equipment needed to provide the service," he points out. "Typically, we use a lot of the same tools we'd use for the work we're doing already on these sites, such as installing plants."

With regard to lighting supplies, such as wiring and fixtures, Moore says that because lighting jobs are done on a made-to-order basis, there's no reason to keep a ware-

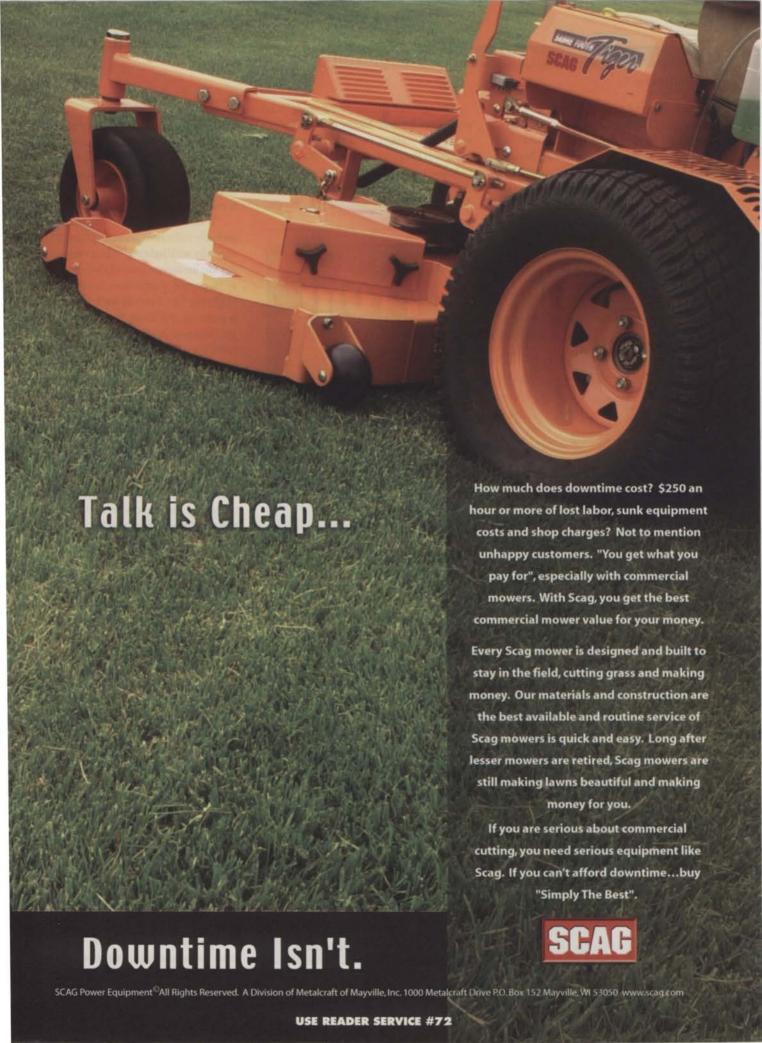


house stocked with equipment when you can order as you go. "We do keep a certain amount of stock around at this point – usually, no more than \$1,000 worth – just because we know what to expect people will ask for, and it's good to have replacement supplies available when you get a last minute call from a customer."

Moore admits that the only real challenge of adding lighting to Green Earth's (continued on page 78)







BUSINESS BASICS: Add-On Service Solutions

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service involved technical training for employees. "Teaching the staff to do installations and troubleshoot was probably the hardest part," he says. "Primarily, because you're dealing with things like volt meters. It's not like you can just plug things into the ground and they'll be all right."

Though initially unprepared to train employees himself, Moore says that many employees trained through various short courses at Rutgers University. "We also did in-house training with some of our suppliers," he says. "We had a lot of support from dealers and field representatives who con-

stantly solve our little problems and help us with things we were doing wrong."

Moore says that once the core group of managers and foremen understood the process, the training obstacles began to diminish. The only thing left to worry about was turning a profit.

"It varies from year to year, but I'd say we probably make between \$150,000 and \$200,000 annually with lighting," Moore asserts, adding that the service generally brings in profits 5 to 10 percent greater than its other services. "Lighting, if it's done with the installation work, is generally at a 25- to 30-percent profit margin," Moore says. "If it's done separately sometimes it's a little bit less – 15 to 20 percent."

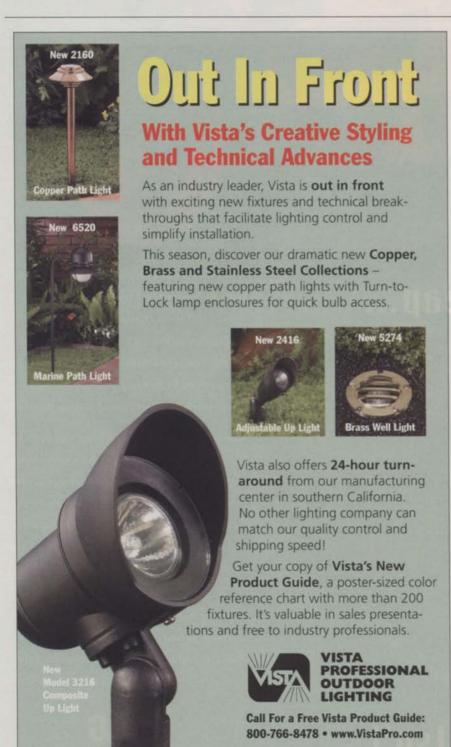
Moore says the reason for this is that lighting is easier to do in correlation with jobs that are already being done. Low overhead and the fact that lighting installation can be quick without being excessively labor intensive naturally helps make combination jobs more profitable than singular lighting jobs. "But only about 10 percent of the jobs we do are *just* lighting," he clarifies. "Ninety percent of the work is an add-on to something we're already doing."

Moore says Green Earth continues to experience steady growth that's been relatively easy to keep up with. "Labor has never really been an issue because we're mainly H-2B," he says, adding that steady management also helps to keep everything running smoothly.

But because Moore considers night lighting a growth industry, he has decided to invest further in that aspect of his business by developing a 1½-acre design display center that will showcase Green Earth's plant materials lit in numerous ways. "It will almost be like an arboretum," he says. "Clients will be able to visit in the evenings and we can show them different lighting effects on different plants."

Moore says that Green Earth would certainly survive without its add-on lighting service but why would it want to? As Moore points out: "There's very little overhead and the business is there – just staring us in the face."

The author is assistant editor of Lawn & Landscape magazine and can be reached at wnepper@lawnandlandscape.com. Mark Moore can be reached at www.greenearthlandscaping.com or 201/488-0111.





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by Will Nepper

BUSINESS BASICS: Add-On Service Solutions

As an addon option,
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into
contractors'
profits
without
suffocating
overhead.

Chuck McIntire, southern regional director, Scotts LawnService, Norcross, Ga., says the road to developing a successful aeration service begins with a few essential elements.

"You basically need three things – a marketing plan to develop the customer base, the personnel to do the work and the equipment necessary to do the job," he explains.

According to McIntire, aeration has been a part of Scotts LawnService in most of their markets since the beginning of their lawn division in 1997. "Aeration is a key ingredient in the overall lawn benefits that our program provides," he says, adding that aeration is a natural fit for any high-end lawn service program.

Initiating aeration as an add-on is not as involved as branching out in to some other, more equipment-heavy lawn services, according to McIntire. "The equipment is minimal outside of an aerator machine," he explains. "There are several different types that work in different ways and that may be more desirable for different soil types. The costs can range from \$1,000 to \$3,000 or more depending on the machine type."

While this type of equipment purchase is fairly minor, picking the proper aerator to suit a company's purposes is fundamentally important. Cost, reliability and availability of service and parts are the primary factors to consider when purchasing an aerator, according to McIntire. "Some brands have been available for some time, so their performance capabilities and reliability are well known," he says. "We didn't buy the cheapest aerators because we were willing to pay more for a model that we knew was reliable and durable and that had a reliable parts

distribution network already set up."

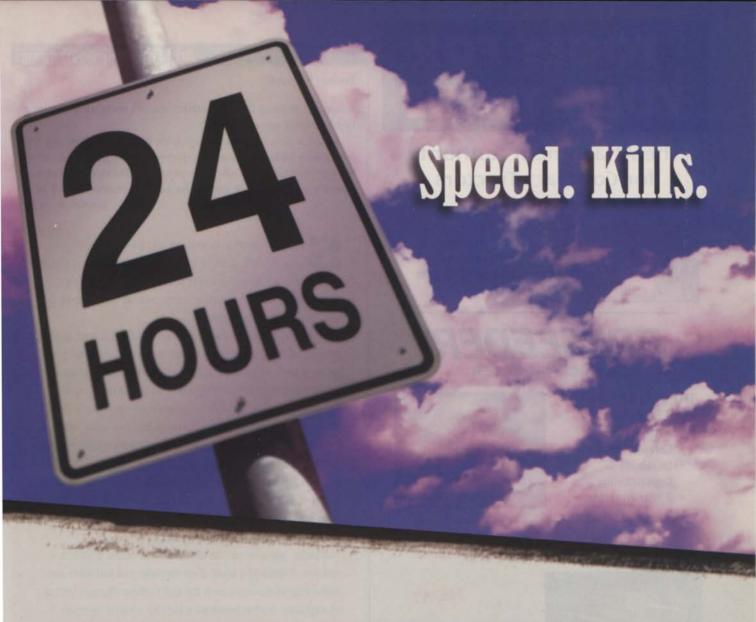
"In addition to an aerator, it will be necessary to have some type of vehicle to transport the aerators to the job site," McIntire continues, adding that pick-up trucks, vans or pull-behind or enclosed trailers equipped with a ramp for loading or unloading usually do the trick. The expense of ramps can range between a few hundred dollars to more than \$1,000 for more complicated systems, he points out.

"The entry dollars into the market for equipment are minimal based on the potential returns," McIntire says.
"The only continuous expenses are for parts and maintenance to keep the equipment running. Labor is normally a

(continued on page 82)



Relown a technician uses a rotary aerator, which rotates metal rods around a drum to extract cores. Cores (or plugs) scattered across a lawn are temporarily unsightly (above), but contribute to aeration's positive effects. Photos: Classen Manufacturing



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BUSINESS BASICS: Add-On Service Solutions

(continued from page 80)

reasonable expense because aeration doesn't necessarily require a highly-trained representative."

McIntire says that most employees hired to perform aerator duties were added as seasonal employees. "We acquired personnel in every way possible – ads in the paper, word of mouth, employee referrals – any way we could," he says. "Aeration is more of a (continued on page 84)

selling aeration is easy once you know the basics and how to pitch them to your customers. Below is a brief explanation compiled by Lawn & Landscape to help you answer the toughest question a prospective customer could ask: Why do I need aeration?

Aeration is the process of punching holes into turf so that oxygen, as well as fertilizer, water and other nutrients, have a better chance at penetrating the soil and reaching grass roots.

Aerating is especially important on lawns exposed to heavy foot traffic, automobiles or other circumstances that create a compacted soil base beneath the turf roots. When turf soil becomes overly compacted, its roots are denied the things they need most – water, nutrients and air.

Aerating also is beneficial in turf areas that consistently flood or pool with water, such as turf on a steep slope.

Aeration allows water to enter the holes it creates and enables moisture to be absorbed more quickly.

Finally, aeration can be useful on turf where thatch is a problem. Thatch is a layer of un-decomposed turf roots and stems that accumulate near the soil surface. Though normal on any lawn, thatch becomes a liability when it exceeds .5 inches. Turf may be weakened as roots take hold of thatch rather than soil.

Here are some additional aeration tips:

- Clay soils typically suffer from compaction problems more often than other types and should be aerated twice a year – preferably in the spring and fall.
- Sandy soil has less compaction and generally requires no more than one aeration annually in either spring or fall.
- Aerate before watering, seeding or fertilizing turf. After aeration is the ideal time to do any of the above.
- Avoid aerating turf during periods when weed problems exist. Aeration can end up spreading weed infestation.
- Watering a lawn one day prior to aerating will soften the soil allowing for easier aerator penetration.
- Before aerating, be sure to locate and mark any areas where sprinkler heads or shallowly buried power and cable lines

exist. - Colorado State University Cooperative Extension

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BUSINESS BASICS: Add-On Service Solutions

(continued from page 82)

physical job than a cerebral one so a few hours of on-the-job training for operation and maintenance of the equipment is all that's normally required."

From a marketing perspective, McIntire says there are a few distinctions between companies offering aeration as a new addition to their business plans compared to the marketing done by companies that have always offered the service. "Companies that have aeration from the beginning commonly market the service along with their regular programs as an integral ingredient for the lawn's success," he says. "Companies that add it later can utilize their existing customer base to market it as an additional service and quickly support a productive and profitable service line."

In either case, McIntire explains that markets with summer drought can translate aeration into an exceptional marketing opportunity. "Aeration can be done as a substitute to regularly scheduled fertilization treatments when drought becomes extreme," he says. "It's a highly beneficial service that reduces soil compaction to allow irrigation and any other possible rainfall to achieve the best possible effects."

When relevant, points like these should always be included in marketing materials, McIntire adds.

McIntire says that marketing is the most challenging aspect of adding an aeration service, but not without offering some advice: "The best way to market aeration is through a coordinated program of brochures and leave-behind information during regular visits, notes left for customers by their territory service representatives explaining the benefits and need for the service and marketing calls by territory service representatives,



office staff or marketing team members."

Many aerator manufacturers provide brochures on aeration benefits that contractors can use to develop marketing materials, McIntire adds.

Noting all the considerations above, McIntire says that LCOs can generally expect aeration service gross profit margins to

"YOU BASICALLY NEED THREE THINGS — A MARKETING PLAN TO DEVELOP THE CUSTOMER BASE, THE PERSONNEL TO DO THE WORK AND THE EQUIPMENT NECESSARY TO DO THE JOB." - CHUCK MCINTIRE

approach 65 to 75 percent, depending on specific pricing of services and labor costs. "Regular services typically have gross margins of 45 to 55 percent," he adds. "At Scotts, we have profit margins of 65 to 75 percent for aeration."

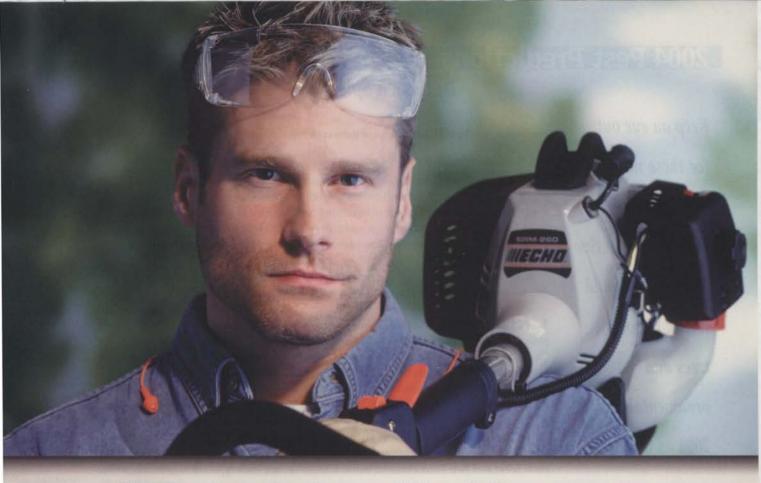
McIntire also points out that as a service, aeration is securely attached to the growth of the entire business. "It's an equal percentage of the overall growth and that can vary from market to market from as little as 5 percent to as much as 50 percent or more," he explains. "The equipment, labor and scheduling challenges need to be forecast and met to maximize revenues. This means having a clear plan put together with a timetable for the services, number of people, vehicles and machines necessary, and any other special needs the season requires."

Aeration is an important part of Scott's profitability and growth, McIntire says, adding, "You could always live without it, but it could mean the loss of a highly profitable

> service line that, depending on the market, may contribute 3 to 7 percent of a company's gross revenues."

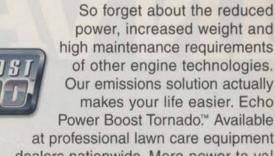
> The author is assistant editor of Lawn & Landscape magazine and can be reached at wnepper@lawnandlandscape.com. Chuck McIntire can be reached at 770/840-0114 or chuck.mcintire@scotts.com.

Dirt plugs (left) like these usually dry up after two or three mowings and blend back into the soil. Photo: Classen Manufacturing



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by Lauren Spiers

Keep an eye out
for these nine
pests that were
particularly active
in 2003 and could
wreak havoc on
trees and
ornamentals in
2004 as well.

Bugs are everywhere, right? Zillions of them crawling around in the soil, skeletonizing leaves and chewing through trees' tasty bark.

Well, maybe not zillions. In fact, the true amount of damaging pests numbers only several hundred according to Ohio State University Commercial Horticultural Agent Joe Boggs. "Of the nearly 90,000 described species of insects in North America, only 6,700 are considered pests and, of those, only 700 species cause frequent or occasional serious damage," Boggs says. "The remaining 6,000 rarely cause significant damage. Knowing all this, dealing with pests is really a matter of perspective."

But even with perspective, Boggs notes nine specific pests, their habits and control methods that are worth contractors' keeping their eyes on this year.

1. EMERALD ASH BORER. Found in southeastern Michigan in July 2002 by a plant pathologist, Boggs notes that the Emerald Ash Borer (EAB) is native to Mongolia, northern China, North and South Korea and Japan and was probably transported to the United States in infested wood packing material. Currently, 13 counties in southeastern Michigan are under quarantine for the pest, which is also present in northeastern Ohio. Recently, the North American infestation also was spread to Maryland and Virginia as a result of quarantine violations.

"All North American ash species are at risk from ½-inch caliper to full-size trees," Boggs says. "Though most native borers choose weakened trees, the Emerald Ash Borer is not selective." The EAB does, however, have a similar life history to its native cousins the bronze birch borer and two-lined chestnut borer. EAB larvae are creamy white to greenish-white,

(continued on page 88)

The emerald ash borer (below) is becoming a threat to millions of ash trees nationwide. Observing state laws and quarantine efforts is necessary for eradication.



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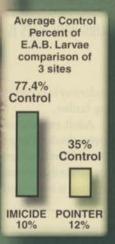
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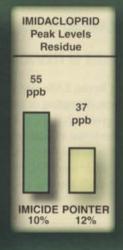
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(continued from page 86)

legless and have triangular-shaped body segments. The larvae overwinter through maturity and develop from mid to late summer. Adults emerge through distinct D-shaped holes from late May through early August. managed with a firebreak. Specifically, more than 12 million ash trees in the Detroit area have been taken by the insect. A \$43-million plan, including the removal of trees within a half-mile radius of infected species, now is

"Of the nearly 90,000 described species of insects in North America, only 6,700 are considered pests and, of those, only 700 species cause frequent or occasional serious damage. The remaining 6,000 rarely cause significant damage. Knowing all this, dealing with pests is really a matter of perspective." — Joe Boggs

As larvae, EABs feed on the host tree's phloem, disrupting its water transport system. A given ash tree can die three to four years after initial infestation though mortality can occur as early as the first year.

Right now, the Detroit area is the hot spot for EAB, and the infestation there will be underway to prevent the borer from spreading further.

Adult emerald ash borers have bright green, slender, elongated bodies measuring 7½ to 13½ millimeters in length. The females are darker than the males. The adult insect's coloring is brassy and golden green overall

with darker, metallic emerald green wing covers called elytra. The top of the pest's abdomen is a metallic coppery red color.

Emerald ash borer larvae can reach a length of 26 to 33 millimeters. The young insects are cream-colored and dorso-ventrally flattened. Their brown heads mostly are retracted to the prothorax, and only the mouthparts can be seen from the outside.

Although research on the ash borer's life cycle is still underway, the pest appears to have a one-year lifespan in southern Michigan but could last two years in colder regions.

Symptoms of the tree-killing pest can be tough to spy – at least until canopy dieback occurs. Such dieback appears when a tree is girdled by the serpentine tunnels excavated by emerald ash borer larvae. The result: many infected ash trees appear to lose about 30 to 50 percent of their canopy coverage in one year, and most die completely within the first three years following infestation.

Less obvious signs of emerald ash borer





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infestation include D-shaped exit holes on a tree's branches and trunk. Also, callus tissue produced by the tree in response to larval feeding often results in vertical splits 5 to 10 centimeters in length on the bark above the gallery.

Emerald ash borers are ruthless when it comes to ash trees – regardless of size and vitality. The pest has killed trees of various sizes and conditions in Michigan. In their larval stage, the insects have infested and taken down trees ranging from 5 centimeters in diameter to sawtimber-sized trees measuring more than a few feet in diameter.

While treatments of imidacloprid can eliminate early instar larvae, according to Boggs, if infestations are not identified early on, many states are implementing regulations that call for the elimination of all ash trees within ¼ mile of any infested trees.

"The main confusion with that point is that contractors are wondering if they should continue preventively treating ash trees," Boggs notes. "In Ohio, and depending on regulations in other states, you can continue to treat a tree for a client but if another ash tree ¼ mile up the road is found to be infested, that customer is going to lose their tree regardless."

For contractors in this situation, Boggs recommends providing clients with a written explanation of local regulations so everyone involved is aware of efforts to head off further damage. As it stands, the EAB has claimed 6 million ash trees so far and, according to the Michigan Department of Agriculture, the pest could cause \$50 to \$60 billion in damage nationwide. Without strong eradication efforts, the financial impact from this pest could be devastating.

2. BAGWORM. "The bagworm can lull us into a false sense of security if we're only monitoring evergreens," Boggs says. "Most people think of bagworm on arborvitae or junipers, but it can actually feed on 120



Bagworm

different plant species. Several years ago in Cincinnati we had an outbreak of bagworm on box elder and honey locust."

Bagworm, which can have two to three generations a year, are often difficult to detect early because they work pieces of the host plant into their bags of silk, Boggs says. This can camouflage the pest to plant health care technicians as the bags get larger. Still, catching bagworm early is the best control method. "If you find the bags are ¼ to ½ inch in size, these can be controlled with Bt (Bacillus





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thuringiensis) and this is important because Bt is a naturally occurring bacteria that has less of an impact on the parasitoids that can naturally control bagworms and other caterpillars," Boggs said, adding that some of the bagworm's natural predators include yellow jackets, baldfaced hornets and paper wasps. "We emphasize combining the use of insecticides with natural control methods for best results."

Boggs say that timing Bt treatments for when bagworms are still small is key because larger insects are more difficult to kill with insecticides, and bagworms in particular have another trick up their sleeves. "If a bagworm is approaching the last instar stage, they're just about ready to pupate," he says. "A caterpillar that is exposed to insecticides at this stage will stop feeding and pupate early so the technician's solution won't work at all. Additionally, the multiple generations of bagworm make it necessary for contractors to keep an eye on infested plants even after administering treatments."

3. EASTERN TENT CATERPILLAR. This pest makes its nest or tent in the forks of branches, but does not enclose leaves in the tent as the fall webworm does. However, Boggs says that all tent caterpillars, including eastern tent caterpillar and fall webworm, have a bevy of natural enemies.

"We've learned by watching eastern tent caterpillar that infestations can be worse some years than others," he notes. "Some of that can be environmental, meaning that there can be disease-causing organisms in the environment and the caterpillars die from the disease. If the disease is caused by a fungal pathogen, that may be more apparent during a wet spring than a dry spring and the size of the population will reflect that. Also, sucking pests like assassin bugs naturally feed on eastern tent caterpillar."

As with other pests mentioned here, eastern tent caterpillar must be monitored and attacked when nests are still loose. While they prefer to nest in wild cherry trees, most



Eastern tent caterpillar

other ornamental fruiting trees, as well as shade trees like oaks, maples and haw-thorns also are at risk. Because the pests tend to group together, one or two colonies can completely defoliate small trees, and major outbreaks in large trees will do the same. Additionally, damage can be compounded by eastern tent caterpillars' multiple generations.

"These pests have two or three generations a year, and the female keeps laying (continued on page 92)

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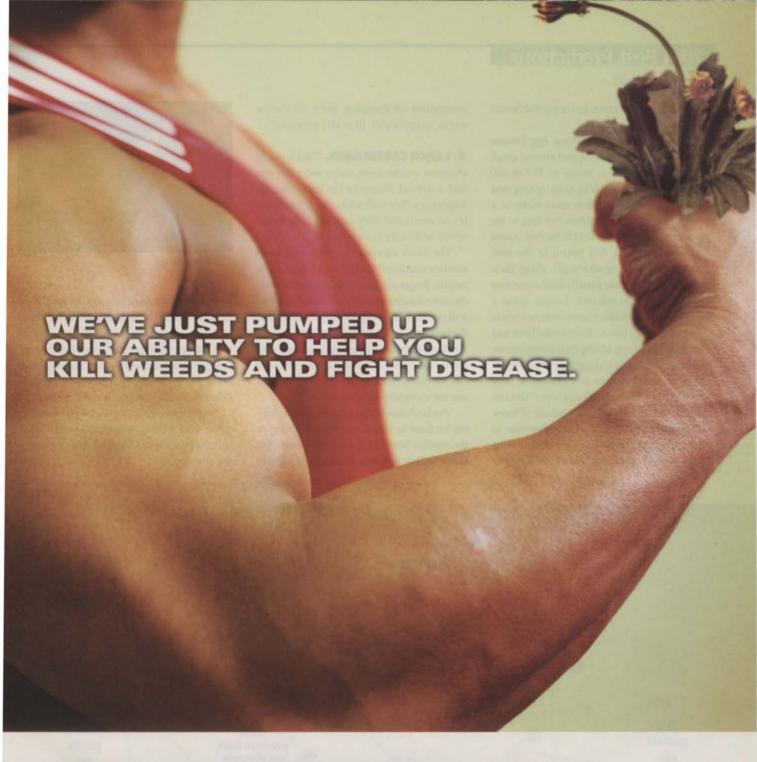
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(continued from page 90)

eggs in the same areas, so the nests become very dense," Boggs says.

Shiny, gray, foam-looking egg masses about 1 inch long are wrapped around small twigs and contain as many as 150 to 300 eggs. These will hatch in early spring and the tiny black caterpillars soon move to a nearby fork in the branches. For four to six weeks as they mature, the larvae find leaves on which to feed, but return to the nest afterwards, leaving silk trails along their paths. Mature larvae usually find a new tree in which to spin cocoons. Adults, about 1 inch long and reddish-brown with two white stripes, emerge two to four weeks later and the mating and egg-laying cycle begins again. "Because the nests and egg masses are easy to spot, removing eastern tent caterpillar from trees is relatively easy," Boggs says. "You can clip the egg masses off and dispose of those when you see them in the fall. Otherwise, in the spring, you can remove tents from the trees using a broom and either crushing the

caterpillars or dropping them into some warm, soapy water. Bt is also effective."

4. LARCH CASEBEARER. "This is one of the more quirky pests we've seen, but one that is almost always in the background," Boggs says. "It's difficult to identify because it's so small and they actually hide themselves within the larch needles."

The larch casebearer mines out larch needles and insert its body into the hollow needle, Boggs explains. However, the pests cannot consume whole needles early on and will instead nibble on the edges. "This causes the needle to look washed out," Boggs says. "As the needles die, you can stand back and see that the tree looks like it's becoming a silvery color. With large populations you can see complete defoliation."

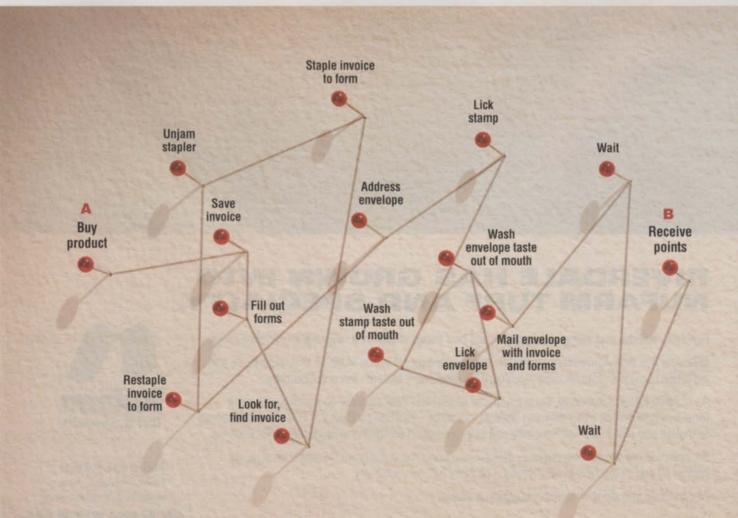
The larch casebearer does its needle mining for three to four weeks in early spring as the needles begin to grow. From there, the larvae will pupate into adult moths that are



Larch casebearer

active from late May to early August. New eggs are laid on the needles, and young larvae will mine needles again from mid to late summer before overwintering. To control the pest, Boggs recommends using any insecticide labeled for larch, and that Bt also should be effective because the pest is a caterpillar.

While most reports of the larch casebearer come from Michigan and its Upper Peninsula, larch trees in Ohio and New York also are susceptible.



5. DUSKY BIRCH SAWFLY. While they look very similar to caterpillars, sawflies are different in their habits and in how they must be controlled. "Caterpillars grow up to be moths and butterflies, but sawflies grow up to be wasp-like insects," Boggs says. "One common problem that I've seen is that people will call me up and say they've been using Bt and it's not killing these caterpillars. Of course, it won't kill them because there's no Bt variant that will kill sawflies – that's why the distinction is so important. We want to advocate the proper control methods and not risk overuse of pesticides."

Distinguishing between a sawfly and a caterpillar is simply a matter of counting the number of leg pairs on the caterpillar, Boggs explains. "If you start at the caterpillar's head, there are three pairs of legs that are separated from the rest," he says. "Those are the thoracic legs and will become the legs on the adult. The rest of the legs on the pest – the prolegs – are fleshy and will be lost on the



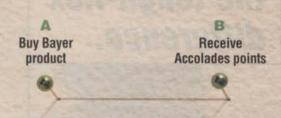
Dusky birch sawfly

adult. Caterpillars have five or fewer pairs of prolegs while sawflies have six or more pairs. Some sawflies can look remarkably like caterpillars, but looking for these distinguishing features is how to tell them apart." Additionally, Boggs jokes that sawflies are self-identifiers, as they roll into an "S" shape when they are disturbed.

Dusky birch sawfly has two generations per year and can start out very small to the degree that they're hard to see, Boggs says. "What you'll notice is that the leaves will gradually become skeletonized because early instar larvae will not eat the veins of the leaves," he notes. "They eat the edge of the leaves or eat windows in the leaves."

In addition to being difficult to see when they're small, the dusky birch sawfly also changes color as it matures and further blends into leaves as its colors changes. Early on, the sawfly is gray-green in color and later instar larvae can turn a yellow-green. "As they mature, the dusky birch sawfly starts to consume entire leaves and they feed in groups," Boggs notes. "You'll start seeing whole leaves disappearing and this will really become apparent when the second generation begins to feed."

The dusky birch sawfly's primary host is gray birch, but sometimes black, red, paper and yellow birch are also attacked. A pyrithroid insecticide can control the pest or small populations can be removed by hand and destroyed. The larvae remain active to mid-Sepember.

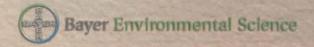


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6. WHITE PINE WEEVIL. Though found most often in the eastern United States, the white pine weevil is also found in the northern Rocky Mountains and on the West Coast where it is called the Sitka spruce weevil. Additionally, Boggs mentions that this insect is showing up in places where it had not previously been a problem. Broadly, it has made its way to northeastern and central Ohio, and Boggs notes that the white pine weevil also is becoming a factor in landscapes as opposed to only forest or Christmas trees where it is most common.

"The real challenge with white pine weevil is that it overwinters as an adult female that's



White pine weevil

ready to lay eggs," Boggs notes. "In early April, when it warms up enough for her to start moving, the female weevil will move up the main leader of the tree or somewhere around the first whorl of branches. When she feeds, she chews distinct, round holes into the tree and then eats the phloem tissue just beneath the bark. Occasionally, she'll turn around and lay an egg in that hole."

Though the female weevil's damage does not do too much harm to the tree, Boggs explains that as the eggs hatch in the summer the larvae will start feeding on the tissue just beneath the bark. Leaders with expanding buds will droop and will ultimately kill the top of the tree.

"If a contractor sees the top of the tree is starting to wilt or go off-color but has perfectly healthy foliage everywhere else, he or she should check the bark at the top," Boggs suggests. "They may find grub-like larvae there and if they cut below where the larvae are found, they can eliminate the problem. If you prune the top of the tree, you can actually tie up a side lateral and train it to become a new top."

Boggs adds that the part of the tree that is removed must be completely destroyed because the larvae can continue to mature in those branches. Otherwise, the pest does respond to insecticide applications made early in the spring or imidacloprid soil drenches made the previous fall. "The soil drenches are good, but should really only be practiced by contractors who see the white pine weevil frequently," Boggs notes. "In places where the problem is rare, the excess pesticides are not really worth their time or effort."

7. BOXWOOD LEAFMINER. Leafminers get their names because the immature larvae feed and overwinter between the upper and lower surfaces of the host plants' leaves. (continued on page 139)

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tree's health can be weakened by a variety of factors, not the least of which is insect infestation. To prevent bug-born tree damage and possible death, landscape contractors must learn to recognize the warning signs associated with pesky invaders, says Dennis Souto, entomologist, United States Department of Agriculture Forest Service, Durham, N.H.

More specifically, green industry professionals should be aware of a threatening twosome of species that have been infecting the United States, and though not on the top nine list this year, are still threats to native trees. While a variety of pests can wreak lasting havoc on the country's tree population, Souto insists that these insects pose particularly painful possibilities.

The tree-killing duo includes the hemlock woolly adelgid and the Asian longhomed beetle (ALB). While these pests originated on Asian soil, they have found their niches in the United States. Souto recommends contractors take note of the symptoms of these insect attacks on trees to become able to recognize infestation.



ADELGID. This insect has been a U.S. resident since 1924. Believed to be an Asian native, the hemlock woolly adelgid (Adelges

tsugae) poses a significant

HEMLOCK WOOLLY

threat to eastern hemlock and Carolina hemlock trees. In the country's eastern-most region, the pest is thriving in the Smoky Mountains, spreading north to the

Cottony, white sacs at the base of hemlock needles are strong evidence of a hemlock woolly adelgid infestation. The sacs look similar to the tips of household cotton swabs, and they are visible year round, appearing most prominently during the early spring.

Hudson River Valley and into southern New England.

Sucking sap from a hemlock's young twigs, the Asian insect warps and halts tree growth. This can cause needle discoloration – from deep green to grayish green – and, eventually, premature dropping. And the loss of budding needles and shoots results in serious trouble for the tree's overall health. In short, defoliation – or the premature demise of leaves – and death can occur within several years.

Dispersion of these sap-sucking creatures often occurs via birds, wind and mammals.

ASIAN LONG-HORNED BEETLE. The Asian longhorned beetle (*Anaplophora glabripennis*) has been attacking trees in the

United States since 1996.

The immigrant insect tunnels through trees in its larval stage, girdling stems and branches along the way. Repeated attacks can cause canopy dieback in the upper crown and, fi-



nally, death of the entire tree. Scientists speculate that the Asian longhomed beetle probably stowed away to the United States inside solid wood packing material shipped from China. The exotic beetle has been discovered at ports and warehouses throughout the country.

When feeding in the United States, the beetle prefers maple species including boxelder, Norway, red, silver and sugar maples. Other known hosts are alders, birches, elms, horsechestnut, poplars and willows.

Currently, the only successful methods of eliminating the Asian longhorned beetle is through USDA-approved methods or to remove infested trees and destroy them via chipping or burning. And to prevent further spread of the insect, quarantines are established to prevent transporting infested trees and branches from the infected area. Early detection of the infestations and rapid treatment response are crucial to successful eradication as well.

The Asian longhorned beetle produces one generation each year, with adult insects typically present from March to October. Adults usually stay on the trees they emerge from or disperse only short distances to a new host to feed and reproduce. Each female can lay up to 160 eggs, which hatch in 10 to 15 days. The larvae tunnel under bark and into the wood where they eventually pupate. Adults emerge from their pupation sites through boring round exit holes in the wood.

signs and symptoms of these deadly pests, they can take action to prevent further dispersion of the threatening insects, Souto explains. Contractors should contact local university researchers or pesticide suppliers for treatment options based on the specific tree species and insect infestation. Since both pests pose significant threats to the nation's tree population, contractors also should report potential infestations to the United States Department of Agriculture Forest Service by calling 202/205-8333, especially in the case of ALB infestation since the USDA prefers to manage them. – Ali Anderson

Tree-Killing Duo

Photos: Hemlock woolly adelgid (left), Dennis Souto, USDA Forest Service, Asian longhorned beetle (right), Dean Morewood, Pennsylvania State University

by Lauren Spiers

With xeriscaping, clients don't have to surround themselves with cacti to have landscapes that will thrive in low-water conditions.

Water-Shedding

As drought-ridden and water-conscious states and counties nationwide implement water restrictions on their citizens, more families are working to conserve water in their homes. While parents load more efficient washing machines and dishwashers, children help by turning off the water in the bathroom sink while they brush their teeth. Moreover, moms are taking shorter showers and handy dads are installing low-flush toilets.

Meanwhile, what are landscape contractors doing?

While water use is important inside the home, over 50 percent of residential water use goes to landscape irrigation, according to the organization Xeriscape Colorado. It is this water use on which legislation has the greatest impact in terms of landscape watering bans or every-other-day water allowances.

Thankfully, landscape clients in these situations don't have to let their dreams of lush outdoor escapes dry up along with local reservoirs. All over the country, xeriscaping is becoming a more popular option for clients who want to maintain their eye-catching landscapes while lowering their water use – and their water bills.

WATERLESS WONDER. From the Latin term "xeric," meaning "dry," xeriscaping focuses on implementing low-water-use and

native plants that will tolerate drought conditions or limited-water situations. At the same time, environmentally conscious consumers see xeriscaping as an efficient landscape watering solution even in areas like the Midwest and northeastern United States where water use is less restricted.

"The basic theory behind xeriscaping is creative landscaping through water conservation and water conservation through creative landscaping – it works both ways," comments John White, Dona Ana County extension agent, New Mexico State University, Las Cruces, N.M. "You're trying to make

Xeric landscapes minimize turf area by replacing it with low-water-use plant beds and hardscaping elements like decks and patios that require no water at all. Photo: Clemson University Cooperative Extension

a water-efficient landscape, but also one that has color and serves a function just like a traditional landscape would."

For many landscape clients, the ability to keep a green, healthy landscape despite several seasons with little rainfall comes as a pleasant surprise. "I think there is a misunderstanding about xeriscapes," says Annie Huston, owner, Columbine Design, Englewood, Colo. "A lot of people call us and ask for 'zeroscapes,' which is, unfortunately, what they have in mind. They've given up on having a green

landscape because of the drought situation, but we take that as an opportunity to show them that a xeriscape really can be as lush as a traditional landscape."

Gordon Larson, president, Larson Landscape & Maintenance, Tarzana, Calif., agrees, noting that xeriscaping has become more popular in the 12 years that he's been working with this type of design. "We started doing xeriscaping in 1992 because at that time we had a real drought situation," he explains. "That really changed people's way of thinking about their landscapes. Now, a

(continued on page 98)

Contractor Finds Rain Bird® Landscape Drip Products Have Unmatched Support

By Nathan Odgaard



Confidence. It's what keeps David Coleman coming back to Rain Bird time and time again. Having worked in the irrigation industry 25 years, Coleman knows he can turn to Rain Bird for all of his landscape drip irrigation

needs, whether it be for steadfast support or job-specific, cutting-edge products.

Coleman is president of DFW Sprinkler Systems in Dallas, TX. His customers, both commercial and residential, rely on him for exceptional service and installation of the best landscape drip irrigation system components. That's why Coleman relies on Rain Bird.



Rain Bird is at the forefront of product development. Rain Bird's product development is shaped by those whose input matters most contractors. This helps eliminate costly callbacks and allows them to get it right the first time. "Rain Bird's product development sets them apart from the competition," says Coleman. "They concept and test all new products, then they get feedback based on real-world field tests. With Rain Bird Landscape Drip products, contractors can be assured that they are installing a great product that will reward them monetarily, professionally and help them maintain a solid reputation. Plus, as a Rain Bird Rewards member, I earn Rain Bird Points for all landscape drip purchases."

Rain Bird addresses a contractor's needs – per project. Rain Bird offers immediate and long-term solutions to daily problems that contractors face. "Through a distributor or hotline, you can talk about a specific problem you are having and Rain Bird will respond directly via a product technician and assist you," says Coleman. "I appreciate Rain Bird's responsiveness and the value it places on our feedback. Rain Bird addresses my needs by answering my questions and by offering the most complete product line in the industry."

Rain Bird allows contractors to do the same job with fewer parts. Rain Bird Landscape Drip products are easier and quicker to install because there are fewer components. Fewer parts reduce the likelihood for problems and callbacks. For example, the Rain Bird Easy Fit Compression Fittings system design—three fittings, five adapters and a flush cap—accepts multiple sizes of outside diameter tubing, from .630" to .710" (16 mm to 18 mm), simplifying and expediting installation. Says Coleman: "This system works great for existing applications that need revamping. It also helps save time with maintenance, which helps greatly expand business opportunities."

Coleman depends on the Rain Bird name like so many other turf professionals. In addition to





the Landscape Drip division, Rain Bird offers leading irrigation solutions across the turf industry.



(continued from page 96)

o effectively design, install and maintain xeriscapes, landscape contractors can follow seven simple gardening principles that they already use on a regular basis. John White, Dona Ana County extension agent, New Mexico State University Cooperative Extension, Las Cruces, N.M., offered the following explanations of the principles.

Proper design: "On any landscape installation or renovation, you want to look at a complete design," White says. "We always encourage people to include utilities, bad views and topography changes, and to draw the design to scale, including the size of the plants when they are mature. You can't buy a tree in a 5-gallon pot and expect it to stay that size – you have to plan the de-

sign for the growth of the landscape."

• Soil preparation: "Preparing the soil means providing an adequate planting bed for plant materials," he explains. "Some material is really suited for a desert climate rather than a humid, wet climate. This also involves matching the plant material to the soil. Adding some organic matter to sandy soil can be helpful and adding organic matter to clay soil can open it up a bit."

Efficient Imigation: "This doesn't have
to be drip irrigation, necessarily," White
notes. "It's just the idea of using a controller to make sure that water is put down at
the proper rate. Designing a system well
and running it at the times that are most efficient for water conservation – early morning and when the winds are down – helps

limit the amount of water lost to evaporation and drift."

Use of Mulches: "Mulches help in water conservation by limiting evaporation from the soil surface and keeping moisture in the ground for a longer period of time," he says. "It also helps in weed control, which keeps maintenance down. You have to be careful with the material you choose, though. Out West, some people like to use white gravel, but that has tremendous glare and the reflected light can bleach out a plant. You need more of a neutral color like a pink or tan."

Appropriate Turf Area: "Limiting the
amount of turf to the area you need for a functional use is much better for xeriscapes,"
 White notes, "In many areas, fewer front yards
are going in altogether. The idea of a 'yard' is
changing a lot and there are nice-looking
landscapes coming in that aren't water hogs."

 Adapted Plant Material: "Generally, you want to find plants that will thrive with low water requirements," White comments. "There

Lucky Seven





USE READER SERVICE #89

USE READER SERVICE #90

is a lot of work that's been done with nurseries and breeders so there is a wider variety of plant material available. There's no more excuse that people can't install xeriscapes because there aren't enough plants to choose from. There's a lot of potential now and the plants you choose should be grouped according to water use in hydrozones."

Appropriate Maintenance: "If you're using the right plant materials in the right places, you'll reduce your maintenance substantially," White says. "This involves spacing the plants properly so they don't overgrow an area and choosing plants that already have some pest or disease resistance so they'll require less attention. If you need a plant that's 4 feet, don't buy something that's going to grow 10 or 12 feet because you'll just have to keep pruning it." — Lauren Spiers

lot of times people will call us up and say, 'I really don't need this lawn, what else can we do?' and that's when I speak up."

But the dry western United States isn't the only region where xeriscaping is becoming more popular. "Any area of the country can benefit from xeriscaping," notes John Harris, president, Earth Advisors, Hollywood, Calif. "They market it in the northeast, New England and the Mid-Atlantic with synonyms for xeriscaping like 'water-wise' landscaping or 'low maintenance' landscaping. The term we like to use is 'sustainable landscapes' because we're not only interested in water conservation, but with actually choosing plant material that's more closely aligned with the environmental and soil conditions of a certain area."

Harris explains that taking this approach allows contractors to improve plant health without excessive pest control or fertilization. This reduces the amount of money clients must spend on maintaining landscapes and also saves time by reducing the amount of attention individual plants need.

DRY INGREDIENTS. Because xeriscaping employs a different landscape design mindset, it may seem that specialized contractor education would be necessary. However, landscape professionals note that by simply adhering to

the seven principles of landscaping, any design can use water effectively.

"Xeriscaping is about using the seven principles – basic gardening concepts – to use water efficiently," White says. "Water used to be cheap, so several years ago people didn't really see a need to change what they were doing. Now it's just a matter of looking at these principles again and taking advantage of the new plant varieties and irrigation advances."

The seven principles of landscaping include proper design, soil preparation, efficient irrigation, use of mulches, reduced turf area, using adapted plant materials and performing appropriate maintenance. "The main most (continued on page 102)





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(continued from page 99)

important elements are planning and design, which is why a lot of customers need professionals to handle xeriscaping," Huston says.

Proper design includes everything from analyzing the terrain and identifying a property's sun and shade areas to choosing the appropriate number of plants for a particular area. "Choosing plants that will be compatible as they grow and mature is very important, as is spacing them properly to allow them to grow," Harris comments. "This can be a real problem, for instance, in areas where you have to plant sh

areas where you have to plant shrubs 24 inches on center for a hedge row. In two or

Low-water-use plants don't have to look bland, and cacti are hardly necessary. Flowering plants and interesting foliage allow xeriscapes to look as lush as traditional landscapes. Photo: Larson Landscape & Maintenance

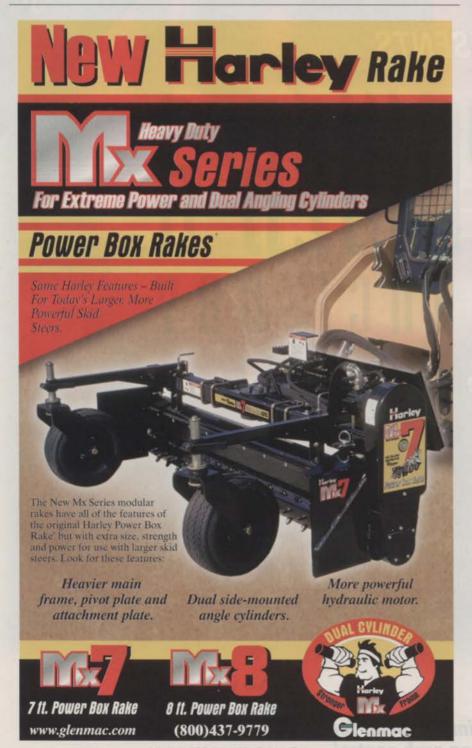
three years, those shrubs may grow 3 feet wide each, so you really only need to plant them 36 inches on center. Planting them further apart will save water and also help the shrubs be healthier and have fewer maintenance needs as they mature."

The design step also calls for contractors to arrange landscape plantings into hydrozones—groups of different plant materials with similar water requirements. From there, individual hydrozones can be watered with a single line of irrigation. For instance, all turf areas would be on an irrigation line separate from those covering shrub or perennial irrigation.

"One of the strongest ideas behind xeriscaping is to plant materials regionally on a property so all the plants in that irrigation zone have similar water, nutrient and even sun requirements, which will reduce the overall irrigation needs," Harris notes. "The best institution of xeriscape is where, after establishment, the plant material thrives on the natural rainfall level."

Contractors also need to consider how much turf area is necessary when designing a xeriscape. "Xeriscaping does not mean you have to get rid of all your turf, but the amount of lawn you leave needs to be sensible," Huston comments. "A lot of areas of the country are used to great, expansive lawns, but to reduce water use and maintenance, you really should just have the amount of lawn your client needs to be happy."

But reducing the amount of turf area doesn't necessarily mean filling in the extra space with more shrubs or planting beds. Installing decks and patios are popular, useful alternatives. "Any area that is hardscaped is going to be an area that doesn't need water," Huston adds. "Knowing that, clients really start getting into all the creative things they can do. For instance, we may install a



patio and then do a container garden in that area, so the client can still have lots of greenery around." Additionally, Huston notes that clients in her area are becoming more interested in outdoor kitchens and fireplaces that keep the landscape inviting with no water requirements.

LIQUID ASSETS. Another important area in which contractors have to hone their xeriscaping skills is choosing the correct plant materials, though White notes that this process is becoming easier. "There's a lot more plant material on the market now for contractors to choose from, so even in a desert climate you can find something more colorful," he says. "A lot of people think of xeriscaping as including dry plants that don't have a lot of color, but a lot of breeders

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WILL REDUCE THE OVERALL
IRRIGATION NEEDS."

- JOHN HARRIS

have come up with some fairly lowwater-use plant material that still gives designers a lot of variety."

Moreover, xeriscapes aren't restricted to low-water-use plants. "Low-, medium- and high-water-use plants all can be used in xeriscapes," comments Bob Polomski, commercial horticulture extension agent, Clemson University Cooperative Extension, Clemson, S.C. "You certainly can't expect a moisture-loving plant to grow in xeric conditions, but many plants can be conditioned, to some degree, to tolerate lower-water conditions."

To achieve this conditioning, Polomski recommends proper pruning, reducing the amount of nitrogen – and, therefore, salt – that the plant receives and ensuring that plants have adequate potassium. "Having hydrozones in place makes having plants with all levels of water use

possible in xeriscaping," he adds. "That way, instead of exclusively growing southwestern plants like cactus, Yucca and ocotillo, we grow any variety of plants that can be accommodated by the hydrozones in the landscape."

Some popular plants that professionals mentioned as being xeriscape-friendly include Salvia and Leucophyllum in the West and Harris also mentioned the use of Thryallis and coco plum as popular for the southeastern United States and south Florida in particular.

Larson also uses lavender, Lavetera, butterfly bush and groundcovers like thyme and chamomile in his designs. "A lot of these are fragrant and that's attractive to both people and wildlife, which makes the landscape interesting," he says. Because many people aren't familiar with some of these plants, Larson educates his clients by showing them photos of other xeriscapes and taking them to visit nurseries to see their options up close.

Huston agrees that these approaches to education are effective sales tools for clients interested in xeriscaping. "We show our clients pictures and we give them options," she says. "A lot of people come

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from back east or from areas where water is not necessarily an issue. Showing them pictures helps them realize that instead of having a dead lawn they can have a very interactive landscape that is xeric at the same time."

Additionally, the vast majority of xeriscape clients are in the residential market, which makes monetary savings in the form of reduced water bills an excellent selling point. "You want to tell the typical homeowner that by implementing sustainable landscape and xeriscape principles, they're going to have a landscape that will last longer and cost them less over time," Harris says. "As you reduce the amount of pest control, fertilization, irrigation and physical plant lawnandlandscape.com



Check our April Online Extras for a list of low-water-use plants as well as a list of native plant nurseries by state.

replacement, it reduces how much you'll have to spend to maintain the landscape. Over a three- to 10-year period as the landscape establishes, you can get a tremendous payback."

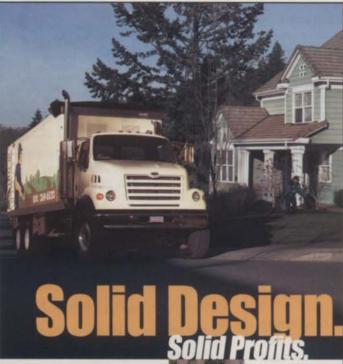
White notes that the amount of money a client will save on his or her water bill ultimately depends on how much water they were using in the first place. "I try to explain to customers that if they're only trying to save \$20 on their water bill because they don't use much water anyway, a \$6,000 or \$8,000 landscape renovation may not be their best investment," he says. "When you're selling, you have to be cautious about telling people how much money they'll save on their bill because they may not be spending that much to start with."

On average, Xeriscape Colorado reports that a well-designed xeriscape can increase property values by 15 percent and decrease water use by up to 60 percent. In some areas, customers whose landscapes would benefit from xeric renovations can get rebates on their investments, as well. "More people are installing xeriscapes voluntarily, but a lot of ordinances and governments are mandating the changes because of water restrictions," White says. "Some cities offer a good deal for reinstalling landscaping as xeriscapes. Some cities will pay \$1 per square foot up and others will pay up to \$2.50 per square foot up to a certain total area. The deals have to be pre-approved, but if you're relandscaping an acre, that can be a nice incentive."

Still, Harris comments that installing a xeriscape shouldn't need an incentive. "In my opinion, every landscape should be a xeriscape because that's what this industry is about – selling the right plant for the right place and not just installing plants because they need to be sold or they look nice," he says. "Contractors don't have to have special licenses or join special associations in order to be able to sell xeriscapes or sustainable landscapes, but they should educate themselves on the principles of good landscaping and really learn the theories behind xeriscaping before they sell it."

The author is associate editor of Lawn & Landscape magazine and can be reached at lspiers@lawnandlandscape.com.





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CATERPILLAR

by Doug Fender

Water saving plant material may not save water after all.

With parts of the nation beset by extreme drought recently, some groups have made recommendations or enacted ordinances that seek to conserve water in their communities. To ensure that such efforts are effective, the professionals who maintain landscapes must implement water management practices based on well-founded scientific facts.

One water-saving method these organizations have endorsed is the substitution of existing landscapes with alternative plants classified either as "native" or "low-water using."

While such suggestions are always based on good intentions, they also may be ill informed, according to recent scientific studies.

Research projects by plant biologists at Arizona State University (ASU), for instance, report that in many cases the so-called native landscapes they studied receive more water than standard landscapes of turf and plants commonly identified as "high-water using."

According to one such study by Chris Martin, ASU associate professor of landscape horticulture, "native plants can survive long drought periods by shedding leaves and storing water like cacti, but they also aggressively harvest rain when it becomes available."

Martin's research, which was funded by the EPA, found that depending on people's water-use practices, native or desert plants, such as acacia, brittlebush, creosote bush and mesquite, could actually use two or three times as much water as flooded alfalfa,

Instead, the water-wasting culprits are the people who use improper irrigation practices and have poor landscape designs. But

106

with well-informed water-use practices, contractors can encourage clients to save water without sacrificing aesthetic appeal.

According to WaterRight: Preserving Our Water, Conserving Our Environment, an International Turf Producers Foundation publication, contractors should use these maintenance tips to help conserve water on clients' properties:

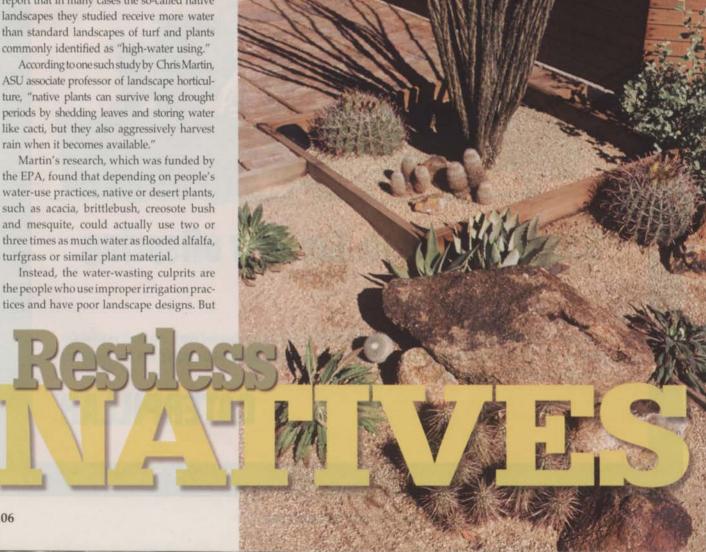
- · Increase water infiltration by dethatching or aerating all lawn areas.
- . Trim or prune trees and shrubs to allow greater sunlight penetration through and beneath the plant.
- · Sharpen pruning shears and mower blades as dull blades encourage water loss.

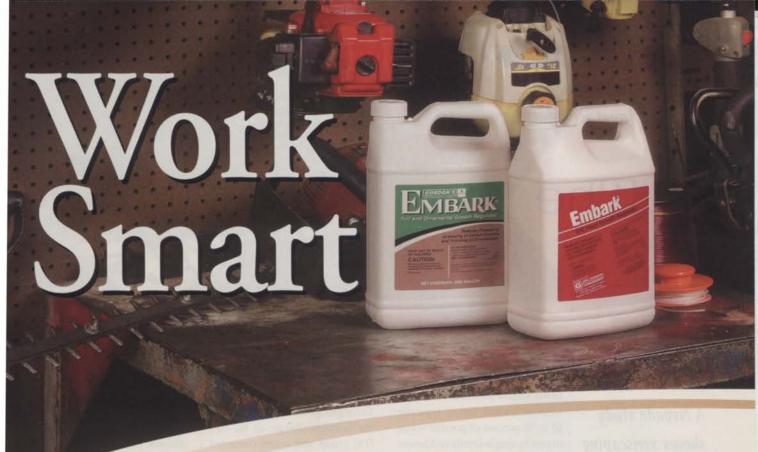


The plants used to conserve water - whether they are native or turf - may not matter as much as the irrigation practices used on the property.

- · Perform irrigation system maintenance to ensure maximum uniformity and operation efficiency.
- · Upgrade in-ground irrigation systems by adding soil-moisture meters, rain shutoff devices or ET-based controllers.
- · Irrigate plants infrequently and deeply according to ET or soil-moisture requirements.
- · Cycle irrigation applications to allow penetration and avoid runoff.

The author is executive director of Turfgrass Producers International and can be reached at 800/405-8873. For more information, visit www.TurfGrassSod.org.





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A Nevada study shows xeriscaping as an effective means of boosting water conservation on residential properties.

In the Mojave Desert of the Southwestern United States, typically 60 to 90 percent of potable water drawn by single-family residences is used for outdoor irrigation. Thus, in this region, conservation measures focus on reducing outdoor water consumption, one way of which is to use xeriscaping in place of traditional turf. Four years of research into the cost and water savings generated by this type of conversion shows some promise.

THE STUDY. The Southern Nevada Water Authority (SNWA) wants to achieve 25 percent water conservation by the year 2010 since southern Nevada receives only about 4 inches of precipitation annually but the local ET turfgrass water requirement is 90 inches. Landscape conversions are a possible way to help reach this goal.

> The water savings potential of xeriscaping led the SNWA and the U.S. Bureau of Reclamation - Lower Colorado Regional Authority to study a residential landscape conversion program, starting in 1995.

The Xeriscape Conversion Study drew from participants who dwell in single-family residences within four different southern Nevada water jurisdictions. Three groups make up the study the Xeriscape (XS) group, the Turf (TS) group and a non-contacted comparison group.

The XS group is made up of residents who converted at least 500 square feet of traditional turfgrass to xeriscape. In this region, xeric landscape is principally composed of a combination of desert-adapted shrubs, trees, ornamental grasses and mulch. Homeowners were required to plant sufficient vegetation so that the new landscape would have a minimum 50 percent canopy coverage. This avoided the creation of unattractive "zero-scapes" composed exclusively of rocks. The average area converted was 2,160 square feet. A total of 499 properties were enrolled.

The TS group represents properties with traditional design where an average of 2,462 square feet of the landscaped area was turf. A total of 253 residences were recruited.

SNWA and partner agencies monitored each site's water consumption at the main meter and by a submeter, which monitored per unit area irrigation consumption on a portion of their landscape. Both meters were read monthly. All study participants have in-ground irrigation systems and controllers.

THE RESULTS. Four years of data have revealed a number of findings. Converting a portion of traditional turf to xeriscape reduces total water consumption for residences. The average reduction was 33 percent (8,800 gallons per month or 105,600 gallons annually) for residences that converted an average of 2,160 square feet.

Properties with at least 60 percent of their landscapeable area as xeric zones realized, on average, a one-third reduction in landscape maintenance, both in hours (2.2 per month) and direct dollars (\$206 per year) as compared to residences with an equivalent relative amount of turf.

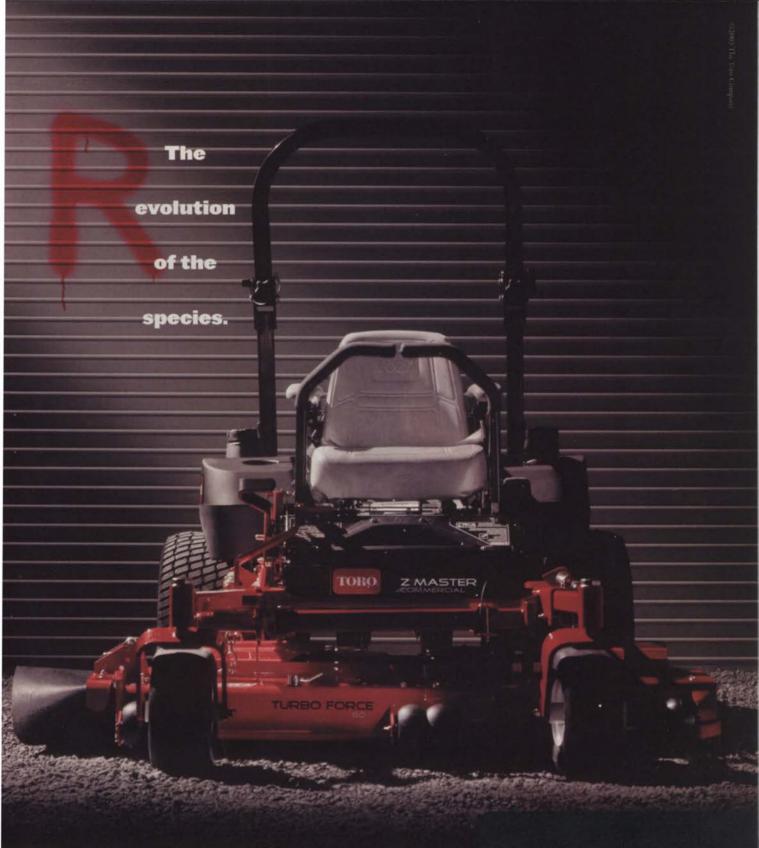
On a per unit area basis, annual water consumption was lower for xeriscape than traditional turf. On average, water consumption for turf areas (79.2 gallons per square foot per year) is four to five times as high as for xeriscape (17.3 gallons per square foot per year).

The results of this study support the conclusion that residential xeriscape promotion is an efficient means for obtaining water conservation in areas where total household consumption is dominated by outdoor irrigation.

The authors are Conservation Programs Coordinator and Senior Conservation Programs Analyst, SNWA, Las Vegas, Nev.

Chart (below) represents mean cost to irrigate each landscape type. Dollar figures are per 100 square feet. Source: SNWA





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USE READER SERVICE #96

by Will Nepper

Start-up services or annually scheduled maintenance checks are a necessity for all irrigation systems and an added source of revenue for contractors.



Adjusting the height on pop-up sprinkler heads as a regular part of irrigation system start-up and maintenance can help eliminate the chance of a stifled spray like the one pictured above.

You wouldn't drive cross-country in a car that's been sitting in a garage all winter without checking the tires and oil, gassing up and generally dusting the cobwebs off the vehicle. The same care should be taken with irrigation systems in the spring when, in many regions, they are coming out of a seasonal dormancy that could leave them with clogged sprinkler heads or failing backflow protection. Whether or not a system operates in a region affected by winter shutdowns, the sometimes-delicate nature of irrigation components requires a little attention from time to time. For this reason, the annual check-up of irrigation systems has become a standard service for many contractors.

Carl Dowse, irrigation division manager, The Bruce Co. of Wisconsin, Middleton, Wis., knows the importance of irrigation checkups and offers maintenance and system startups as an annual service that produces a profit margin of approximately 12 percent. "You definitely need to make sure the systems are operating at 100 percent before you

get into the summer season when you need them most," he says. "We offer a spring startup where one of our service technicians goes to a client's home and starts up the system, going over it carefully and checking to see if anything is broken, damaged or needing replacement."

Though some larger commercial accounts require an actual crew, a single service technician, equipped with a service van and plenty of spare parts is generally all it takes to run a start-up service or perform a regular maintenance check-up on most residential and reasonably sized commercial jobs.

Dowse says he's lucky that most of his technicians have been with The Bruce Co. since 1995, so training a technician on the basics is not the issue that it might otherwise be. There is occasional in-house training, but Dowse explains that it rarely covers the nuts and bolts of service but rather company-specific expectations, such as correctly filling out time cards and purchase orders. "But I still try to keep them up-to-date on

trends," Dowse says. "About every other year, most of my technicians attend some sort of factory training," he says, explaining that many manufacturers and distributors offer educational training seminars that help fine-tune skills while reiterating the basic fundamentals. Dowse's employees train with the Toro University irrigation program every other year.

For The Bruce Co., spring start-ups entail more than just flipping a switch to make sure sprinklers are still operating. "Start-ups include us checking the backflow protection as well as the water source," Dowse says. "We start the system and go through each zone to adjust the heads as required. When we adjust heads, we adjust their height, the arc of coverage and the radius of the water distribution in instances where they may be throwing water too far or too short a distance."

Also included in The Bruce Co.'s spring maintenance service is a check of system controllers, which involves programming (continued on page 112)



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SPECIAL FOCUS: Irrigation

(continued from page 110)

the controller with a baseline setting, Dowse explains. A baseline setting tells the controller on what days and at what time to open irrigation valves and how much water to deliver to the property zone regulated by that controller. The base line is decided upon by considering the climate conditions for that region in addition to water efficiency and, in some cases, city drought watering restrictions. "We tell the customer what days of the week it's going to water and the times at which it will begin and end," Dowse explains. "We also tell the customer that as the weather changes they may need to adjust the baseline."

The Bruce Co. has no set price for their maintenance service. "We bill everything on a pay-as-you-go basis," Dowse explains. "We request no payment up front and we don't have a set price for spring start-ups because you never know what you're going to be getting into." Instead, The Bruce Co. bills at the hourly rate of \$55 an hour for controllers

with 12 zones or less. "Once you go over 12 zones [and/or one controller] it would be billed at \$55 multiplied by 1½," Dowse adds. "So on a property with two controllers with 12 stations, it would be billed at \$110 per hour, which is \$55 an hour, per controller," he illustrates.

Dowse adds that there is an additional 5 percent additional charge for out-of-town jobs that can extend as far as 150 miles from The Bruce Co. office. "For instance, we have several jobs in Iowa," he says, "but we don't charge them for that drive time."

In addition to the 5-percent increase in billing, The Bruce Co. alleviates some of the sting of long drives with smart scheduling.

"We send a reminder card out to our customers and ask them to phone in and schedule an appointment with our appointment secretary," Dowse explains. "They call her, and she has a sheet for scheduling that is divided up by locations. We group appointments that way to save on drive time."

When a current customer calls in, their file is opened from a database program that contains all of their information, including zip code. She can then go to a sheet that lists all of the locations they serve and the days technicians will be working in those locations. "When they call in, we match them with their location and tell them which slots we still have open for that day."

Of course, busy times, like during spring start-ups, can make it hard to adhere to the system, in which case Dowse says the company is glad to make exceptions for the customer's availability. He explains: "When this happens maybe I'll go out to the property instead of one of our service technicians, or we'll have to make an appointment for during the weekend."

The author is assistant editor for Lawn & Landscape magazine and can be reached at wnepper@lawnandlandscape.com. Carl Dowse can be reached at 608/836-7041.





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by Lauren Spiers

Treasure Coast Irrigation shares their approach to bidding commercial irrigation projects.

Commercia

hough they seem rough and dangerous, commercial construction sites are actually quite delicate, requiring precise coordination between steelworkers, masons, electricians and dozens of other contractors in order to erect safe and solid buildings.

On a construction site's surrounding grounds, irrigation contractors have equally important jobs in establishing the lines that will sustain the new building's landscape. Indeed, before even beginning to work on a site, irrigation contractors must go through their own detailed and elaborate processes to develop accurate designs and proposals for what the new installation will include.

"Creating a proposal for a large commercial site without an existing irrigation plan is time consuming," says Roy Tveite, designer/ estimator, Treasure Coast Irrigation, Hobe Sound, Fla. "There are a lot of factors to consider that will change our final design or bid." Tveite goes through several steps when developing a commercial irrigation installation proposal, but meeting with a project's general contractor and having a thorough knowledge of Treasure Coast's operating numbers helps him create solid, profitable installation projects.

PROJECT SPECS. Because 97 percent of Treasure Coast's commercial projects are new installations, Tveite has learned from experience that meeting with general contractors on a construction site will help him identify the right specifications to use in his proposal.

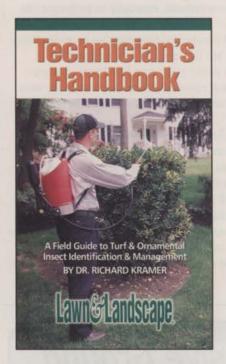
"If the project we're bidding on doesn't already have an irrigation design, normally I would approach the general contractor or the property owner and find out what kind of system they would like," Tveite says. "For example, if it is multiple-family project that has a lot of common area, does he wants each house to have an individual irrigation controller or does he want part of the property on central control? There are broad questions like that and also more specific questions about what kind of spray heads they want to use - do they prefer 12-inch pop-ups in a shrub bed or a smaller size?"

Additionally, Tveite visits the construction site to get an idea of the size and grade (continued on page 116)



Because commercial sites often have both wide-open turf areas and tight spots with landscape beds, discussing project specifications with the site's general contractors is essential in meeting all the necessary irrigation needs.

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(continued from page 114)

of the project, as well as knowledge of the type of water source and any reclaimedwater issues that may require permits or special materials. Ultimately, however, many product decisions are dictated by the project's budget. "Quite often, property managers will want to keep their costs down, so there may be more sophisticated materials that we would like to use, but there may not be an allowance for it in the budget," Tveite says.

For example, because landscape irrigation in south Florida frequently comes from reclaimed water, Tveite often shares with general contractors the idea of using valves with scrubbers in them that will eliminate some of the extra debris in the water. "There are no requirements to use these particular valves, and we know it will run up the price of our bid, so there's a question of whether we should put these in and deal with it later or not put them in at all," he says. "In those

(continued from page 118)

Controlling Personalities

hough installing a central control system can significantly increase a commercial irrigation bid - to the tune of \$15,000 in some cases - Treasure Coast Irrigation, Hobe Sound, Fla., is seeing more requests for these systems, especially on properties like homeowners' associations.

These types of properties have a lot of commercial-type qualities because of their size and some of the open common areas, but they are also very residential with individual houses and homeowners to deal with," comments Roy Tveite, designer/ estimator for Treasure Coast. "These types of commercial sites are usually the most complicated to design and sometimes we have to have more of a central control system to make everything work properly."

In addition to size and variety of irrigation areas, Tveite notes that watering windows on the property and watering restrictions through the South Florida Water Management department further complicate the math involved with these types of properties. "Regular commercial sites have their opening and closing times and we may be able to water between 6 p.m. and 8 a.m. with no problem," he comments. "But in a residential complex, people may be out walking their dogs at 10 or 11 p.m. and we have to think about that in the design. Also, if one homeowner starts to water his or her lawn whenever they want, they can use up the allotted water for their reclaimed water site and no one else would receive any irrigation." - Lauren Spiers



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(continued from page 116)

situations, we will usually include the more sophisticated products and allow the customer to change that if they want to. Sometimes the money isn't in the budget or, on a renovation, they may want us to stay consistent with the products that are already on a mock-up of the irrigation system using computer-aided design (CAD). This helps him develop an approximate bid that he can perfect later. "I design something for myself with CAD that will give me a guideline of the project cost," Tveite says. "It's a very

"QUITE OFTEN, PROPERTY MANAGERS WILL WANT TO KEEP THEIR COSTS DOWN, SO

THERE MAY BE MORE SOPHISTICATED MATERIALS THAT WE WOULD LIKE TO USE, BUT

THERE MAY NOT BE AN ALLOWANCE FOR IT IN THE BUDGET." - ROY TVEITE

the site. Our goal is to be up front with the general contractor and the property owner and explain to them what we think will be best for them and for the system in the long run."

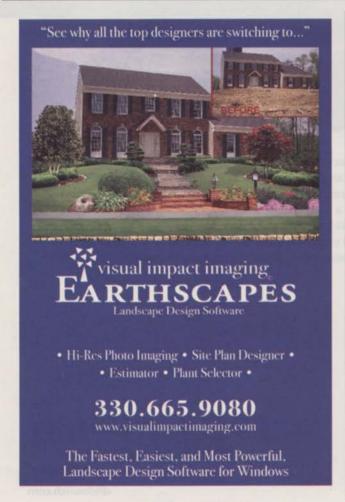
DESIGN & LABOR. With an understanding of the basic specifications, Tveite creates quick format that helps me determine how many spray heads we'll need, how much pipe and so on. He adds that if Treasure Coast is also designing the irrigation system as opposed to bidding on another company's design, the design cost is usually 10 to 15 percent fo the total cost of the system.

Tveite uses historic information to esti-

mate the cost of each design element and once he has a good idea of how extensive the installation will be, he applies labor rates to the price of the bid. "On average, a commercial site with a wide-open area will be about 10 to 12 cents per square foot for labor," he comments. "Tighter areas like parking islands often come in a little higher - about 15 to 17 cents - because it may require more hand digging or other detailed work. Every plan is unique and has their own labor rates, but we find that these guidelines work well if we are just asked for a rough estimate or if we have a proposal that needs to be turned around very quickly."

Of course, irrigation contractors have to include more than just labor and materials in order to make money on these jobs. Tveite says Treasure Coast tries to include 10 percent profit in their bids, as well, but that can often be a high expectation. "A 10-percent margin would always be nice to have on

(continued on page 120)





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(continued from page 118)

commercial irrigation, but what you actually get is often market-driven," he explains. "On a job that's several acres, 10 percent could be a lot of money and if there are a lot of people bidding, you may have to reduce your margins to stay competitive. A lot of

staging materials on large jobs helps work move smoothly. "For a job that's on an acre or more of open space and with good working conditions, before we get started we lay out which direction we'll be working in," Tveite says. "If we can start workwill need to be on site at a given time. This is especially important in tighter areas that might require a lot of hand-digging. "On commercial sites, day laborers are usually necessary and we'll determine what machinery will be most proficient for them to use and we'll keep those machines on the site," he explains. "But we have to watch how many laborers we have doing hand digging rather than using a trencher or another machine because the labor costs for hand-dig-

Tveite says that while the company bids the cost of using a walk-behind trencher at the rental rate of about \$65 to \$75 per day, hand-digging can cost as much as \$12 to \$18 per hour, per worker. Keeping costs like these in line helps the company retain their profit margins on commercial work.

The author is associate editor of Lawn & Landscape magazine and can be reached at Ispiers@lawnandlandscape.com.

"CREATING A PROPOSAL FOR A LARGE COMMERCIAL SITE WITHOUT AN EXISTING

IRRIGATION PLAN IS TIME CONSUMING. THERE ARE A LOT OF FACTORS TO CONSIDER THAT

WILL CHANGE OUR FINAL DESIGN OR BID." - ROY TVEITE

times, commercial projects will only give you 6 or 8 percent profit, so you have to increase your efficiencies on the job to make up for that."

Treasure Coast has several efficiencyboosting practices in place depending on the type of project its crews are working on. For instance, they find that properly ing in an area where we can run several hundred feet of mainline without being interrupted, we make sure we have all the materials we'll need to complete that section on site."

During the bidding process and throughout the course of a project, Tveite also takes note of how many day laborers or foremen



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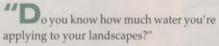


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by Ali Anderson

Water WISELY

To utilize water more wisely, contractors must know how to allocate it on clients' properties.



That question, posed by Tom Ash, director of conservation alliances, HydroPoint Data Systems, while speaking to a roomful of industry professionals at New England Grows, Boston, Mass., is one all green industry professionals should consider. The reason? The key to establishing and maintaining a luscious lawn lies in applying the right amount of water at the right time and at the right root depth - all the time, Ash asserts.

That's why water woes of any kind can impact landscapes drastically. And since water-related issues of some sort currently plague many parts of the country, all landscape professionals must pay special attention to their watering practices.

When drought strikes, public agencies generally respond by imposing irrigation restrictions and, sometimes, by banning landscape planting in general. While such bans may appear to remedy the trouble, Ash says they generally do not produce the desired results. "They're aiming at the wrong target," he says, referring to irrigation restrictions in parts of Georgia and landscaping bans in New Mexico and North Carolina. "Seventy-five percent of the water use in those areas is interior."

Despite this, contractors can be more careful with water resources by creating smart irrigation plans for the properties they maintain - even when drought is not prevalent. "I think anywhere in the country we can save 40 to 50 percent of the water we're using in landscapes without a whole lot of effort," he notes.

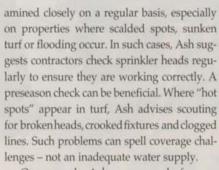
Specifically, he urged contractors to consider the following questions when creating a smart irrigation plan:

- 1) What is the area's evapotranspiration?
- 2) How much water do the plants need?
- 3) How much water should I apply?
- 4) How reliable is the area's water supply?
- 5) What are the regulations for controlling water quality in the area?
 - 6) Why is water efficiency important?
- 7) What can I, as a green industry professional, do to be water efficient?

When attempting to answer question No. 3 correctly, Ash recommends contractors use the following water budget equation: The evapotranspiration times plants' water needs times the irrigated landscape area equals the landscape water budget. For example, a Colorado property's budget equation may look like this: 30 inches times .80 (80 percent) times 1 acre equals 24 inches of water per year for 1 acre of Kentucky bluegrass - or 4 inches per month (during the growing season), or 1 inch per week (during the growing season).

This water-efficient equation covers irrigation needs across the country and does not require pricey equipment for implementation.

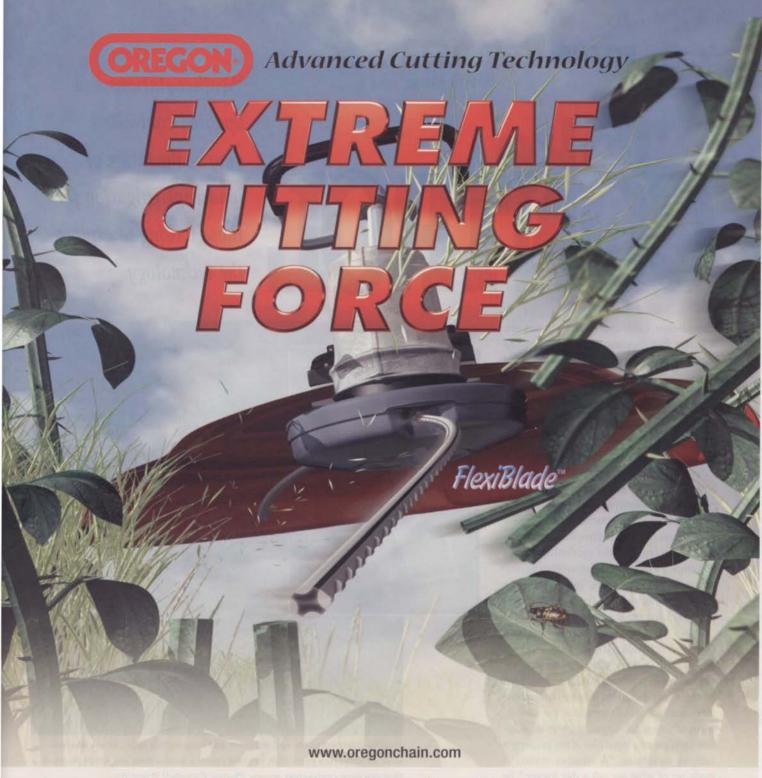
But irrigation components should be ex-



One remedy Ash recommends for watering woes is the use of smart controllers. which can verify water use on any type of landscape. And based on the water-wise data gathered, the system changes irrigation schedules as the weather changes - automatically. Some states are even considering legislation to require the use of smart controllers on every property, Ash says.

Overall, contractors should embrace change when it comes to water efficiency. Conversion to new ideas must extend beyond implementation, Ash reminds. "Measure your successes," he says. That means collecting and comparing irrigation run times, plant growth ratios and related financial figures. Without evaluating the results, contractors cannot pinpoint the best plans for their properties.

The author is assistant editor-Internet of Lawn & Landscape magazine and can be reached at aanderson@lawnandlandscape.com.



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Weather stations and updated controllers may be the future of landscape irrigation for those willing to explore the technology.

andscape contractors can't control the weather, but they can at least attempt to gauge its effects on properties and use these observations to make educated assessments regarding their irrigation practices. Weather stations and controllers are designed to finetune this process by combining technology with basic earth science.

Weather stations, though common in agriculture and some larger commercial markets, have not yet made a significant break into the residential landscape market. But many weather station manufacturers are turning their attention in that direction, hoping to reach contractors in the residential market and show them how the instruments, in conjunction with controllers, can boost water efficiency and regulate the operation of a property's irrigation system.

Neal Israelsen, marketing director, Campbell Scientific, Logan, Utah, explains that weather stations collect data on weather. soil and wind conditions that can be translated into numbers and input into predetermined mathematical calculations that are used to regulate irrigation output, start-times, stoptimes and give a general idea of any property's external conditions. "A weather station is made up of what we call a day logger," he says. "It's a small computer that usually runs on a 12-volt battery and measures the electrical signals coming from built-in sensors, converting them to temperature, relative humidity, wind speed, wind direction, solar radiation and rainfall. Those are the main parameters that most everybody measures."

Israelsen says that in many cases data is collected by a weather station's sensors once every five seconds. "It accumulates all of that data into hourly data that is then downloaded to the computer system."



Weather stations gauge soil moisture and evaporation rates. In conjunction with an irrigation controller, the two create a data-driven irrigation program that can save contractors money. Photos: Campbell Scientific.

Contractors use weather stations in a variety of ways to determine watering needs. "Data from soil moisture sensors are the most direct way of knowing if there is sufficient moisture to meet turf needs," says Mike Mueller, marketing manager, Spectrum Technologies, Plainfield, Ill. "Weather station data can also be used to calculate evapotranspiration (ET) using commonly available universal or region-specific mathematical algorithms. The algorithms calculate the ET demand of a specific reference area, such as grass. ET for that specific area is then calculated with a multiplicative factor called a crop coefficient. Irrigation scheduling is then based on the replacing of the water that has been removed from the soil profile."

Mike van Bavel, president, Dynamax, Huston, Texas, explains that some weather stations are completely automated electronic recording and computing devices with sensors for solar radiation, temperature, rela-

SPECIAL FOCUS: Irrigation

tive humidity and wind speed. "These four factors are responsible for driving the ET need," he says. "As the sun gets hotter and the temperature rises, water is consumed faster by plants and there is greater evaporation from the soil." Van Bavel says that this information, in many cases, is communicated electronically to remote controllers, which adjust the water application in proportion to ET of that property.

Israelsen explains that many companies integrate weather systems in with their irrigation control systems. "They get the weather data and from that data they calculate the ET rate," he says. "They're using science to give them an idea of what is happening on their property – what weather parameters are occurring – to come up with a rate of water loss. That way, they can program into their irrigation system how much water is needed to replace what has evaporated off."

Mueller explains that this communication often occurs through additional equipment. "Because the weather data is in the form of electronic signals, software and hardware can be integrated to interface with a control device," he says.

According to Mueller, the price of a weather station can range anywhere between \$250 and \$1,600. Israelsen says that some, industrial-grade weather stations might sell for \$4,000 to \$4,500. "Larger research-grade weather stations might sell for \$8,000 to \$12,000, depending on the market channels you go through," he explains. "There are cheaper ones that get down to \$300 or \$400, but if you're really going to use it to main-

tain a property – some of the \$1,000 models don't even last very long."

Mueller says the price of a weather station usually depends on type, number of parameters that must be measured, sensor accuracy, whether or not data is logged, and finally, method of communication. "Method of communication refers to whether or not the information can be read, downloaded manually or is accessible from a remote location via radio signals, telephone modem or Internet." Mueller goes on to explain that data logging and remote communication options require software to facilitate the interface with a PC. "The irrigation controller interface would be another, additional charge," he says.

Van Bavel points to controllers as the other important component for a comprehensive irrigation system. He explains that controllers are responsible for delivering the irrigation water to the property through automation in an organized, efficient and cost-effective manner: "All controllers enable a sequence of irrigation valves so the full water pressure is applied to emitters in a zone, one station at a time," he says.

Van Bavel explains that up to three years ago all controllers fell into basically two categories: electromechanical and microelectronic. "The electromechanical controllers have motor-driven timers with mechanically activated switches," he illustrates. "Essentially, each timer sequentially selects a number of valves to turn on for a fixed period over a weekly schedule."

"In microelectronic controllers, the tim-

ers have the same number of station output controls, but the user may program multiple start times per day, easily vary the time each valve (station) is turned on, and alternately program even and odd days," van Bavel explains, adding that this type presents the contractor with significantly more flexibility for the schedule and the creation of programs.

The electronic controller has bolstered reliability, van Bavel says. "Liquid crystal displays and LED display programs, timing and status information contribute to this," he says. "The microelectronic irrigation timer is easy to operate with single station water start and multiple station single cycle watering included as standard features."

Electromechanical controllers are generally less expensive than their microelectronic counterparts averaging from \$75 to \$150, according to van Bavel. "They're prone to wear and tear, consistent with a large number of moving parts, an electric clock motor and electromagnetic relays," he says, adding that before microcomputer technology offered an alternative, these prices were the standard for any controller on the market.

By comparison, a microelectronic controller generally has more built-in features to offer. "Their prices range from \$100 for retail-market controllers to \$500 for more sophisticated commercial controllers," van Bavel adds.

The author is assistant editor for Lawn & Landscape magazine and can be reached at wnepper@lawnandlandscape.com.



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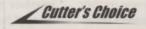
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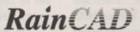
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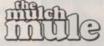
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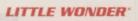
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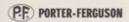


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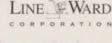


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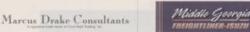
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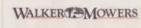
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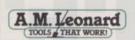
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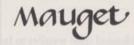
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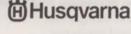


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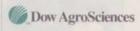
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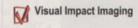


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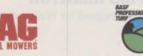
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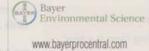
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- · Includes rubber grips, handle-mounted throttle and a choice of engines
- · The machine includes

spring-loaded dual weights to help increase ground pressure by more than 25 percent

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· Can penetrate soil to a 2.75-inch depth

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GANDY PROFESSIONAL AERATORS

- · Family of core, knife and star-wheel aerators
- · Models range in size from 34 inches to 8 feet
- · Large, professional models can be ordered with coring spoons or slicing knives
- · Optional weight tray

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JACOBSEN LAWNAIRE IV PLUS AERATOR

- · Features a folding handle for easy transportation and a choice of engines
- 19 inches wide
- · Covers up to 28,975 square feet per hour
- · Dual weights help increase ground pressure by more than 25 percent and are spring-loaded for easy removal
- · Penetrates soil 2.75 inches down

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SISIS AUTO-ROTORAKE

- · Self-propelled, heavy-duty dethatcher
- · Fitted with a thatch-removal reel that can be interchanged within seconds
- · Various reels available
- . Depth can be set while moving forward and without leaving the operating position
- · Careful weight distribution, pneumatic tires and a full differential facilitate easy turning, maneuverability and minimal wheel marking

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WALKER'S PERFAERATOR

· Aerator attachment designed for Walker mowers

(continued on page 130)

Lawn & Landscape receives daily inquiries from landscape contractors looking for more information on various products, proving there is a need for more education on these new developments. In this monthly section, we pinpoint key product areas in which readers need insight.

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Product Spotlight

(continued from page 158)

- · Delivers 41.5-inch turf aeration pattern
- Uses PLUGR camshaft design for driving tines 2.5 inches deep into soil with no added weight needed
- PTO-driven tines engage and disengage easily to skip over sprinkler heads and sidewalks without slowing down
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REDEXIM CHARTERHOUSE TURF TIDY

- Combines dethatching, sweeping and flail mowing in one machine
- Features a floating head that can be adapted for three different operations
- Offers quick switch from one function to another by a forward-facing access panel
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JRCO HOOKER AERATOR

- · Fits zero-turn mowers
- · Front-mounted aerator
- Aerates 66,000 square feet per hour at 5 mph, producing six holes per square foot up to 3 inches deep
- · Dispenses loose plugs of soil
- Attaches with two clevis pins and has electric actuator to lift the aerator heads for transport

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ROCK SOLID PLUGR AERATOR

• Four aerators available with 22- to 30-



inch aerating widths

- Engine options include 6.5- or 5.5-hp Briggs & Stratton Intek model and 5.5-hp Honda engine
- Low-maintenance design has no chains or pulleys

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- Five tine styles available
- · Offers wide quad-wheel stability
- Has v-belt drive and unibody construction

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CLASSEN TA-26D TURF AERATOR

- Model TA-26D roll-type aerator
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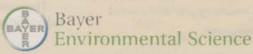
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Product Trends

by Ali Anderson

MOWER FEATURES

Turf-friendly INTACCITIE

The very equipment you use to keep clients' grass mowed and manicured could be wreaking havoc on turf in the form of ruts and divots. Learn how specific mower features can help you prevent damage.



Altering mowing patterns to create clean cut stripes on clients' properties also improves turf health. Photos: Jacobsen (above) and Walker (left)

Is it possible that the high-tech machines designed to trim turf with precision actually could be hurting the properties you maintain?

Certainly – and some of your clients' lawns may have the ruts, divots and compaction problems to prove it.

"If you go over the same path the same way every time you mow, the machine packs down the grass and can actually cause ruts," explains Ken Raney, advertising manager, Hustler Turf Equipment, Hesston, Kan. "Most good operators will change mowing patterns often to keep from causing compression."

But there may be more to turf troubles than repetitive maintenance patterns. "Your mower might be the culprit," Raney asserts. "So in addition to changing up mowing routes, contractors should take a look at the potentially damaging features of the equipment they use."

Two conditions generally contribute to turf injury – tire damage, often in the form of ruts, and scalping or removing the turf and top layer of roots from the ground.

PRODUCT TRENDS

Lawn & Landscape constantly collects details about the latest product trends. In this monthly, in-depth section, we highlight these developments to bring you up-to-date on emerging issues concerning your third greatest asset behind your employees and clients – equipment. To remedy these common problems, many mower manufacturers have designed their machines with the intent of producing turf-friendly results.

TIRES AND TREAD. Since a mower's tires generally are accused of creating turf ruts, contractors should take a close look at the tires on their machines. Specifically, look at size, tread and placement.

Most manufactures today are running 10-inch-wide tires on their mowers, Raney says. However, adding larger tires can reduce the stress placed on turf by distributing pressure more comfortably across the turf. Some companies have increased their tire size to 18- or 23-inch diameter models in an attempt to compensate for machine weight.

"Big tires can give you flotation," asserts Bob Walker, owner, Walker Manufacturing, Fort Collins, Colo. "They give you a more substantial footprint, so the weight of the machine rests on a bigger piece of rubber on the ground."

Providing a larger footprint for pressure can help prevent compression and better distribute the mower's weight – at least 1,000 pounds – across the area being mowed. "If you get large enough tires to distribute the weight, you don't have as much down pressure," Walker says. "But big tires increase the dimension of a machine, and if the tires get too big they can get in the way."

That means contractors who use heavier mowers should reduce the pressure put on turf by adding larger tires.

(continued on page 134)



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IS® 5000Z



Product Trends

(continued from page 132)

Tire treads also can leave negative impressions on turf, Raney says.

Turf tire tread, which most manufacturers offer standard on their mower tires, is best for general mowing applications, he asserts. However, depending on the turf application, the standard tread may not offer enough grip. For hills and slight slopes, a knobbier tread often produces better results, Raney says. But sometimes the more aggressive tread will rip up the turf, especially if the ground is wet. Individual properties call for a variety of tread combinations. For instance, a property that combines sloped turf and flat terrain may require the use of multiple mowers – one with knobby, hill-worthy tires and another with the standard tire tread.

(continued on page 136)

n addition to considering how mower features affect turf appearance, contractors should be mindful of other mowing recommendations, such as frequency, direction or pattern, and blade sharpness.

Concerning mowing frequency, contractors should mow turf as necessary and not according to preset schedules to boost turf health, recommends Tom Voigt, extension specialist and assistant professor, natural resources and environmental science, University of Illinois – Urbana-Champaign, Urbana, Ill. "Turfgrasses grow at different rates depending on weather, management and species," he explains. "Basically, you should remove no more than one-third of the grass blade at any one mowing. For example, Kentucky bluegrass being maintained at a 2-inch height should be mowed when it reaches 3 inches. Using this 'one-third rule' will help you maintain maximum turf root growth."

Removing too much turf at one time can be detrimental to its health, Voigt continues. "Removing more than one-third of the grass blades may cause root growth to cease while the leaves and shoots are regrowing," he says. "This practice can be especially destructive if practiced continuously over a period of successive mowings. Roots may not have a chance to fully develop and the plants will be more susceptible to environmental and management stresses."

Another problem of cutting turf too short is scalping. Scalped turf usually appears brown and stubbly due to the removal of healthy leaves and exposure of turf crowns, dead leaves or bare soil, Voigt explains. "Avoid scalping turf as it can result in an unattractive appearance, and in some cases severely scalped turf may not recover," he says.

The 'one-third rule' also can be used when turf is too tall, according to Voigt. "If turf is 6 inches tall, and the desired height is 2 inches, the first mowing should cut the turf back to 4 inches or the highest setting nearest to 4 inches," he says. "Several days later, mow again by reducing the mowing height using the one-third rule so the turf is lower than 4 inches. Continue this pat-

tern until the turf is adjusted to the proper height."

Another factor contractors should consider while maintaining clients' lawns is pattern. Frequent and close mowing in the same direction or pattern can cause the turf shoots to lean in the direction of the cut, causing grain to develop. Voigt explains. "By altering the mowing pattern with each mowing, the turf shoots tend to grow more upright which reduces grain," he says. "In addition, altering the mowing pattern changes the position of the mower wheels at each mowing which can reduce excessive wear in the same location. Though taller turfgrasses, which are common on homeowners' lawns, are less prone to develop grain than short-mowed turfs, such as those found on golf courses, I still advise altering the mowing pattern in these areas at each mowing to keep turf healthy."

Two other basic mowing recommendations are to maintain mower blade sharpness and to mow when grass is dry, Voigt suggests. "Dull blades tear turf leaving a ragged appearance," he shares. "In addition, turf water loss and the incidence of turf diseases can be greater from ragged leaf edges than for clean cut grass leaves. Thus, clean cut turf generally looks better and is often healthier than turf with torn leaves. Also, mow when turf is dry. Wet turf can clog the mower or form clumpy masses on the turf's surface."

Ultimately, the most important mowing times for turf are the first and last of the season, and so they are sometimes handled differently than other mowings, Voigt shares, suggesting some common practices for these key times during the year. "Before the grass begins to grow, in spring mow the turf slightly shorter than normal to remove dead blades and other debris," he says. "Be careful not to scalp turf during this initial mowing. Once turf begins active growth, mow at the proper height and frequency. The last mowing of the year should be at the normal mowing height. Turf should neither be cut excessively short nor allowed to become excessively long going into winter." — Nicole Wisniewski

Frequency Factors

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Product Trends

(continued from page 134)

Also, look at the location of the tires – specifically distance between the tires and the mowing deck, Raney says. "You want the deck to be as close as possible to the drive tires and caster wheels," he outlines. "The further apart they are, the more chance you have of high centering the mower and scalping the turf." Raney's reference to high centering means the mower's underside can get caught on mounded areas, lifting the tires from the ground and immobilizing the machine entirely.

Raney also recommends deflating a mower's tires by two pounds to more evenly distribute weight and remove stress from the grass.

WEIGHT DISTRIBUTION. While weight may equate with durability in contractors' minds, overweight mowers will not be kind to the turf they care for.

Contractors often assume that a machine with the robust appearance of a tank is the wisest purchase, Walker notes. "But just because something looks heavy or is heavy

n addition to purchasing the right mower to prevent turf damage during regular maintenance, ensuring proper grass height is crucial for sustaining turf health.

According to Tom Voigt, extension specialist and assistant professor, natural resources and environmental science, University of Illinois - Urbana-Champaign, Urbana, Ill., mowing turf at the appropriate height is important to turf appearance. "Turf cut too short usually has a shallow root system, lacks density and often requires pesticide applications to stave off weed and pest infestations that commonly occur in stressed lawns," he says. "Conversely, tall turf is often considered to be unattractive because of wide leaf blades, low density and a clumpy. unkempt appearance. In addition, tall turf may not be satisfactory for some sports applications "

Mow turfgrasses according to the

The Right

Product Trends

doesn't mean it's the best option for your turf," he says.

In fact, a heavy mower – weighing in at more than 1,000 pounds – can mean painful pressure for your clients' properties.

"Weight is no friend of grass," Walker explains. "Rutting is the obvious thing that occurs when a heavy machine is placed on grass week after week."

Look at what weight does to turf: Without the compensation of larger tires, that 1,000-pound machine makes its mark on a lawn over time. On some properties, where the owners are not as concerned with detail, a little extra weight and the resulting ruts may not matter as much. But for high-end, lucrative lawns, extra weight can present problems in the form of rut damage and dissatisfied customers, Walker says.

So Walker recommends a careful look at weight when purchasing a new mower. Look for durability, not necessarily weight, he advises. Although heavy plate metal may look

heights listed below, Voigt recommends. "The heights listed in this table provide a balance between turf appearance and health," he explains. "When healthy and actively growing, turf can be mowed at the lower heights. Raise mowing heights within the desired range during warm or hot periods or when turf is stressed due to drought, disease, shade, insects or traffic." – Nicole Wisniewski

SUGGESTED MOWING HEIGHTS (IN INCHES) FOR COMMON TURFGRASS SPECIES

TURF SPECIES	MOWING HEIGHT
Fine-leaf fescue	2 to 3
Tall fescue	2 to 3
Perennial ryegrass	2 to 3
Kentucky bluegrass	2 to 3
Creeping bentgrass	1/4 to 3/4
Zoysiagrass	1 to 11/2
Buffalograss	2 to 3

Height



Product Trends

tough, lighter materials can help ease the burden placed on grass.

Also, communicate with mower operators about proper use of heavy machinery on delicate turf. While operation of a zero-turning-radius mower is not rocket science, users must understand the machines they work with, Raney acknowledges. Regular staff turf damage by reducing maneuverability as well, Walker says. "The lightweight, agile machine is the one that will create less damage on turf," he explains.

MUCH TO CONSIDER. Although tire flotation and weight distribution likely do not top a contractor's list of specifications to

says. "No one mower really handles everything. Ultimately, you need to find the one that works best for your clients' yards."

Both Raney and Walker note that on-thejob use is the most effective way to determine which mower is best suited for the individual contractor or property.

"Take your prospective mow purchases out in the field for a test to see how they treat the turf," Raney advises. "Or take the machine out in a parking lot or on a plot of dirt and see how easy it is to lose traction. Then you can imagine how the mower will do on turf and whether it will tear up the yard."

Walker agrees that trade show shopping and brief demos generally do not match contractors with the best mowers for their needs. "The true compatibility test is on-the-job use," he says.

The author is assistant editor-Internet of Lawn & Landscape magazine and can be reached at aanderson@lawnandlandscape.com.

"Weight is no friend of grass. Rutting is the obvious thing that occurs when a heavy machine is placed on grass week after week." — Bob Walker

meetings provide consistent opportunities to discuss and demonstrate turf-sensitive mowing and other maintenance specifics.

"Turf damage often happens when you're going into a turn and you try to turn before stopping," Raney says. "Another problem is when you pivot on a tire and just twist a bunch of grass around in a circle."

These circumstances are exacerbated by heavier machinery. Added weight can cause

consider when buying a new mower, don't forget the importance of using turf-friendly equipment, Raney urges.

Most importantly, Raney says, find a mower that suits your needs and will be generous to the properties you service. "There are a lot of different mowers out there because there are a lot of different property types, a lot of different turf types and many contractor preferences," Raney



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ambient light as the source of energy.

(continued from page 94)



Boxwood leafminer

"You'll start to see a bubbly appearance because the leaf is delaminating - the two leaf surfaces are separating," Boggs explains. "Because the leaves are not that big on boxwoods, the insect can be large relative to the leaf and it doesn't take too many joining together until you have a leaf with nothing in between the upper and lower surfaces."

Infested leaves often can drop prematurely, leaving ragged-looking plants with occasional dead twigs. Boggs notes that, in the spring, boxwood leafminer infestations can often appear to be winter damage. Adults emerge in May and mate soon afterward. Females then deposit about 30 eggs in new foliage and then die. These eggs will hatch two to three weeks later and larvae continue to grow and feed inside the leaf for the remainder of the summer.

This pest can be found anywhere in the country where boxwood grows. While it also can be controlled with imidacloprid or standard insecticide applications, Boggs comments that monitoring the emergence of adults is critical for proper application. "Monitoring says that if you notice that more than half the leaves on the plant are infected, the following season you may want to consider initiating a control program." Boggs says. "This pest isn't considered a killer because even if the population explodes, you're not going to lose the boxwood. As long as you're monitoring and determine when the emergence is, you can control the problem the following year." Usually, contractors can make these applications in May.

8. MIMOSA WEBWORM. Originally found in the Washington, D.C., area, mimosa webworm now attacks mimosa and honeylocust as far south as North Carolina, West to Kansas and north to Pennsylvania and New England.

"This pest can go from having one or two



Mimosa webworm

webs to infesting the whole tree," Boggs says. "The way it operates is that early in the season the first generation of caterpillars takes the leaflets from compound leaves in the host trees, pulls them together and starts feeding inside that webbing. As they get larger, they start pulling together entire leaves."

At these early stages, Boggs notes that Bt or other insecticide applications can be helpful, but as the pest moves into second or third generations, this becomes ineffective. "The first generation typically does not make nests so tight that you can't spray and get insecticide to the insect," he says. "However, adult females of the first generation generally lay their eggs in the nests where they developed. Now you have a new crop of caterpillars and they keep expanding this web nest and wrapping more leaves together. Eventually, they create a nest that's so tight that no insecticide can penetrate it."

The damage caused by mimosa webworms as they feed includes skeletonized leaves that turn brown and die. If left alone, an infestation may completely defoliate a tree by early September. Also, first-generation egg hatch usually appears in Mid-June, and mature larvae from this generation will pupate in mid-July. The second generation of adults appears from late July through mid-August and are active through September. Because of this life cycle, spraying in June when larvae are feeding is effective but, generally, prevention is key. Keeping leaf debris and webbed foliage cleared from beneath and around host trees may reduce the chances of infestation.

9. YELLOWNECKED CATERPILLAR.

This pest also has more than one generation per year and is found throughout New York, the East Coast and the Midwest and Plains states.

"The yellownecked caterpillar is another pest that feeds in colonies, so you may see a full branch defoliating at a time," Boggs says. During their life cycles, this particular pest goes through multiple color phases. "It first starts as a coppery color with a tinge of yellow," Boggs adds. "As they get larger they go into the next color phase of orangered with yellow stripes. In both of these phases, they have long, thin, white hairs. The last instar caterpillars are black with thin vellow stripes and the caterpillar's hairs are more visible. The name comes from a bright yellow hump just behind the head."

Adult yellownecked caterpillars appear during June and July and females lay white masses of 100 or more eggs on the lower surfaces of leaves. After hatching, young larvae congregate on the foliage for feeding, and mature larvae descend to the ground and burrow 2 to 4 inches into the soil for overwintering during August and September.

While insecticides are effective when larvae are small, there are several natural enemies of the yellownecked caterpillar that can control infestations naturally. Robins and other birds feed on the larvae, and parasitic flies also may feed on the caterpillars.

The author is associate editor of Lawn & Landscape magazine and can be reached at Ispiers@lawnandlandscape.com. Ali Anderson, assistant editor - Internet of Lawn & Landscape, also contributed to this story and can be reached at aanderson@lawnandlandscape.com.



Yellownecked caterpillar

Products



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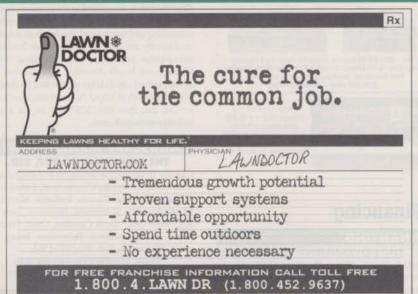


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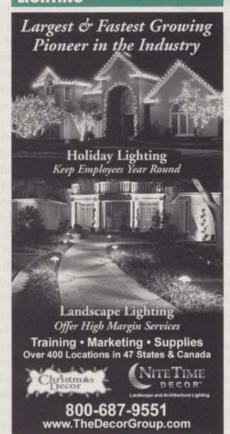
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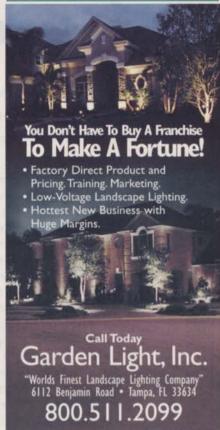
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How We Do It

Safety Training at Dennis' Seven Dees

At Dennis' Seven Dees Landscaping, Portland, Ore., we make safety a part of everything we do, from starting with a safety focus every morning to making it an agenda item for all of our meetings.

In 1994, our company's experience modification factor (MOD) rating was .99 with 229,000 man-hours worked for the year. A rating so close to 1 meant that the number of insurance claims we filed was at the industry average. To reduce claims and achieve an above-average rating, we implemented a daily 10-minute morning stretching program. Every morning, our staff of nearly 200 people breaks up into divisions - maintenance, construction, etc. - for 10 minutes of leg stretches, back stretches and jumping jacks led by a different employee every day. Through the stretching program we have achieved a much better MOD rating of .79 for 330,000 man-hours per year, which reflects a decrease in insurance claims.

Our commitment to the program lets everyone know how important safety is in our company. It also gives us an opportunity to discuss training topics. Every Thursday after stretching, each division discusses a safety topic, which could be anything from safe equipment operation to seasonal items like working on slippery slopes, hot-or cold-weather practices or treating bee stings.

The company safety committee, which has a representative from each division, also provides relevant safety topics. Many topics stem from investigations into

- Start safety training on the first day of employee orienta-tion by showing new hires the locations of fire extinguish-ers, first aid kits and MSDS manuals.
- Promote the importance of safety throughout the company by making safety meetings a daily routine.
- Encourage participation from all members of the company by having safety meetings led by a different employee every day. Also, form a safety committee with members representing each company division.
- Reward good safety practices with unique prizes or team parties, but also have discipline measures in place for employees who disregard company safety rules.
- Make continuing safety education available through the company or through national and local associations.

safety incidents that occur throughout the company. We thoroughly investigate every incident, whether it is a bodily injury, a fender bender or a near miss that could have cost us but didn't. Every incident is discussed at each department's morning stretch. Those involved in the incident share what happened, what they learned and how to prevent it from happening again.

The safety committee meets every two weeks to discuss incident reports and also handles possible disciplinary actions for those incidents. This could include a verbal first warning, written second warning or a thorough discussion of possible termination after the second infraction. Usually, we find that because employees involved in safety infractions must share what they learned, most incidents occur only once.

Though discipline is sometimes necessary, our company also finds that rewarding good safety behavior has a positive impact on the company. Occasionally, we'll spend about \$500 on a barbecue for the team and we've also named employees of the month, but more often we'll offer spontaneous rewards like "safety coins" -Susan B. Anthony or silver dollars. These coins still are only worth \$1, but the recognition attached to them gives the coins more value for our employees.

Our owners play a big role in safety and they show their commitment to it by participating in stretching, being a part of the safety committee, staying in touch with the local workers' compensation carrier and being involved with safety on a national level. Our vice president Dean Snodgrass was our first safety committee chairperson and our president David Snodgrass is chairman of ALCA's Safety/Insurance Committee.

To keep everyone involved, we make safety a priority from each employees' first day of hire. During orientation, new employees are encouraged to share new ideas as we discuss company safety policies and procedures. We give them a facility tour and point out all of our "Right to Know" stations, which are equipped with first aid kits, fire extinguishers and material safety data sheet manuals.

To stay on top of new safety and training issues, our company actively participates in the National CLT training program. We also conduct a weeklong in-house training program that is similar to the CLT program. We select 12 to 14 people who have indicated that they are interested in the future of landscaping and we put them through a 40-hour training class.

For us, having a safe company depends on the involvement of every employee. The person operating the 21inch mower needs to be as aware and concerned about safety as the owner of the company. - Nathan Dirksen

The author is construction manager, Dennis' Seven Dees Landscaping, Portland, Ore., and can be reached at 503/777-7777.

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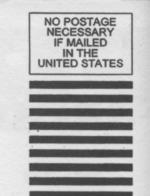
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